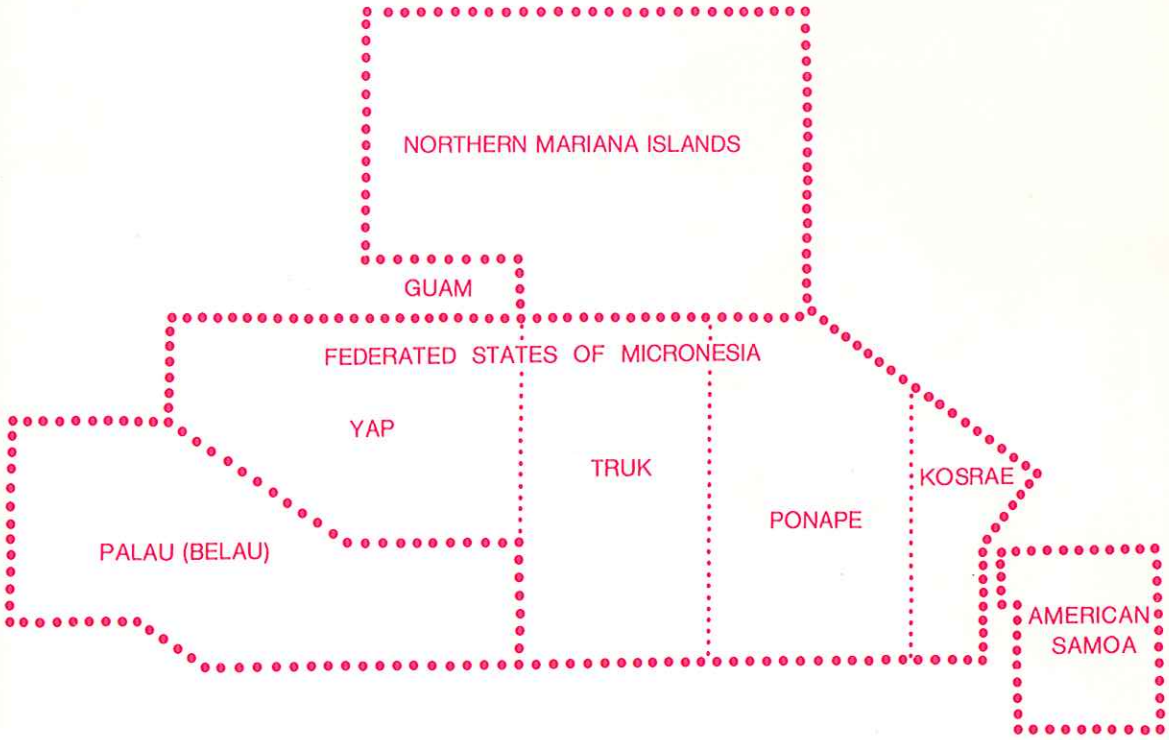
Water Resources Data
Hawaii and other Pacific Areas
Water Year 1982

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT HI-82-2
Prepared in cooperation with the Governments of Guam, Northern Mariana Islands, Federated States of Micronesia, Palau, American Samoa, and with other agencies

CALENDAR FOR WATER YEAR 1982

1981

OCTOBER

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				1	2	3
4	5	6	7	8	9	10
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NOVEMBER

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1982

JANUARY

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AUGUST

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SEPTEMBER

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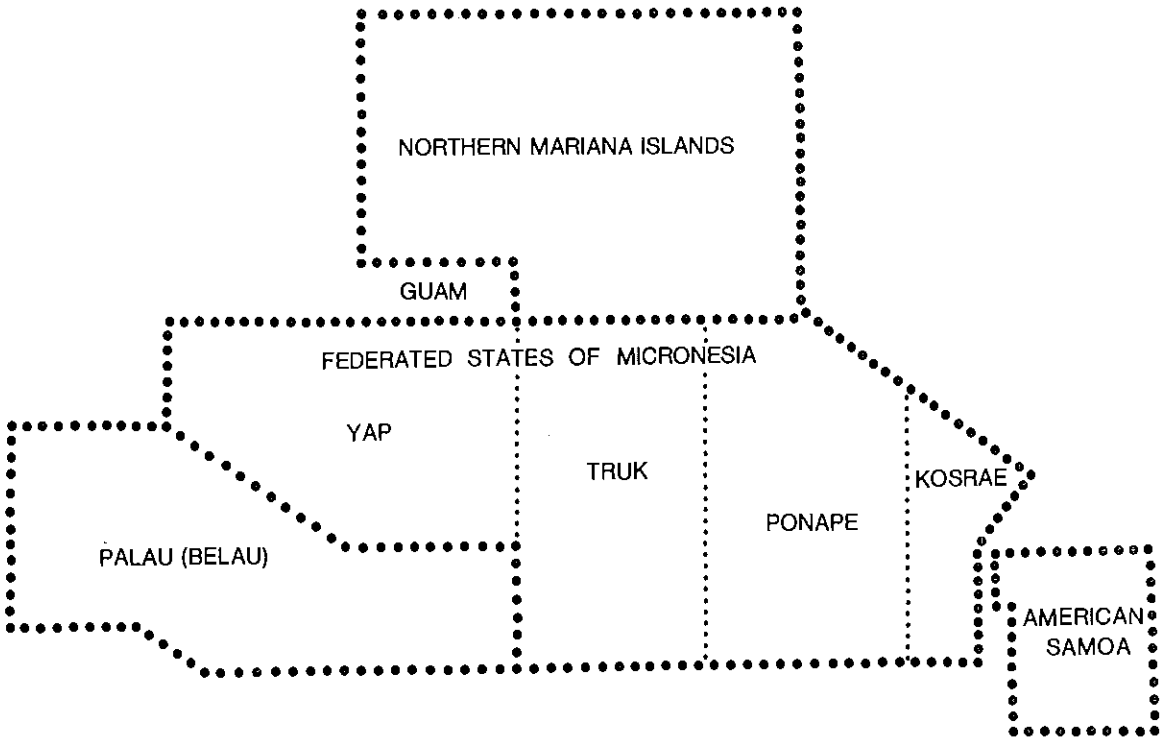
19	20	21	22	23	24	25
26	27	28	29	30		

Water Resources Data
Hawaii and other Pacific Areas
Water Year 1982

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT HI-82-2
Prepared in cooperation with the Governments of Guam, Northern Mariana Islands, Federated States of Micronesia, Palau, American Samoa, and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

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

1983

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 Trust Territories. 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 2 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:

David A. Beck	Otto van der Brug
Gregg N. Ikehara	Isao Yamashiro
Rose M. Maruoka	Akiko K. Tanaka
David K. Uyematsu	Leonora L. K. Onaga

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 Benjamin L. Jones, succeeded by Stanley F. Kapustka, District Chief, Hawaii.

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16. Abstract (Limit: 200 words)

Volume 2 of water resources data for the 1982 water year for other Pacific areas consist of records of stage, discharge, and water quality of streams and springs; stage of a lake and a reservoir; and water levels and water quality in wells. This report contains discharge records for 43 gaging stations; stage only record for 2 gaging stations; water quality for 1 gaging station, 36 partial-record stations; water temperature for 42 gaging stations; and water levels for 14 observation wells and water quality for 52 ground-water sites. Also included are 43 low-flow 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.

17. Document Analysis. a. Descriptors
*Pacific area, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Chemical analyses, Sediments, Reservoirs, Water temperatures, Sampling sites, Water levels.

b. Identifiers/Open-Ended Terms

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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, (c) chemical,
(m) microbiological, (t) temperature, (s) sediment

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

			Page
MARIANA ISLANDS			
ISLAND OF SAIPAN			
(1046300)	151032145460370	(w)	111
(1145410)	151141145451570	(w)	118
(0743210)	150728145431470	(ct)	123
(0743211)	150723145431170	(ct)	123
(0743300)	150731145430870	(ct)	123
(0743310)	150737145431070	(ct)	123
(0743311)	150732145431270	(ct)	123
(0743312)	150730145431370	(ct)	123
(0743320)	150732145432070	(ct)	123
(0743350)	150738145435870	(c)	123
(0743351)	150730145435270	(c)	123
(0743400)	150744145430370	(ct)	123
(0743440)	150749145434170	(ct)	123
(0743450)	150743145435470	(ct)	123
(0743451)	150740145435570	(ct)	123
(0744300)	150731145440370	(c)	123
(0744301)	150737145440670	(c)	123
(0943050)	150905145435670	(ct)	123
(1143240)	151127145434270	(ct)	123
(1143241)	151127145434070	(ct)	123
(1244430)	151248145443470	(ct)	123
(1244431)	151246145443770	(ct)	123
(1244530)	151250145443370	(ct)	123
(1244540)	151250145444170	(ct)	123
ISLAND OF GUAM			
(2645220)	132624144452771	(w)	124
(2648400)	132644144480871	(w)	125
(2846541)	132824144464271	(w)	126
(2847120)	132813144472771	(w)	127
(3049311)	133032144491871	(w)	128
(3050400)	133047144500171	(w)	129
(3148140)	133115144484971	(w)	130
(2647100)	132615144470571	(w)	131
(2647211)	132626144471771	(w)	131
(2745420)	132742144452971	(w)	132
(2745500)	132758144450571	(w)	132
(3050300)	133034144500871	(ctw)	133
(2746310)	132736144461671	(ct)	134
(2848010)	132806144481871	(ct)	134
(2950520)	132955144502871	(ct)	135
(2952240)	132926144524371	(c)	135
(3149110)	133119144491771	(ct)	136
(3150250)	133120144505471	(ct)	136
(3249250)	133224144495271	(ct)	137
(3253030)	133202144533571	(ct)	137
(3651230)	133628144513271	(ct)	137
CAROLINE ISLANDS			
PALAU ISLANDS			
(1927450)	071947134275070	(ct)	138
YAP ISLANDS			
(2905100)	092913138050970	(ct)	138
(2905101)	092616138050670	(c)	139
(2905202)	092926138050470	(c)	139
(2905203)	092927138050270	(c)	140
(3109550)	093158138095770	(ct)	140
TRUK ISLANDS			
(Well 1)	072658151511970	(ct)	141
(Well 2)	072654151511870	(ct)	141
(Well 4)	072707151512070	(ct)	141
(Well 7)	072702151512570	(ct)	141
(Well 9)	072701151512770	(ct)	142
(Well 10)	072704151511070	(ct)	142
(Well 12)	072706151512470	(ct)	142
(Well 13)	072708151512170	(ct)	142
(Well 14)	072705151512670	(ct)	143
(Well 15)	072710151512570	(ct)	143
(Well 17)	072517151505770	(ct)	143
(Well 18)	072504151503370	(ct)	144
(2750030)	072705151503670	(ct)	144
(2750050)	072705151505170	(ct)	144

WATER RESOURCES DATA FOR HAWAII AND OTHER PACIFIC AREAS, 1982

Volume 2

INTRODUCTION

Water resources data for the 1982 water year for Hawaii and other Pacific areas, Volume 2, 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 43 gaging stations; stage only records for 2 gaging stations; water quality for 1 gaging station, 36 partial-record stations, water temperature for 42 stations; and water levels for 14 observation wells and water quality for 52 ground-water sites. Also included are data for 43 low-flow 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-82-2."

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 1:10000 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) 546-8331.

COOPERATION

The U.S. Geological Survey have 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, R. J. Bordallo, governor.
Government of Northern Mariana Islands, P. P. Tenorio, governor.
Federated States of Micronesia, T. Nakayama, president.
  State of Yap, J. A. Mangefel, governor.
  State of Truk, Erhart Aten, governor
  State of Ponape, Resio Moses, governor.
  State of Kosrae, Yosiwo George, governor.
Republic of Palau, H. I. Remeliik, president.
Government of American Samoa, P. T. Coleman, governor.

Assistance in the form of funds or services are 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 6 selected streams in the area covered by this volume, as shown in figure 1; the annual mean runoff for 1982 water year was mostly in the excessive range (flow in the upper 25 percent of record) on the islands of Yap, Kosrae, and Tutuila. Annual mean runoff on the islands of Guam and Ponape was in the normal range and was deficient (flow in the lower 25 percent of record) on the island of Babelthuap, Palau.

Streamflow at the Ylig River near Yona, Guam (fig. 2), was excessive for December, February, May, June, and September; deficient for October; and normal for November, January, March, April, July and August. Annual mean runoff was in the normal range at 100 percent of the annual median.

At the Diongradid River (fig. 2) on the island of Babelthuap, Palau Islands, monthly mean was excessive for May and June; deficient for October, January, August, and September; and normal for November, December, February, March, April, and July. Annual mean runoff was in the deficient range at 82 percent of the annual median.

On the island of Yap, Caroline Islands, streamflow at the Qaringeel Stream (fig. 3) was excessive for December, February, March, and June; and normal for the other 8 months of the year. Annual mean runoff was in the excessive range at 135 percent of the annual median.

Streamflow at the Nanpil River in Ponape (fig. 3) was deficient for October and April; excessive for June, July, and September; and normal for the other 7 months of the year. Annual mean runoff was in the normal range at 91 percent of the annual median.

On the island of Kosrae, streamflow at the Okat River (fig. 4) was excessive for November, January, July, and August; and normal for the other 8 months of the year. Annual mean discharge was in the excessive range at 138 percent of the annual median.

At Tutuila, American Samoa, streamflow at Aasu Stream at Aasu (fig. 4) was normal for January, May, June, and July; deficient during April; and excessive for the other 7 months of the year. Annual mean runoff was in the excessive range at 134 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 gallons or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing 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 the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rod-like, 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 within 24 hours when incubated at 35°C ± 1.0°C on M-Endomedium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of 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 medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliter 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 bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

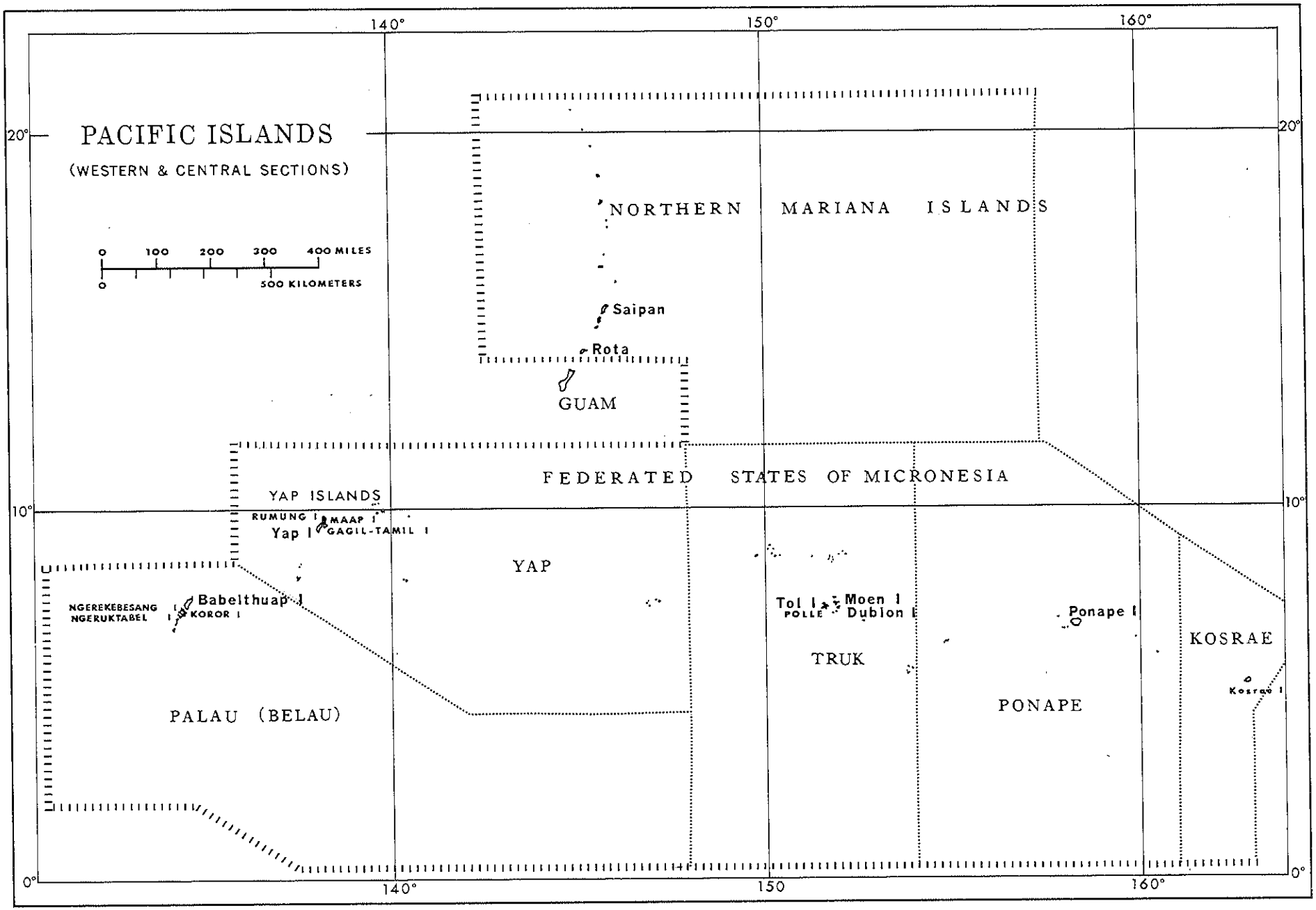
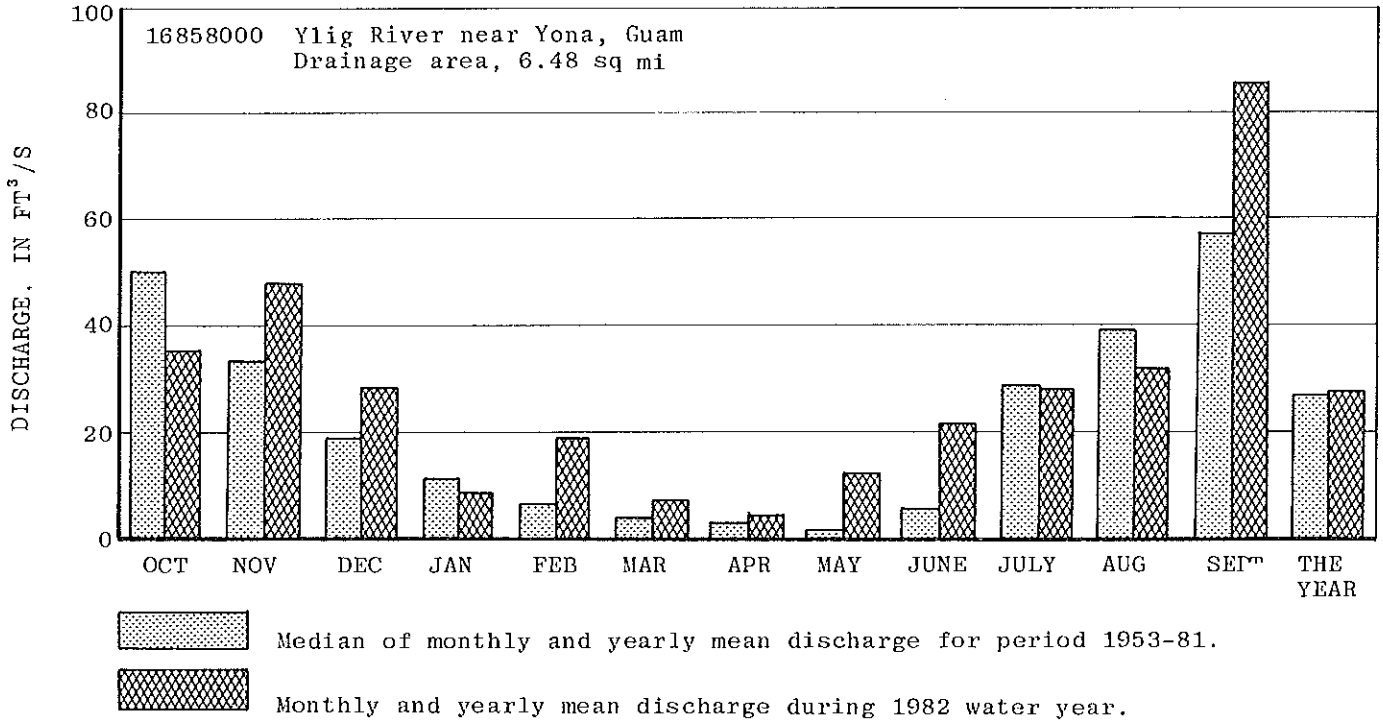


FIGURE 1.--LOCATIONS OF PACIFIC ISLANDS.



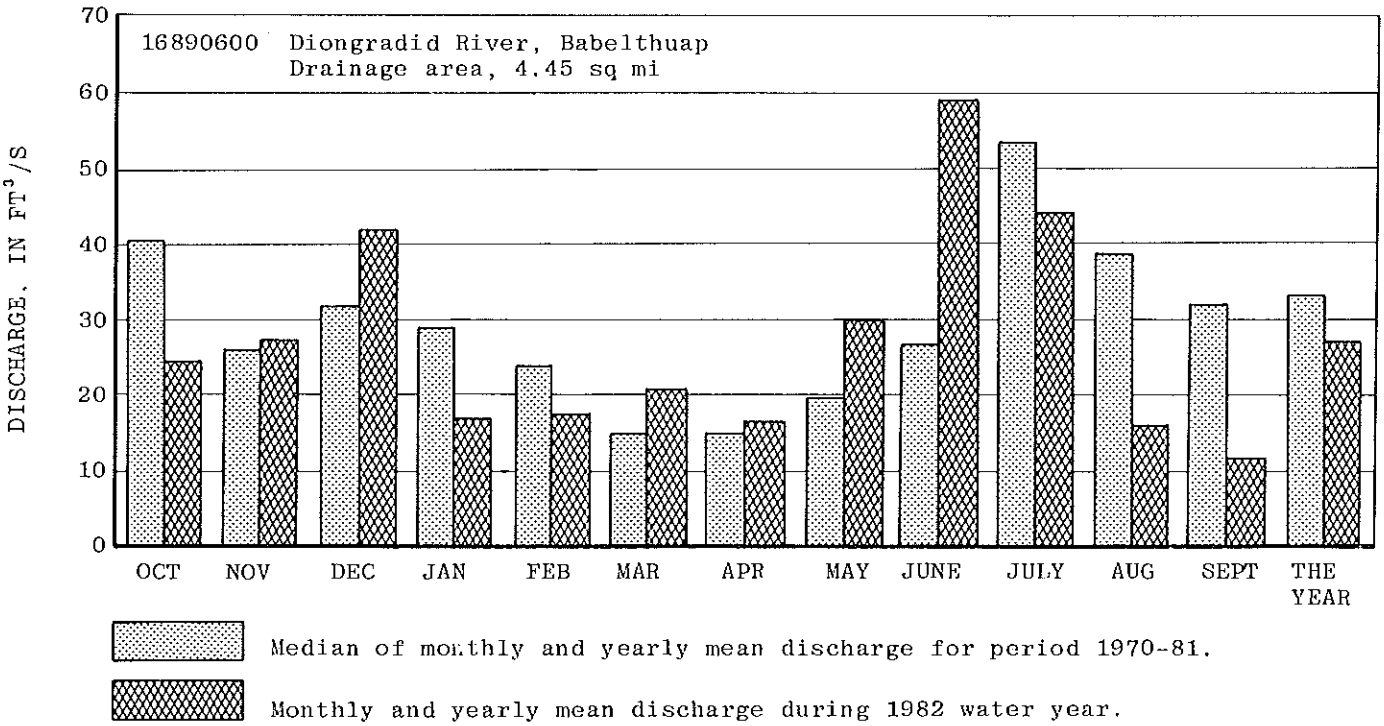
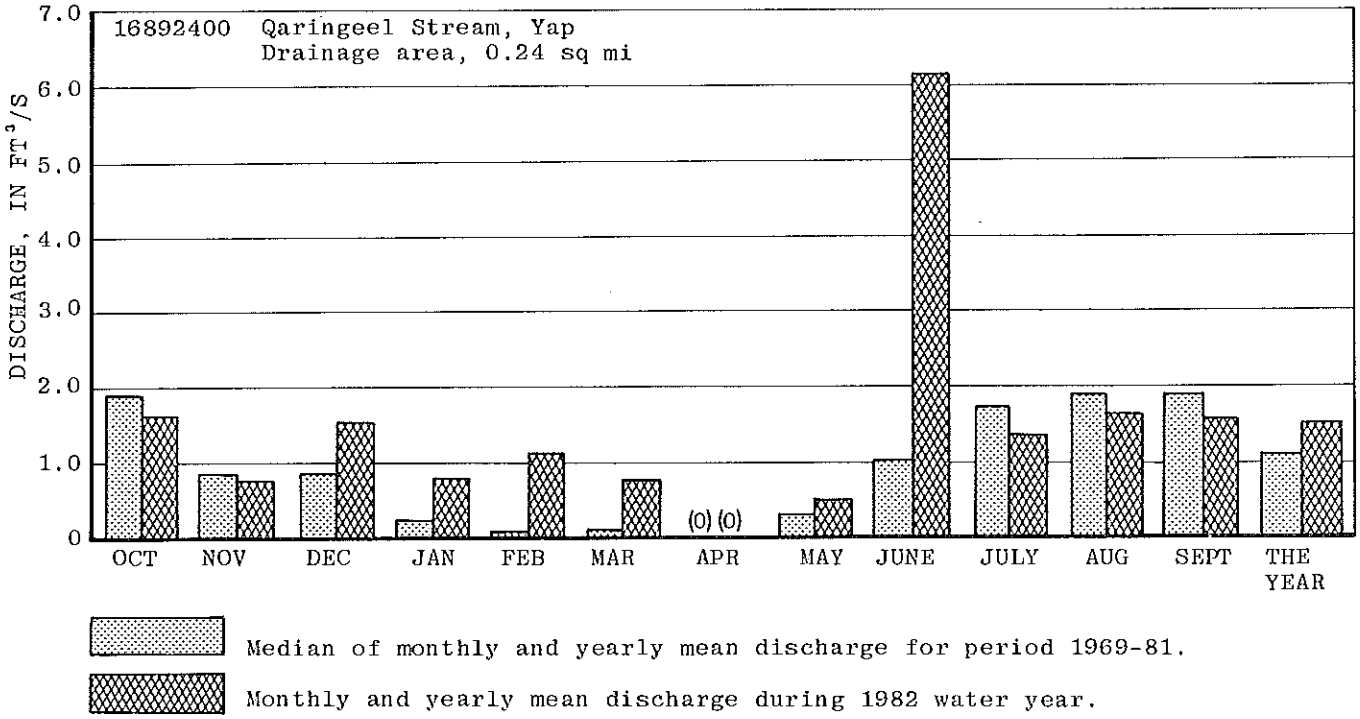


FIGURE 2.--DISCHARGE DURING 1982 WATER YEAR COMPARED WITH MEDIAN DISCHARGE FOR REPRESENTATIVE STREAMS ON GUAM AND BABELTHUAP.



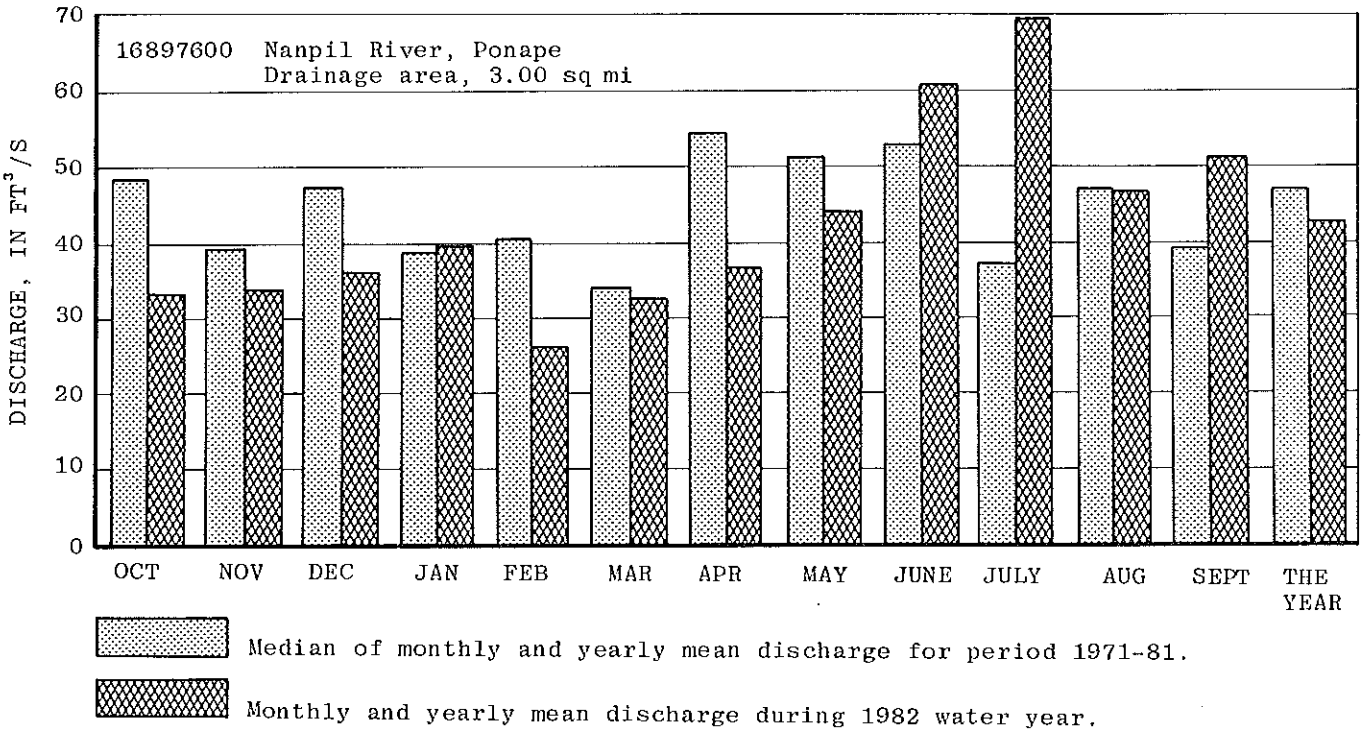
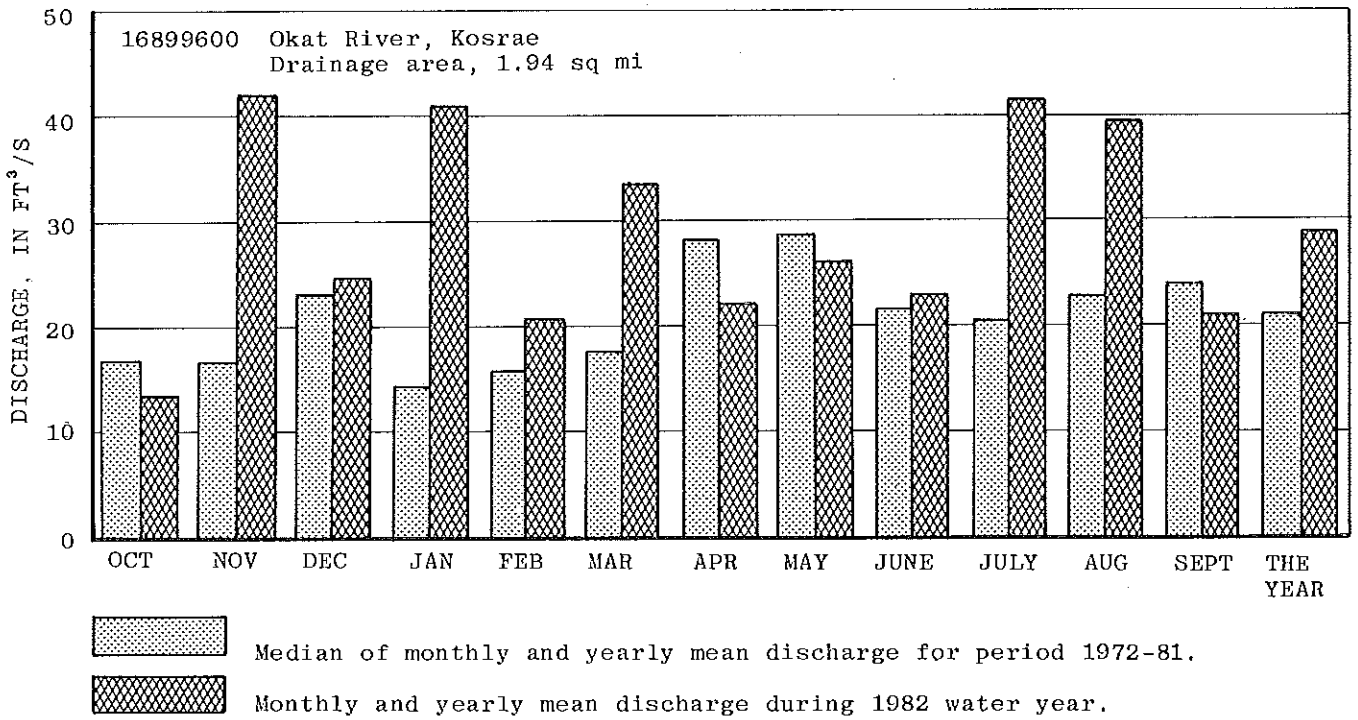


FIGURE 3.--DISCHARGE DURING 1982 WATER YEAR COMPARED WITH MEDIAN DISCHARGE FOR REPRESENTATIVE STREAMS ON YAP AND PONAPE.



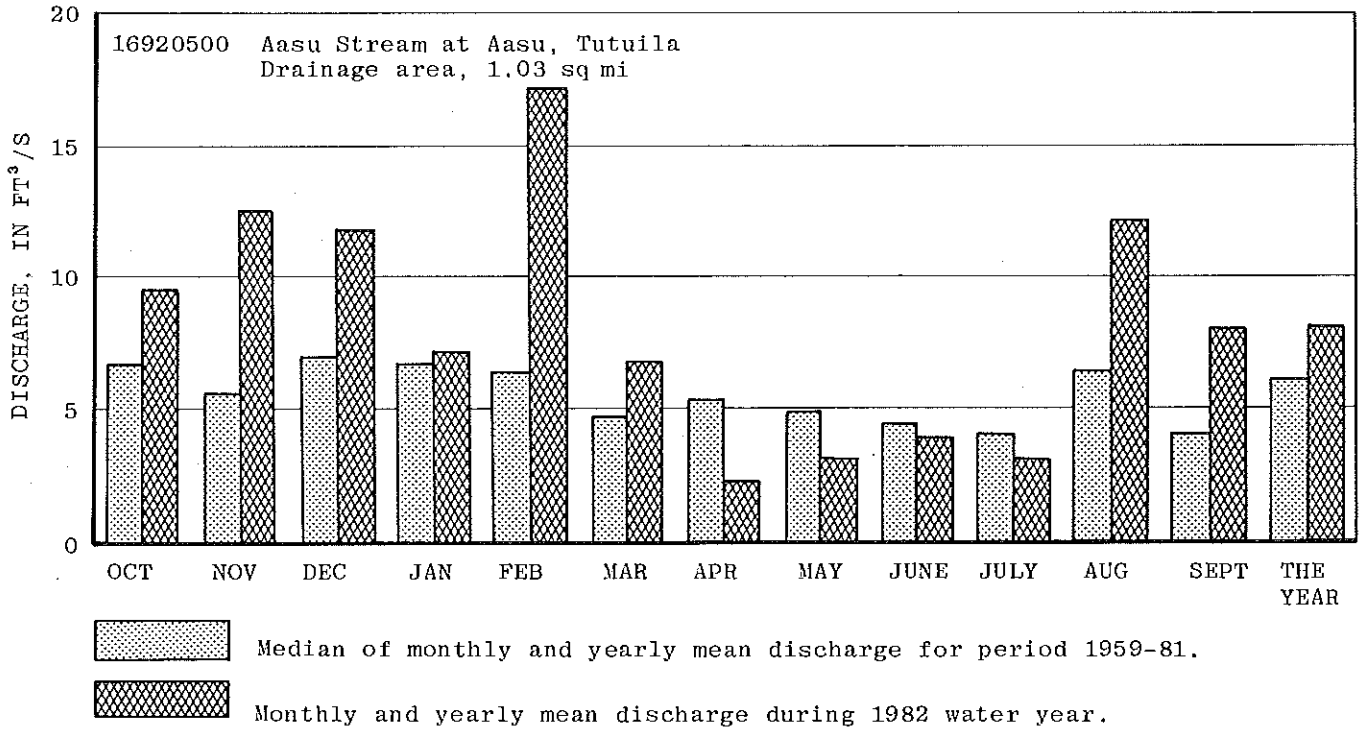


FIGURE 4.--DISCHARGE DURING 1982 WATER YEAR COMPARED WITH MEDIAN DISCHARGE FOR REPRESENTATIVE STREAMS ON KOSRAE AND TUTUILA.

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 discharge 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 regulate 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 areas, within the area unless otherwise noted.

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

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

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

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

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

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

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 transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

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

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 radio-activity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

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

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

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 micromhos 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 micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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

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

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

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

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 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, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

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

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

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

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

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration 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 average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of 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-data reports published before 1975.

WSP is used as an 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 stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all 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 and water-quality stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, 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 station 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 5-14.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

Miscellaneous downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic 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, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits is a sequential number for wells within a 1-second grid. In the event that there are more than one data site with the same latitude-longitude coordinates, different sequential numbers are assigned to each, "70", "71", etc., to obtain unique numbers. See figure 15.

The local well-numbering system for Guam was structured to contain seven digits based on a non-arbitrary, unique one-minute grid and 10-second subgrid system. One-minute parallel lines for both latitude and longitude are drawn on the map 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. This establishes unique minute-grid numbers with Guam.

To distinguish wells within a minute grid, 10-second parallel lines for both latitude and longitude are drawn and 10-second subgrids are established within each one-minute grid. Each subgrid is designated by a two-digit number. The first represents 10 seconds of latitude for that subgrid and the second represents 10 seconds of longitude for that subgrid. This establishes unique 10-second-subgrid numbers within a minute grid. The fifth and sixth digits of the local number are these unique 2-digit subgrid numbers. The seventh digit is a sequential number used to distinguish different wells within a 10-second subgrid. It is assigned chronologically with oldest or the only well within the subgrid having a sequential number of zero. See figure 16.

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

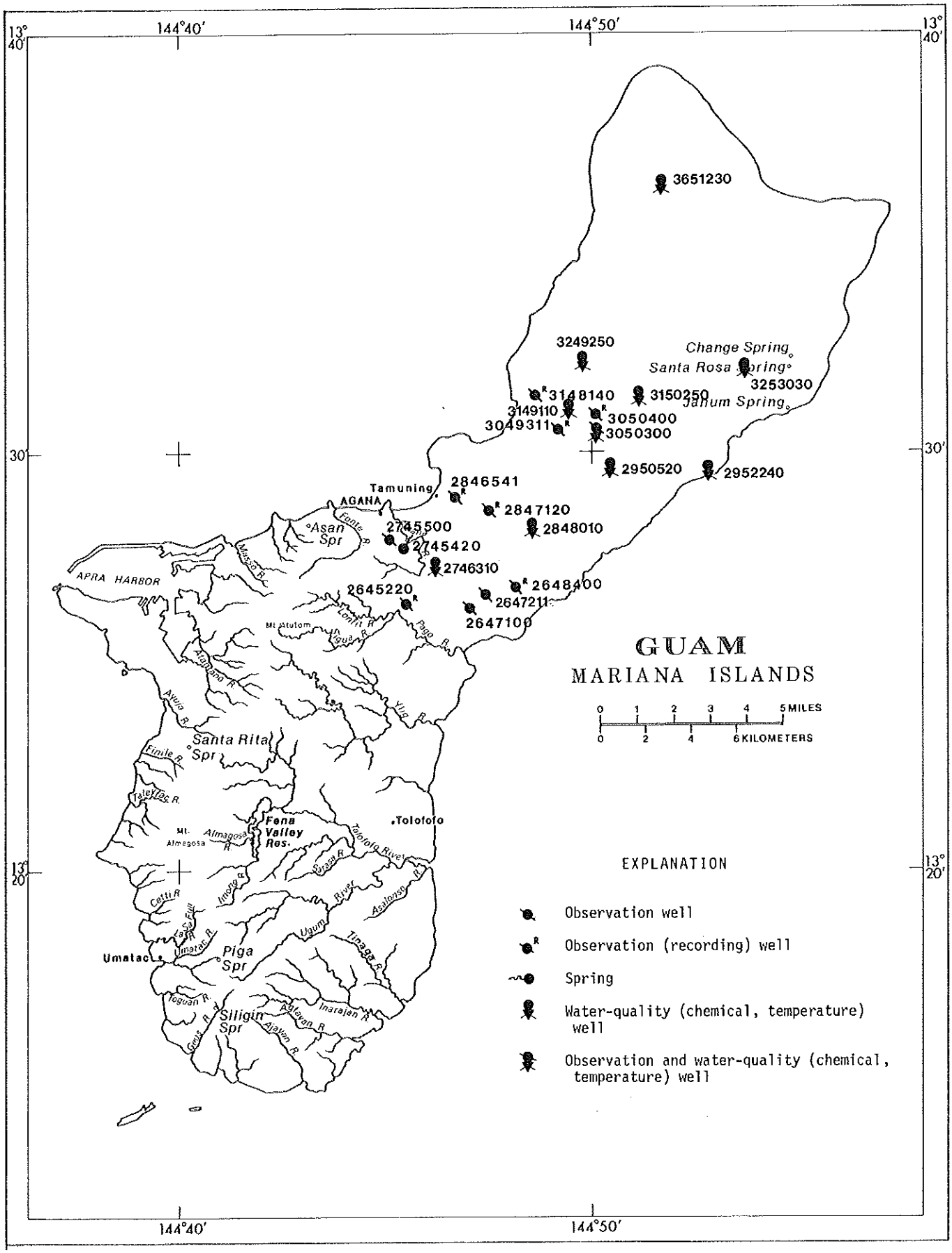


FIGURE 7.--LOCATIONS OF OBSERVATION WELLS AND WATER-QUALITY SITES ON GUAM.

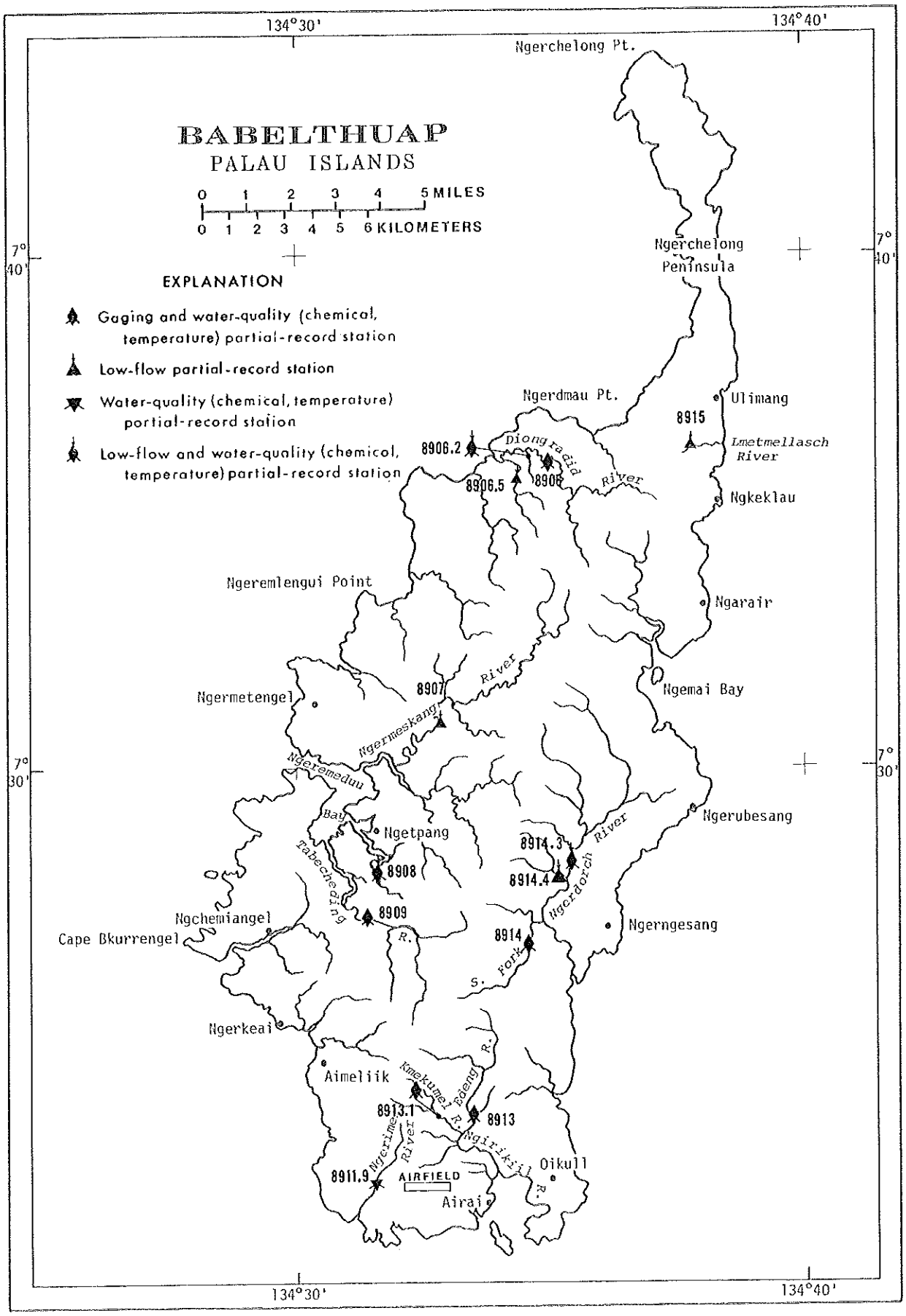


FIGURE 8.--LOCATIONS OF GAGING, LOW-FLOW PARTIAL-RECORD STATIONS, AND WATER-QUALITY SITES ON BABELTHUAP.

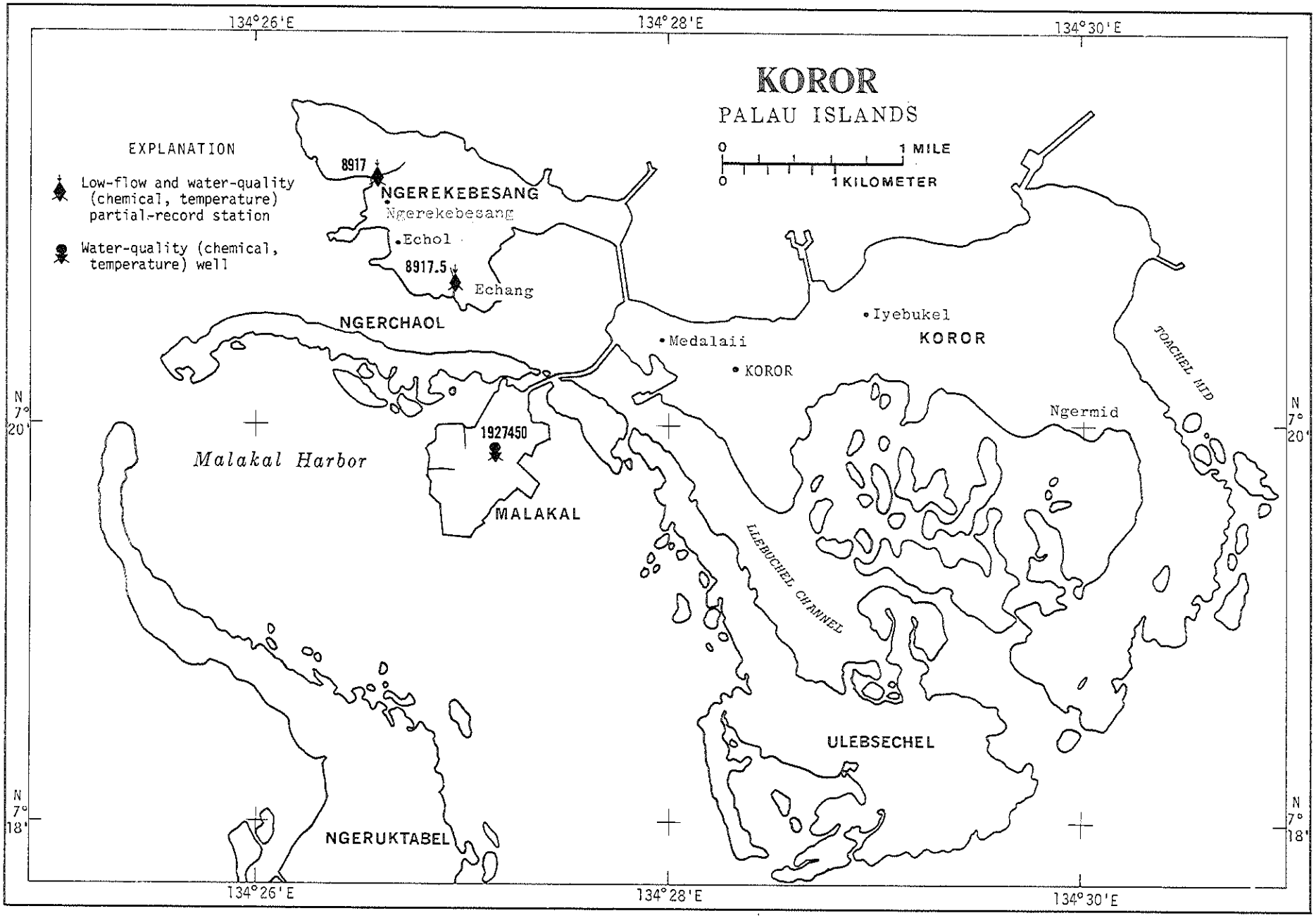


FIGURE 9.--LOCATIONS OF LOW-FLOW PARTIAL-RECORD STATIONS AND WATER-QUALITY SITES ON KOROR, PALAU ISLANDS.

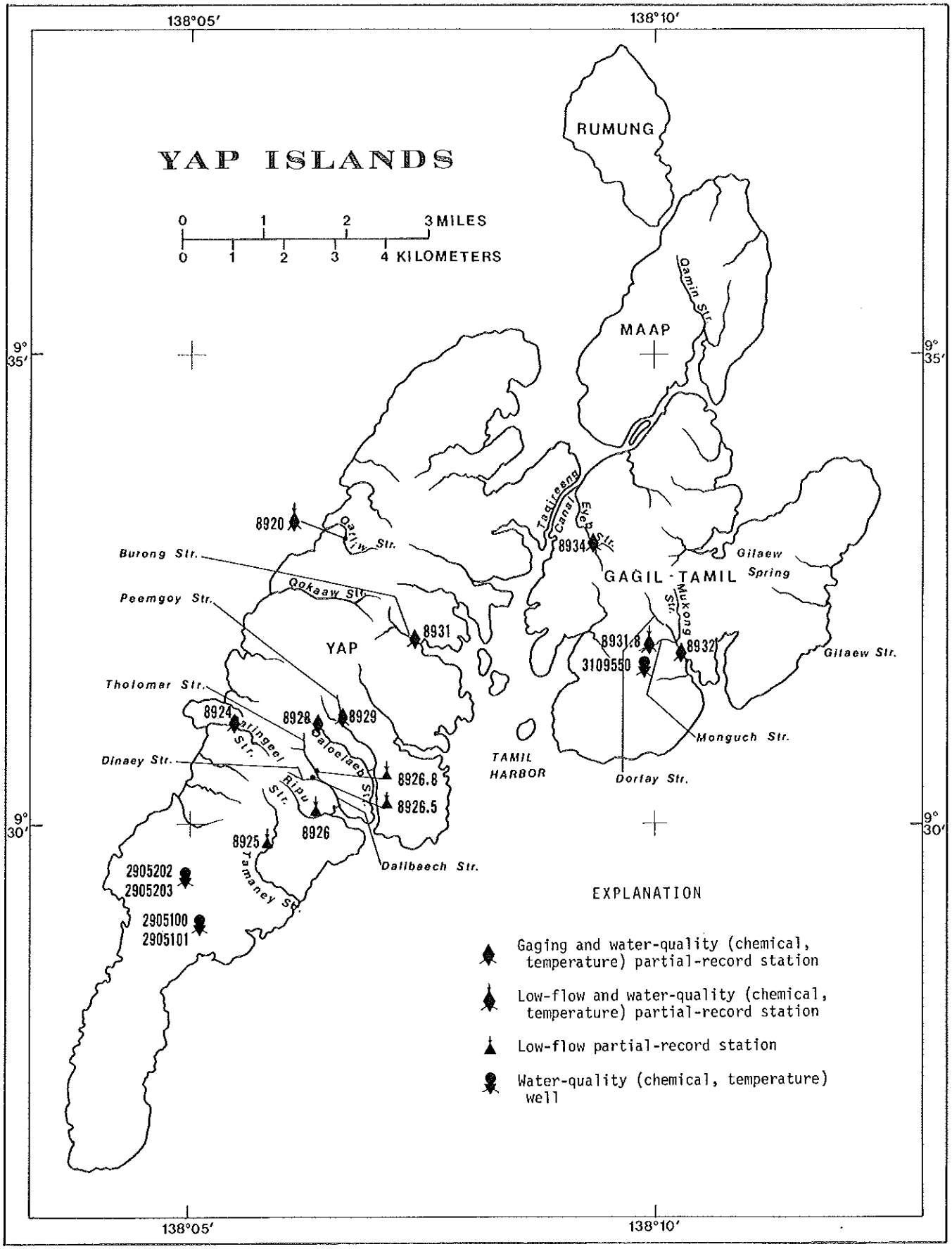


FIGURE 10.--LOCATIONS OF GAGING, LOW-FLOW PARTIAL-RECORD STATIONS, AND WATER-QUALITY SITES ON YAP ISLANDS.

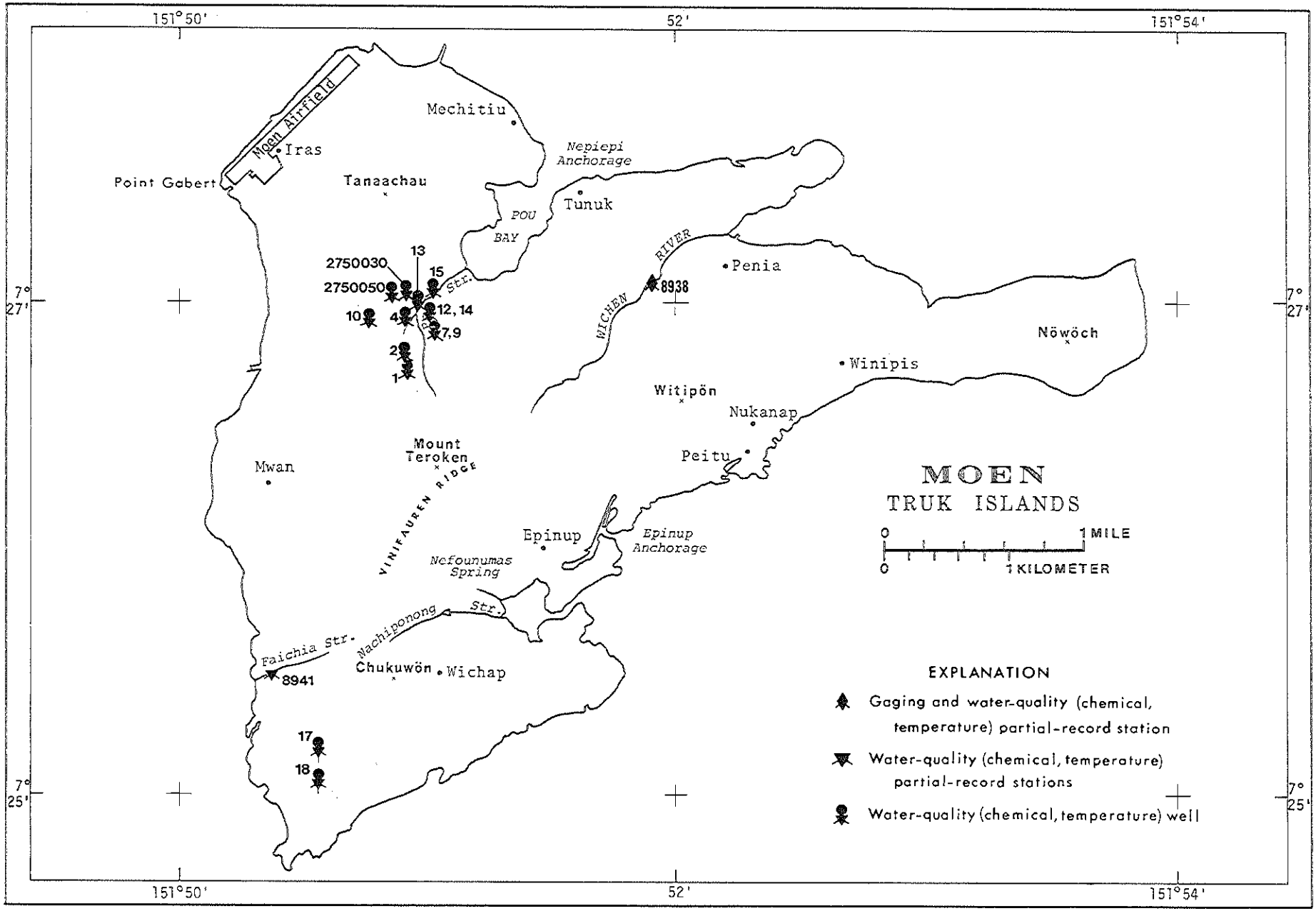


FIGURE 11.--LOCATIONS OF GAGING, LOW-FLOW PARTIAL-RECORD STATIONS, AND WATER-QUALITY SITES ON MOEN.

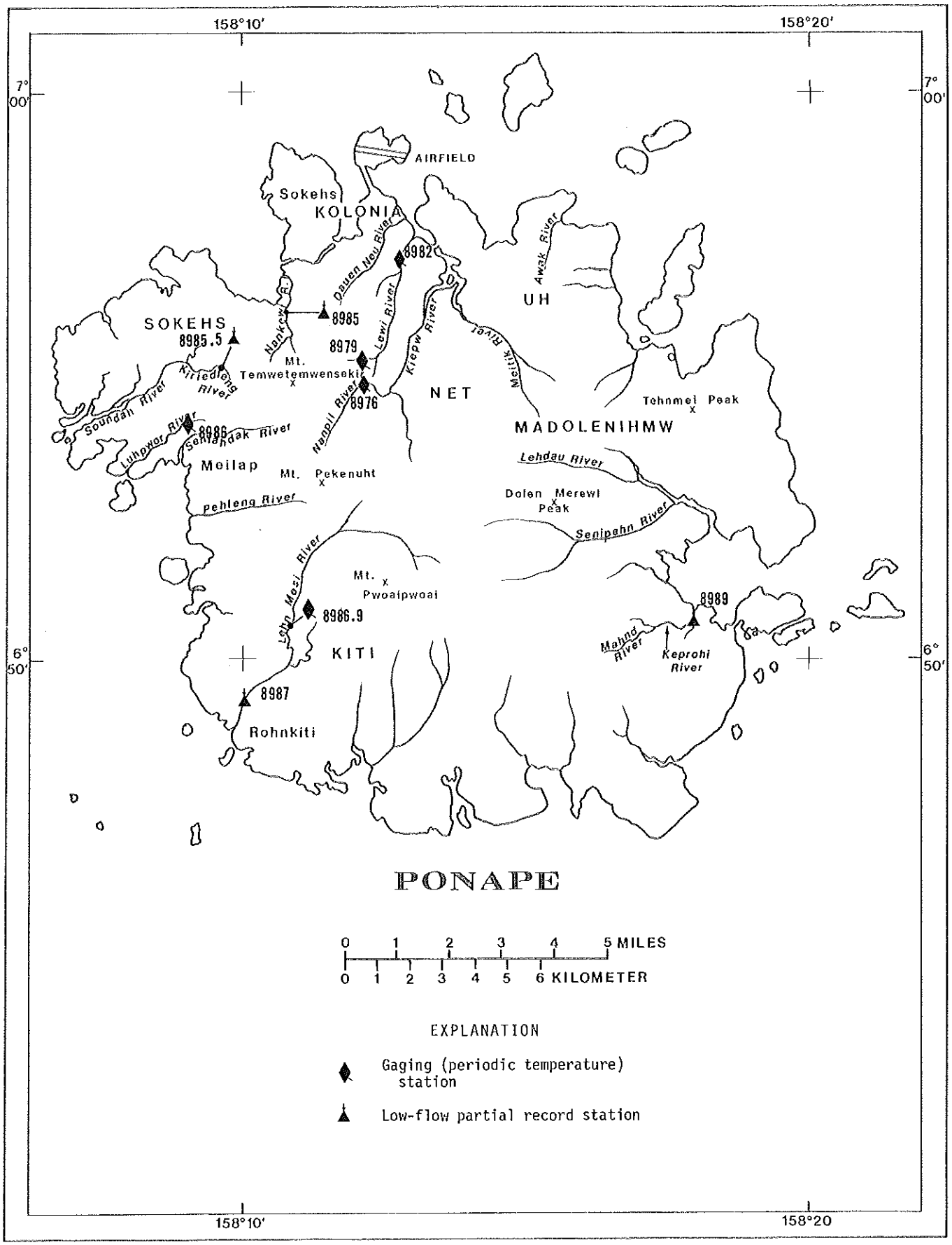


FIGURE 12.--LOCATIONS OF GAGING, LOW-FLOW PARTIAL-RECORD STATIONS, AND WATER QUALITY SITES ON PONAPE.

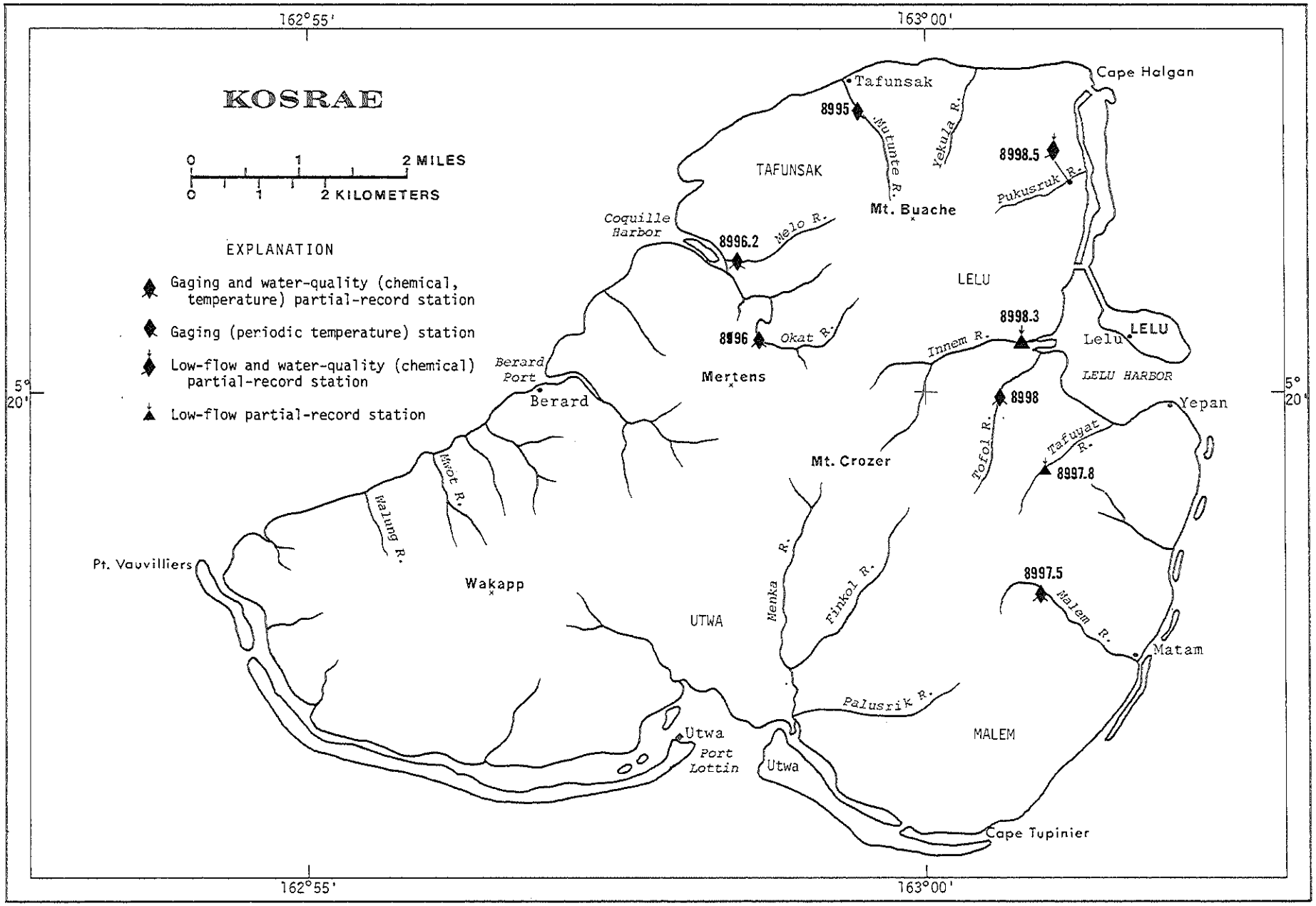


FIGURE 13.--LOCATIONS OF GAGING, LOW-FLOW PARTIAL-RECORD STATIONS, AND WATER-QUALITY SITES ON KOSRAE.

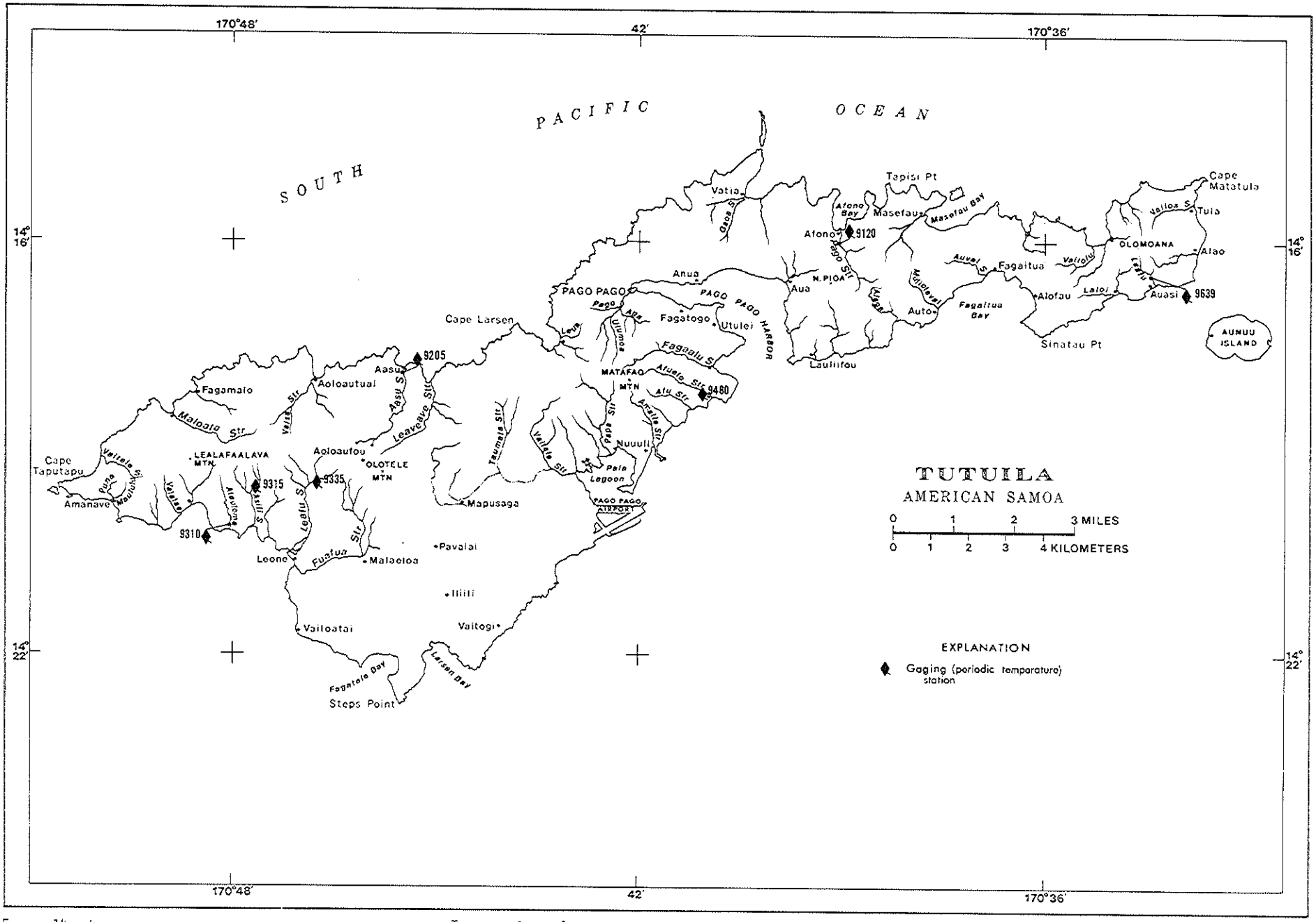


FIGURE 14.--LOCATIONS OF GAGING AND WATER-QUALITY STATIONS ON TUTUILA, SAMOA ISLANDS.

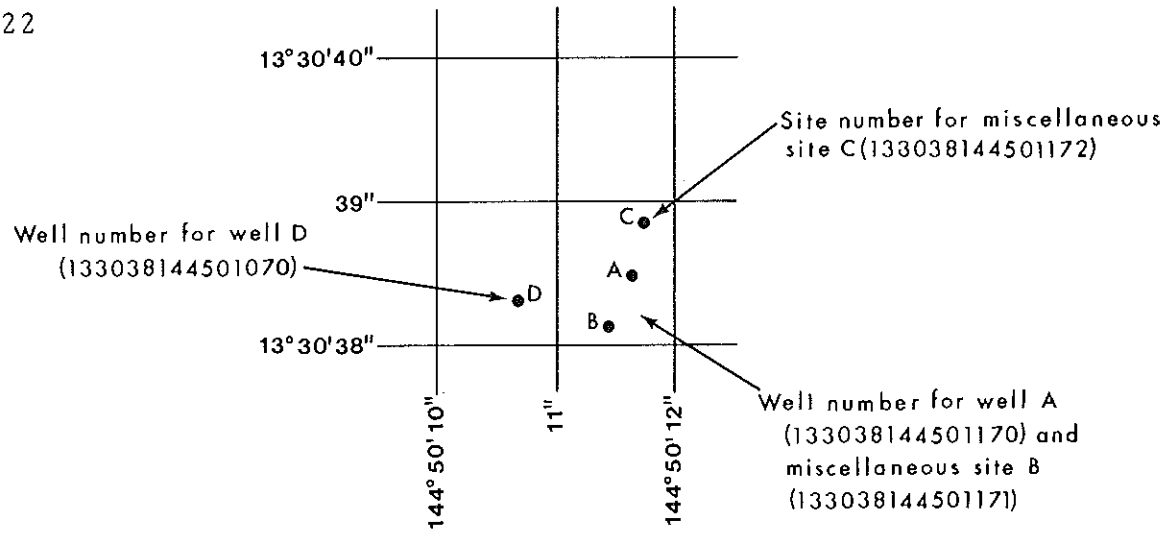


Figure 15. Sketch showing system for numbering wells and miscellaneous sites.

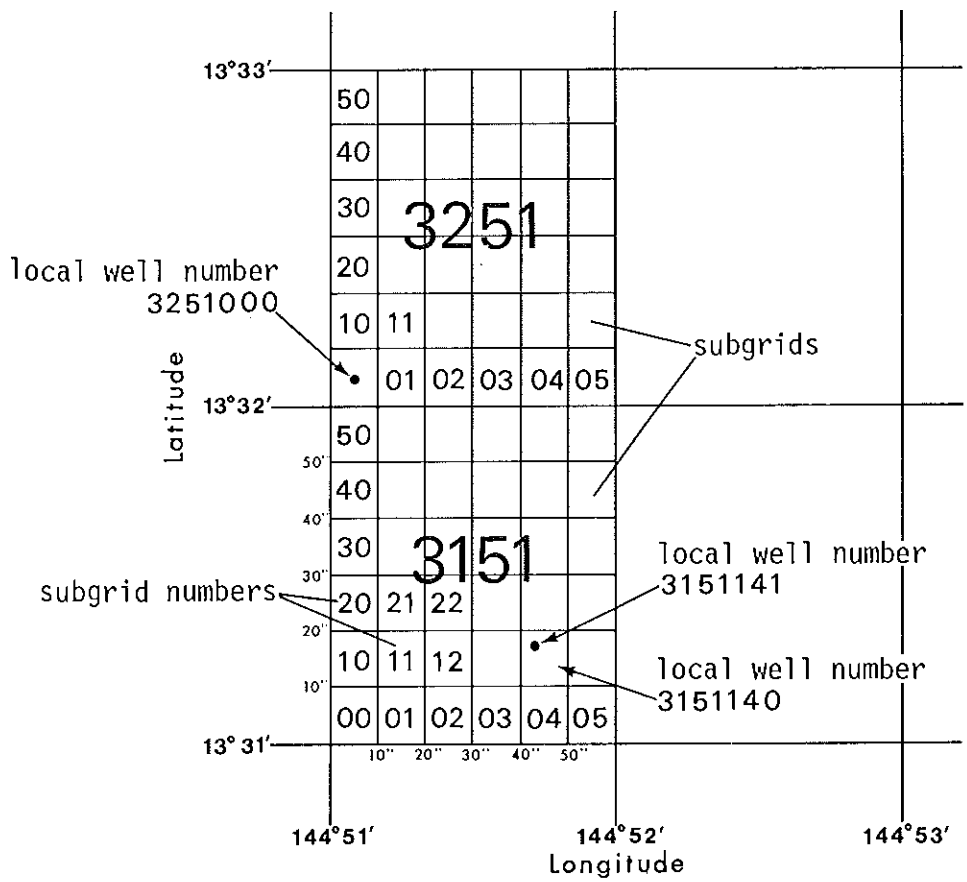


Figure 16. Sketch showing local well numbering system.

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 compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the bases 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 stations 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 discharges 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 use, the datum of the present gage 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 records and to conditions which affect the natural flow of the gaging station is 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 discharges is 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 discharge (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 peaks, including the maximum for the year, above the selected 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 minimums 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 summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, 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 stations on lakes and reservoirs the data presented comprise a description of the 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 stations 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 stations, 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 losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

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 observations of stage, measurements of discharge, 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 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 times 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	1966	1967	2016	1970	2160
1965	1966	1968	2016		
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 figure 13.

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.

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing 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) is on 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, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering 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-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-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-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-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.
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-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

16800000 DENNI SPRING

LOCATION (REVISED).--Lat 15°11'48" N., long 145°45'52" E., Hydrologic Unit 20100006, 2.8 mi (4.5 km) southeast of Tanapag, 3.1 mi (5.0 km) east of Garapan, and 5.6 mi (9.0 km) northeast of Chalan Kanoa.

PERIOD OF RECORD.--August 1952 to June 1954 (published as Donni Spring near Garapan), March 1968, January 1969 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Altitude of gage is 261 ft (79.6 m) from U.S. Navy.

REMARKS.--Records fair except those above 2 ft^3/s (0.057 m^3/s), which are poor.

AVERAGE DISCHARGE.--14 years (water years 1953, 1970-82), 0.652 ft^3/s (0.018 m^3/s), 472 acre-ft/yr (582,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 8.5 ft^3/s (0.24 m^3/s) Aug. 13, 1978; minimum daily, 0.02 ft^3/s (0.001 m^3/s) Sept. 16, 17, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1.8 ft^3/s (0.05 m^3/s) Jan. 14; minimum daily, 0.35 ft^3/s (0.010 m^3/s) June 14-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	.98	1.3	.98	1.0	.75	.67	.59	.47	.47	1.2	.92
2	.98	.92	1.4	.98	1.0	.75	.67	.59	.47	.51	1.2	.87
3	.98	.92	1.3	.92	.98	.75	.67	.59	.47	.51	1.1	.83
4	.98	.92	1.2	.92	.98	.75	.67	.59	.47	.51	1.0	.79
5	.92	.92	1.2	.87	.98	.75	.67	.59	.47	.51	.92	.75
6	.92	.92	1.2	.87	.92	.71	.63	.59	.43	.51	.87	.71
7	.92	.87	1.2	.87	.92	.71	.63	.59	.43	.51	.83	.71
8	.87	.87	1.2	.87	.92	.71	.59	.55	.43	.47	.79	.71
9	.87	.87	1.1	.87	.87	.71	.59	.55	.43	.47	.75	.75
10	.87	.83	1.1	.87	.87	.67	.59	.55	.43	.47	.79	.83
11	.92	.83	1.2	1.1	.87	.67	.59	.55	.43	.47	.79	.92
12	.92	.87	1.2	1.4	.87	.67	.59	.55	.39	.47	.75	.87
13	.92	.83	1.2	1.6	.92	.71	.59	.55	.39	.47	.75	.83
14	.92	.92	1.0	1.8	.92	.75	.59	.55	.35	.47	.71	.79
15	.98	.92	1.0	1.5	.92	.75	.59	.55	.35	.47	.67	.79
16	.98	1.1	1.0	1.5	.92	.75	.63	.59	.35	.47	.67	.75
17	1.2	1.1	1.2	1.5	.87	.75	.63	.59	.35	.47	.71	.75
18	1.4	1.2	1.5	1.5	.87	.75	.67	.59	.35	.47	.75	.83
19	1.5	1.2	1.5	1.4	.83	.75	.71	.59	.35	.47	.79	.83
20	1.4	1.2	1.5	1.3	.83	.71	.67	.55	.35	.47	.79	.79
21	1.4	1.2	1.5	1.2	.83	.71	.67	.55	.35	.43	.79	.79
22	1.3	1.2	1.5	1.2	.83	.71	.67	.55	.35	.43	1.2	.75
23	1.3	1.3	1.4	1.2	.79	.71	.67	.51	.35	.43	1.4	.71
24	1.2	1.3	1.3	1.1	.79	.71	.67	.47	.35	.39	1.4	.71
25	1.1	1.3	1.2	.98	.79	.71	.67	.47	.35	.39	1.4	.67
26	1.1	1.3	1.2	.98	.79	.71	.67	.47	.35	.39	1.3	.67
27	1.1	1.2	1.2	.98	.79	.71	.67	.47	.35	.39	1.2	.67
28	1.0	1.2	1.1	.98	.75	.67	.67	.47	.35	.51	1.2	.63
29	1.0	1.3	1.0	.98	---	.67	.63	.47	.39	.83	1.1	.59
30	.98	1.3	1.0	1.0	---	.67	.63	.47	.43	1.0	1.0	.59
31	.98	---	.98	1.0	---	.67	---	.47	---	1.2	.98	---
TOTAL	32.91	31.79	37.88	35.22	24.62	22.17	19.26	16.81	11.78	16.03	29.80	22.80
MEAN	1.06	1.06	1.22	1.14	.88	.72	.64	.54	.39	.52	.96	.76
MAX	1.5	1.3	1.5	1.8	1.0	.75	.71	.59	.47	1.2	1.4	.92
MIN	.87	.83	.98	.87	.75	.67	.59	.47	.35	.39	.67	.59
AC-FT	65	63	75	70	49	44	38	33	23	32	59	45

CAL YR 1981 TOTAL 361.62 MEAN .99 MAX 7.0 MIN .22 AC-FT 717
WTR YR 1982 TOTAL 301.07 MEAN .82 MAX 1.8 MIN .35 AC-FT 597

16801000 SOUTH FORK TALOFOFO STREAM

LOCATION (REVISED).--Lat 15°12'48" N., long 145°46'17" E., Hydrologic Unit 20100006, on left bank 0.4 mi (0.6 km) upstream from confluence with Middle and North Forks, 1.4 mi (2.3 km) south of Ogso Dogas, and 2.2 mi (3.5 km) southeast of Tanapag.

DRAINAGE AREA.--0.64 mi² (1.66 km²) revised. Area at site used prior to Mar. 31, 1971, 0.73 mi² (1.89 km²).

PERIOD OF RECORD.--October 1968 to current year. 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).

GAGE.--Water-stage recorder. Concrete control since Mar. 31, 1971. Altitude of gage is 60 ft (18 m), revised, from topographic map. Prior to Mar. 31, 1971, at site 0.2 mi (0.3 km) downstream at different datum.

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

AVERAGE DISCHARGE.--11 years (water years 1972-82), 1.45 ft³/s (0.041 m³/s), 1,050 acre-ft/yr (1.29 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,100 ft³/s (116 m³/s), Aug. 4, 1976, gage height, 8.15 ft (2.484 m), from rating curve extended above 59 ft³/s (1.67 m³/s) on basis of slope-area measurements at gage heights 7.30 and 8.15 ft (2.225 and 2.484 m); no flow at times prior to Mar. 31, 1971, at site then in use, and at present site, July 16, 17, 19, 20, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 15	1430	416	11.8	4.54	1.384
Aug. 23	0630	*620	17.6	*5.00	1.524

Minimum discharge, 0.04 ft³/s (0.001 m³/s) June 14-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.3	2.0	.85	1.2	.46	.24	.14	.06	.34	1.2	.55
2	1.5	1.1	1.7	1.1	1.0	.42	.24	.14	.06	.24	.94	.55
3	1.0	1.1	1.6	.95	.90	.42	.24	.12	.06	.27	1.3	.54
4	.94	1.1	1.5	.85	.80	.38	.22	.12	.06	.24	.88	.50
5	.88	1.1	1.4	.75	1.0	.38	.22	.12	.06	.20	.75	.46
6	.82	1.0	1.3	.70	.90	.34	.30	.16	.07	.18	.55	.67
7	.76	1.6	1.2	.95	.80	.38	.24	.12	.07	.16	.45	.78
8	.76	1.1	1.2	.80	1.0	.38	.22	.11	.06	.14	1.9	.66
9	.70	1.0	1.2	.70	.90	.34	.22	.10	.07	.14	.70	3.1
10	.82	1.0	1.1	11	.80	.34	.20	.12	.07	.14	.80	1.2
11	.66	.94	1.1	3.6	.75	.30	.24	.10	.07	.14	.60	.82
12	.66	.94	1.2	9.9	.70	.30	.20	.10	.07	.14	.55	.66
13	.76	.88	1.1	3.3	.76	.38	.20	.10	.10	.22	.55	.62
14	1.0	.94	1.6	2.1	.66	.34	.18	.10	.06	.16	.50	.58
15	1.3	54	1.1	1.8	.62	.30	.18	.11	.05	.38	.40	.54
16	3.9	6.4	1.0	1.8	.66	.30	.18	.11	.05	.20	.35	.50
17	12	4.0	29	1.7	.58	.30	.18	.14	.05	.16	.30	.46
18	2.9	3.2	2.8	1.4	.58	.27	.16	.12	.06	.14	.35	1.1
19	2.1	6.0	2.3	1.2	.58	.50	.16	.10	.05	.14	.35	1.3
20	1.7	4.6	1.8	1.2	.54	.34	.14	.10	.06	.16	.34	.70
21	1.5	3.7	1.7	1.2	.54	.30	.14	.10	.06	.22	.30	.62
22	2.9	3.2	1.6	1.0	.54	.27	.14	.08	.16	.16	.30	.54
23	1.5	4.6	1.5	1.0	.50	.27	.16	.08	.96	.30	40	.50
24	1.3	18	1.3	1.0	.50	.27	.16	.08	.22	.20	2.6	.46
25	1.4	3.7	1.2	1.2	.46	.27	.14	.08	.16	.20	1.2	.42
26	1.4	3.2	1.2	1.5	.42	.27	.18	.08	.25	.16	1.0	.42
27	2.1	4.0	1.2	1.2	.42	.30	.16	.07	.38	1.5	.85	.38
28	1.4	3.2	1.1	1.4	.54	.24	.16	.07	.34	7.8	.75	.42
29	1.2	2.5	1.1	1.2	---	.24	.14	.07	.20	9.5	.70	.38
30	1.1	2.5	.95	1.0	---	.80	.14	.07	1.2	4.0	.65	.34
31	2.0	---	.90	1.0	---	.30	---	.07	---	2.0	.60	---
TOTAL	54.16	142.10	70.95	59.55	19.65	10.70	5.68	3.18	5.19	29.93	62.71	20.77
MEAN	1.75	4.74	2.29	1.91	.70	.35	.19	.10	.17	.97	2.02	.69
MAX	12	54	29	11	1.2	.80	.30	.16	1.2	9.5	40	3.1
MIN	.66	.88	.90	.70	.42	.24	.14	.07	.05	.14	.30	.34
AC-FT	107	282	141	118	39	21	11	6.3	10	59	124	41

CAL YR 1981 TOTAL 659.86 MEAN 1.81 MAX 54 MIN .02 AC-FT 1310
WTR YR 1982 TOTAL 484.37 MEAN 1.33 MAX 54 MIN .05 AC-FT 961

16801500 MIDDLE FORK TALOFOFO STREAM

LOCATION (REVISED).--Lat 15°12'59" N., long 145°46'17" E., Hydrologic Unit 20100006, on left bank 1,000 ft (300 m) upstream from confluence with South and North Forks, 2.2 mi (3.5 km) southeast of Tanapag, and 3.7 mi (6.0 km) east of Garapan.

DRAINAGE AREA.--0.28 mi² (0.73 km²) revised.

PERIOD OF RECORD.--March 1968 to June 1980, February 1981 to current year.

REVISED RECORDS.--WDR HI-76-1: 1968-69(P), 1970-71(M), 1972(P), 1973-75(M).

GAGE.--Water-stage recorder. Concrete control since Feb. 28, 1971. Altitude of gage is 65 ft (20 m), from topographic map.

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

AVERAGE DISCHARGE.--12 years (water years 1969-79, 1982), 0.682 ft³/s (0.019 m³/s), 494 acre-ft/yr (609,000 m³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 840 ft³/s (23.8 m³/s) Aug. 12, 1978, gage height, 6.58 ft (2.006 m), from rating curve extended above 5.3 ft³/s (0.150 m³/s) on basis of slope-area measurements at gage heights 5.38 ft (1.640 m) and 6.58 ft (2.006 m); minimum, 0.05 ft³/s (0.001 m³/s) July 5, 6, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft³/s (2.83 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 15	1315	*209	5.92	*4.29	1.308
Dec. 17	0300	111	3.14	3.64	1.109
Aug. 23	0615	178	5.04	4.11	1.253

Minimum discharge, 0.16 ft³/s (0.005 m³/s) July 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.72	.72	1.3	.60	.78	.45	.45	.27	.33	.30	.45	.27
2	.72	.66	1.0	.72	.66	.45	.45	.27	.33	.24	.37	.24
3	.55	.60	.84	.66	.66	.50	.45	.27	.30	.32	.58	.27
4	.55	.66	.84	.60	.60	.45	.45	.27	.30	.33	.45	.24
5	.55	.60	.78	.60	.72	.45	.41	.27	.30	.27	.33	.24
6	.55	.55	.78	.60	.66	.41	.50	.37	.30	.27	.27	.39
7	.50	.91	.72	.66	.60	.41	.45	.30	.33	.27	.27	.45
8	.55	.66	.72	.60	.72	.41	.41	.30	.30	.24	.66	.33
9	.60	.55	.66	.60	.60	.37	.37	.30	.30	.24	.33	1.2
10	.60	.60	.72	2.6	.60	.37	.33	.33	.33	.24	.33	.60
11	.55	.55	.66	1.1	.60	.37	.41	.30	.37	.24	.27	.30
12	.60	.55	.78	3.0	.55	.43	.37	.27	.37	.24	.27	.27
13	.66	.55	.72	1.3	.60	.55	.33	.27	.27	.33	.24	.24
14	.84	.66	.84	.84	.50	.50	.33	.27	.27	.24	.27	.24
15	.84	22	.72	.78	.50	.50	.33	.30	.24	.38	.24	.24
16	1.4	3.2	.66	.84	.55	.50	.33	.30	.24	.24	.24	.21
17	3.7	1.8	8.3	.84	.50	.50	.33	.33	.27	.21	.24	.18
18	1.0	1.0	1.1	.78	.50	.50	.33	.24	.27	.21	.25	.27
19	.84	2.3	1.0	.72	.50	.60	.33	.24	.27	.21	.25	.40
20	.78	2.1	.90	.72	.45	.55	.30	.24	.27	.21	.24	.24
21	.78	1.7	.84	.72	.50	.50	.30	.24	.30	.27	.24	.21
22	1.4	1.3	.84	.66	.45	.41	.33	.24	.41	.24	.24	.18
23	.84	2.1	.90	.66	.45	.41	.33	.24	1.2	.37	10	.18
24	.78	5.6	.78	.66	.45	.45	.33	.24	.37	.27	.66	.18
25	.78	1.9	.72	.72	.45	.45	.30	.24	.30	.27	.45	.18
26	.78	1.1	.72	.90	.45	.41	.33	.24	.37	.21	.37	.18
27	1.0	1.7	.72	.72	.45	.45	.33	.27	.55	.80	.33	.18
28	.78	1.7	.72	.78	.55	.41	.30	.27	.40	2.4	.30	.21
29	.66	1.2	.72	.72	---	.45	.30	.27	.30	2.8	.30	.18
30	.66	1.1	.66	.66	---	.73	.30	.27	1.0	1.3	.30	.18
31	.84	---	.60	.66	---	.45	---	.33	---	.72	.27	---
TOTAL	26.40	60.62	32.26	27.02	15.60	14.39	10.81	8.56	11.16	14.88	20.01	8.68
MEAN	.85	2.02	1.04	.87	.56	.46	.36	.28	.37	.48	.65	.29
MAX	3.7	22	8.3	3.0	.78	.73	.50	.37	1.2	2.8	10	1.2
MIN	.50	.55	.60	.60	.45	.37	.30	.24	.24	.21	.24	.18
AC-FT	52	120	64	54	31	29	21	17	22	30	40	17

WTR YR 1982 TOTAL 250.39 MEAN .69 MAX 22 MIN .18 AC-FT 497

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 (0.8 km) southeast from the Administration building, Northern Marianas Governnment.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1.30 ft (0.396 m), above mean sea level.

REMARKS.--Gage-height records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 4.39 ft (1.338 m), Aug. 17, 1981; minimum, 1.18 ft (0.360 m), June 12, 13, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 12, 1978, reached a stage of 7.6 ft (2.32 m) present datum, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 3.17 ft (0.966 m), July 31; minimum, 1.50 ft (0.457 m) June 19-21.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.69	2.55	2.76	2.44	2.69	2.30	2.23	1.85	1.64	2.38	3.10	2.56
2	2.69	2.54	2.72	2.42	2.67	2.30	2.22	1.83	1.63	2.37	3.03	2.53
3	2.67	2.52	2.68	2.41	2.64	2.28	2.20	1.83	1.62	2.38	2.97	2.52
4	2.64	2.50	2.65	2.39	2.61	2.26	2.18	1.82	1.61	2.37	2.90	2.50
5	2.62	2.49	2.63	2.37	2.59	2.25	2.16	1.81	1.61	2.36	2.83	2.47
6	2.60	2.48	2.61	2.35	2.58	2.22	2.18	1.80	1.60	2.34	2.76	2.45
7	2.58	2.49	2.59	2.33	2.60	2.21	2.20	1.79	1.60	2.33	2.70	2.51
8	2.55	2.47	2.56	2.31	2.59	2.22	2.19	1.78	1.59	2.33	2.72	2.51
9	2.53	2.45	2.53	2.30	2.56	2.20	2.17	1.77	1.58	2.32	2.68	2.49
10	2.52	2.43	2.52	2.40	2.53	2.18	2.15	1.77	1.58	2.31	2.66	2.51
11	2.49	2.41	2.50	2.52	2.51	2.17	2.14	1.76	1.57	2.29	2.64	2.49
12	2.47	2.40	2.50	2.63	2.48	2.15	2.12	1.75	1.57	2.28	2.61	2.46
13	2.46	2.39	2.52	2.75	2.47	2.13	2.10	1.72	1.56	2.28	2.59	2.44
14	2.47	2.39	2.56	2.73	2.45	2.12	2.08	1.72	1.55	2.31	2.60	2.42
15	2.52	2.55	2.56	2.70	2.42	2.11	2.05	1.73	1.55	2.35	2.62	2.41
16	2.58	2.78	2.54	2.68	2.42	2.10	2.03	1.73	1.54	2.35	2.63	2.39
17	2.69	2.78	2.68	2.68	2.41	2.10	2.01	1.73	1.53	2.35	2.60	2.37
18	2.70	2.74	2.69	2.67	2.39	2.10	1.99	1.74	1.51	2.35	2.57	2.35
19	2.71	2.72	2.69	2.64	2.36	2.15	1.97	1.73	1.50	2.34	2.56	2.35
20	2.70	2.77	2.67	2.61	2.34	2.17	1.95	1.72	1.51	2.33	2.55	2.34
21	2.67	2.77	2.64	2.59	2.32	2.16	1.93	1.70	1.51	2.41	2.54	2.32
22	2.69	2.76	2.62	2.57	2.31	2.15	1.93	1.68	1.55	2.46	2.53	2.29
23	2.68	2.76	2.60	2.55	2.39	2.14	1.92	1.67	1.85	2.54	2.77	2.26
24	2.65	3.07	2.58	2.52	2.28	2.12	1.91	1.67	2.03	2.56	2.85	2.24
25	2.64	3.03	2.56	2.51	2.26	2.10	1.90	1.67	2.16	2.60	2.82	2.22
26	2.63	2.96	2.54	2.58	2.25	2.10	1.88	1.67	2.26	2.66	2.78	2.21
27	2.63	2.91	2.53	2.64	2.24	2.08	1.87	1.67	2.33	2.73	2.74	2.22
28	2.62	2.87	2.52	2.71	2.28	2.08	1.86	1.66	2.36	2.94	2.69	2.23
29	2.60	2.81	2.50	2.74	---	2.13	1.85	1.66	2.38	3.09	2.66	2.23
30	2.58	2.76	2.48	2.70	---	2.22	1.85	1.65	2.38	3.14	2.63	2.20
31	2.56	---	2.46	2.66	---	2.22	---	1.65	---	3.14	2.59	---
TOTAL	80.83	79.55	80.19	79.10	68.64	67.22	61.22	53.73	52.26	76.99	83.92	71.49
MEAN	2.61	2.65	2.59	2.55	2.45	2.17	2.04	1.73	1.74	2.48	2.71	2.38
MAX	2.71	3.07	2.76	2.75	2.69	2.30	2.23	1.85	2.38	3.14	3.10	2.56
MIN	2.46	2.39	2.46	2.30	2.24	2.08	1.85	1.65	1.50	2.28	2.53	2.20

WTR YR 1982 TOTAL 855.14 MEAN 2.34 MAX 3.14 MIN 1.50

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	CHLORIDE, DISSOLVED (MG/L AS CL)
AUG			
19...	0920	6180	1900

16808300 FINILE CREEK AT AGAT

LOCATION.--Lat 13°22'39" N., long 144°39'26" E., Hydrologic Unit 20100003, on right bank 0.4 mi (0.6 km) upstream from estuary and 0.4 mi (0.6 km) south of Agat School.

DRAINAGE AREA.--0.28 mi^2 (0.73 km^2).

PERIOD OF RECORD.--April 1960 to current year. Prior to October 1969, published as Finile River at Agat.

REVISED RECORDS.--WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 20 ft (6.1 m), from topographic map.

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

AVERAGE DISCHARGE.--22 years, 1.32 ft^3/s (0.037 m^3/s), 1,020 acre-ft/yr (1.26 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 326 ft^3/s (9.23 m^3/s) May 21, 1976, gage height, 3.88 ft (1.183 m), from rating curve extended above 68 ft^3/s (1.93 m^3/s) on basis of slope-area measurement at gage height 3.66 ft (1.116 m); minimum, 0.04 ft^3/s (0.001 m^3/s) July 2-4, 6, 8, 9, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 304 ft^3/s (8.61 m^3/s) Sept. 17, gage height, 3.65 ft (1.113 m), no peak above base of 170 ft^3/s (4.81 m^3/s); minimum, 0.18 ft^3/s (0.005 m^3/s) June 14-16, 18-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.5	1.6	1.0	.70	.60	.51	.27	.32	.82	1.9	1.2
2	1.1	1.3	1.6	1.0	1.1	.59	.51	.25	.31	.65	1.7	5.0
3	1.1	1.3	1.6	.92	.70	.58	.60	.25	.30	.71	1.3	1.3
4	1.0	1.1	1.6	.92	.70	.56	.87	.25	.29	.60	3.4	1.4
5	.99	1.1	1.6	.92	.70	.57	.48	.25	.32	.70	2.3	2.7
6	.98	2.8	1.6	.92	.70	.55	.47	.25	.29	.59	2.3	5.8
7	.93	1.2	1.5	.90	.87	.54	.43	.31	.33	.52	1.5	6.8
8	.92	1.1	1.5	.90	1.0	.57	.41	.26	.31	2.5	1.3	2.4
9	.92	1.0	1.6	.85	.81	.53	.39	.25	.51	.84	1.9	2.0
10	.92	1.0	4.4	.90	.70	.51	.37	.27	.27	.72	1.5	8.6
11	1.2	1.1	1.5	.85	.60	.49	.36	.26	.22	.72	1.3	5.3
12	1.1	1.1	4.0	.81	.60	.49	.35	.25	.30	.78	4.0	2.4
13	.91	1.0	2.4	.70	.60	.48	.35	.44	.25	1.7	1.8	2.2
14	.95	.94	3.9	.70	.60	.49	.35	.46	.22	.83	1.5	2.3
15	1.5	1.0	1.9	.70	1.0	.49	.35	.71	.21	.70	1.4	2.1
16	2.6	1.1	1.8	.81	.70	.47	.34	2.9	.23	.67	1.3	1.9
17	4.7	.93	1.6	.81	.67	.47	.33	1.7	.31	.71	1.3	14
18	1.9	1.0	1.6	.70	.70	.44	.32	.48	.30	.66	1.2	3.3
19	4.1	5.9	2.0	.70	2.6	.44	.32	.36	.24	4.0	1.2	2.7
20	1.7	14	1.6	.70	.89	.49	.30	.34	.22	1.5	2.4	2.4
21	1.5	5.2	1.5	.60	.92	.52	.30	.31	.25	1.3	2.0	2.2
22	1.8	3.2	1.5	.51	.81	.45	.30	.93	.36	1.1	1.2	2.1
23	1.4	5.0	1.4	.60	.79	.42	.29	3.2	8.5	1.3	2.8	2.0
24	1.3	3.2	1.4	.60	.76	.46	.29	.66	1.3	1.8	1.3	2.9
25	2.0	2.6	1.3	.70	.70	.46	.28	.45	1.0	1.3	1.3	2.1
26	1.6	2.2	1.3	.81	.70	.43	.28	.42	.74	1.2	1.2	1.8
27	1.4	2.2	1.3	.70	.70	.41	.28	.40	.58	3.0	5.8	1.9
28	1.3	1.9	1.3	.70	.69	.41	.26	.36	.54	1.9	1.5	2.2
29	1.2	1.8	1.1	.70	---	1.5	.28	.35	4.2	2.7	1.4	1.7
30	1.1	1.6	1.1	.70	---	.60	.26	.33	1.1	1.7	1.4	1.6
31	1.1	---	1.1	.60	---	.51	---	.32	---	1.3	1.2	---
TOTAL	46.32	70.37	55.2	23.93	23.01	16.52	11.23	18.24	24.32	39.52	57.6	94.3
MEAN	1.49	2.35	1.78	.77	.82	.53	.37	.59	.81	1.27	1.86	3.14
MAX	4.7	14	4.4	1.0	2.6	1.5	.87	3.2	8.5	4.0	5.8	14
MIN	.91	.93	1.1	.51	.60	.41	.26	.25	.21	.52	1.2	1.2
AC-FT	92	140	109	47	46	33	22	36	48	78	114	187

CAL YR 1981 TOTAL 436.96 MEAN 1.20 MAX 15 MIN .12 AC-FT 867
WTR YR 1982 TOTAL 480.56 MEAN 1.32 MAX 14 MIN .21 AC-FT 953

16809600 LA SA FUA RIVER NEAR UMATAC

LOCATION.--Lat 13°18'23" N., long 144°39'45" E., Hydrologic Unit 20100003, on left bank 0.6 mi (1.0 km) north of Sanchez School in Umatac and 0.8 mi (1.3 km) upstream from mouth.

DRAINAGE AREA.--1.06 mi² (2.75 km²).

PERIOD OF RECORD.--April 1953 to July 1960, October 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 120 ft (36.6 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--12 years (water years 1954-59, 1977-82), 4.52 ft³/s (0.128 m³/s), 3,270 acre-ft/yr (4.03 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,440 ft³/s (40.8 m³/s) Sept. 27, 1978, gage height, 6.05 ft (1.844 m), from rating curve extended above 109 ft³/s (3.09 m³/s) by test on model of station site; minimum, 0.12 ft³/s (0.003 m³/s) June 13, 1979, during short regulation of flow at diversion upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 18	2345	650	18.4	4.70	1.433
Sept. 10	0800	*905	25.6	*5.25	1.600
Sept. 17	0445	740	21.0	4.92	1.500

Minimum discharge, 0.35 ft³/s (0.010 m³/s) May 2-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	3.9	2.0	1.5	.75	1.8	.67	.41	.64	3.3	12	23
2	2.0	3.2	2.0	1.5	5.0	2.4	.64	.39	.61	2.2	11	31
3	1.8	2.1	2.0	1.3	2.5	1.6	.76	.39	.58	5.0	4.8	5.8
4	1.7	1.8	1.7	1.5	3.0	1.3	2.0	.39	.55	2.9	3.6	5.5
5	1.6	1.6	1.7	1.3	1.3	1.2	.70	.41	.55	2.7	5.5	12
6	1.5	6.4	1.5	2.0	1.0	1.2	.73	.39	.58	2.3	3.2	45
7	1.4	2.3	1.7	1.3	10	1.3	.67	.58	.79	2.1	2.6	38
8	1.4	1.8	2.0	1.0	5.0	1.2	.61	.47	.70	14	2.2	10
9	1.3	1.7	3.5	1.0	4.0	1.0	.58	.41	1.6	4.4	5.3	5.5
10	1.3	2.1	35	1.3	1.5	.97	.58	.45	.89	2.8	3.4	52
11	1.5	2.0	2.5	1.0	1.5	.97	.58	.45	.67	2.6	2.6	25
12	1.5	4.2	15	1.0	1.0	.93	.55	.47	.61	2.2	16	11
13	1.6	1.6	15	1.0	1.0	1.0	.52	.55	.58	2.0	3.9	5.3
14	2.1	1.6	20	1.0	1.0	1.1	.52	1.8	.52	1.9	2.8	12
15	4.6	2.0	4.5	1.0	6.0	1.2	.52	1.5	.49	1.7	2.7	4.5
16	21	5.2	3.5	1.0	3.0	1.2	.52	3.5	.47	2.0	2.4	3.7
17	26	2.6	2.5	1.0	1.4	1.1	.49	7.0	.49	1.7	2.1	63
18	22	2.9	4.0	.95	1.2	.97	.49	1.6	.47	1.5	3.5	25
19	43	25	10	.90	66	.85	.49	.93	.49	27	3.1	9.5
20	6.0	140	3.5	.90	4.1	1.0	.49	.73	.52	9.2	15	5.3
21	3.5	27	2.5	.90	2.4	.89	.47	.67	.64	6.8	16	4.1
22	9.6	9.2	2.5	.95	14	.79	.47	.89	.85	3.9	4.9	5.2
23	3.3	15	2.0	.90	2.8	.73	.45	4.1	65	10	35	3.1
24	2.6	6.2	2.0	.85	2.1	.73	.49	1.3	7.7	9.2	27	13
25	6.8	3.9	2.0	1.5	1.8	.73	.45	.89	3.0	5.0	8.9	10
26	3.3	3.5	2.0	.90	1.6	.70	.45	.85	2.0	3.3	4.5	3.9
27	2.7	3.0	2.0	.80	1.6	.73	.45	.79	1.6	8.7	15	29
28	2.2	2.5	2.5	.80	3.9	.70	.43	.70	1.4	7.6	9.9	6.3
29	2.0	2.5	2.0	.75	---	.79	.45	.64	16	15	4.0	3.6
30	2.0	2.0	1.7	.75	---	.79	.43	.64	14	6.8	3.2	3.1
31	2.0	---	1.5	.75	---	.67	---	.67	---	8.1	3.1	---
TOTAL	185.6	288.8	156.3	33.30	150.45	32.54	17.65	34.96	124.99	177.9	239.2	473.4
MEAN	5.99	9.63	5.04	1.07	5.37	1.05	.59	1.13	4.17	5.74	7.72	15.8
MAX	43	140	35	2.0	66	2.4	2.0	7.0	65	27	35	63
MIN	1.3	1.6	1.5	.75	.75	.67	.43	.39	.47	1.5	2.1	3.1
AC-FT	368	573	310	66	298	65	35	69	248	353	474	939

CAL YR 1981 TOTAL 1784.03 MEAN 4.89 MAX 140 MIN .43 AC-FT 3540
WTR YR 1982 TOTAL 1915.09 MEAN 5.25 MAX 140 MIN .39 AC-FT 3800

NOTE.--No gage-height record Nov. 27 to Feb. 16.

16835000 INARAJAN RIVER NEAR INARAJAN

LOCATION.--Lat 13°16'41" N., long 144°44'15" E., Hydrologic Unit 20100003, on right bank 0.6 mi (1.0 km) northwest of Inarajan and 4.9 mi (7.9 km) east of Merizo.

DRAINAGE AREA.--4.42 mi² (11.45 km²).

PERIOD OF RECORD.--September 1952 to current year.

REVISED RECORDS.--WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m), from topographic map.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Stage-discharge relation not determined above gage height 11.0 ft (3.35 m) owing to ungaged overbank flow. During dry periods water is diverted upstream for irrigation. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--30 years, 17.4 ft³/s (0.492 m³/s), 12,610 acre-ft/yr (15.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 12.90 ft (3.932 m) Oct. 11, 1963 (discharge not determined); minimum discharge, 0.42 ft³/s (0.012 m³/s) June 21, 22, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,700 ft³/s (48.1 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 20	1400	a1800	51.0	--	--
Sept. 10	0830	Unknown		*12.29	3.746
Sept. 17	0415	Unknown		11.98	3.652

Minimum discharge, 1.8 ft³/s (0.051 m³/s) May 6.

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DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	17	15	8.5	4.5	8.6	5.4	2.3	2.8	8.3	32	81
2	11	13	15	8.5	10	8.9	5.1	2.1	2.8	6.5	43	77
3	9.9	13	14	8.3	11	8.3	5.1	2.1	2.6	8.9	24	22
4	9.6	12	13	8.3	9.6	8.0	9.2	2.1	2.6	6.7	22	37
5	9.2	12	12	8.0	7.6	7.6	4.6	2.1	2.6	6.2	17	37
6	8.9	40	12	9.0	6.7	7.3	3.9	2.1	2.6	5.6	14	174
7	8.9	15	12	8.3	11	6.7	3.9	4.3	2.6	5.4	12	96
8	8.3	13	11	8.0	8.9	7.0	3.9	3.0	2.8	49	12	37
9	8.0	11	11	8.0	8.0	7.0	3.7	2.4	6.7	16	18	30
10	8.0	11	90	7.5	6.5	6.7	3.5	2.8	3.9	9.9	16	297
11	8.3	11	20	7.5	5.9	6.5	3.5	2.6	3.2	8.3	13	82
12	8.9	10	25	7.0	5.6	6.2	3.4	2.4	2.8	7.3	18	61
13	8.6	10	40	7.0	5.1	5.6	3.4	3.0	3.0	9.6	17	35
14	11	10	90	6.7	4.8	5.4	3.2	5.9	3.0	9.2	14	39
15	25	10	30	6.5	13	5.4	3.2	6.2	3.0	8.9	13	31
16	50	15	17	6.5	9.2	5.6	3.5	4.3	3.0	10	12	28
17	45	12	15	6.5	6.5	5.6	3.2	11	3.0	8.3	12	200
18	50	12	15	6.2	5.9	5.4	3.0	4.8	3.2	7.6	12	50
19	200	60	40	6.2	215	5.4	3.0	3.5	3.2	26	15	35
20	30	400	20	6.2	19	5.4	3.0	3.2	3.0	30	17	25
21	25	110	15	6.0	12	5.4	3.0	3.0	3.4	19	33	23
22	35	70	13	5.5	25	5.1	3.2	4.6	3.5	13	17	22
23	20	35	11	5.5	14	4.8	3.0	13	143	12	41	21
24	17	35	10	5.5	11	4.6	3.5	5.9	17	14	61	75
25	30	25	10	6.5	9.9	4.6	3.0	4.1	11	18	23	25
26	17	20	9.5	5.5	8.9	4.6	3.0	3.7	8.0	21	17	20
27	15	15	9.5	5.0	8.3	4.8	2.8	3.5	6.2	26	63	19
28	15	20	9.0	5.0	11	4.6	2.6	3.4	5.4	43	20	18
29	15	17	9.0	4.5	---	5.1	2.8	3.2	9.9	44	14	17
30	13	15	8.7	5.0	---	5.6	2.4	3.0	17	33	17	16
31	13	---	8.7	4.5	---	5.1	---	2.8	---	40	14	---
TOTAL	744.6	1069	630.4	207.2	473.9	186.9	110.0	122.4	286.8	530.7	673	1730
MEAN	24.0	35.6	20.3	6.68	16.9	6.03	3.67	3.95	9.56	17.1	21.7	57.7
MAX	200	400	90	9.0	215	8.9	9.2	13	143	49	63	297
MIN	8.0	10	8.7	4.5	4.5	4.6	2.4	2.1	2.6	5.4	12	16
AC-FT	1480	2120	1250	411	940	371	218	243	569	1050	1330	3430

CAL YR 1981 TOTAL 5513.3 MEAN 15.1 MAX 400 MIN 1.8 AC-FT 10940
WTR YR 1982 TOTAL 6764.9 MEAN 18.5 MAX 400 MIN 2.1 AC-FT 13420

NOTE.--No gage-height record Oct. 15 to Feb. 2, Sept. 17-30.

16840000 TINAGA RIVER NEAR INARAJAN

LOCATION.--Lat 13°17'10" N., long 144°45'04" E., Hydrologic Unit 20100003, on right bank 0.3 mi (0.5 km) upstream from mouth, 0.9 mi (1.4 km) northeast of Inarajan, and 4.5 mi (7.2 km) south of Talofofo.

DRAINAGE AREA.--1.89 mi² (4.90 km²).

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1969, published as Paulilue River near Inarajan.

REVISED RECORDS.--WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m), from topographic map.

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

AVERAGE DISCHARGE.--30 years, 5.64 ft³/s (0.160 m³/s), 4,150 acre-ft/yr (5.12 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,980 ft³/s (84.4 m³/s) Oct. 15, 1953, gage height, 13.11 ft (3.996 m), from rating curve extended above 210 ft³/s (5.95 m³/s); minimum, 0.15 ft³/s (0.004 m³/s) May 16, 21-23, 29, 1966, June 13, 29, 30, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 20	1315	*520	14.7	*4.85	1.478
Sept. 10	1015	460	13.0	4.50	1.372

Minimum discharge, 0.32 ft³/s (0.009 m³/s) May 4-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	5.4	4.0	2.8	1.4	2.6	.76	.35	.93	3.3	12	8.5
2	3.8	4.4	3.8	2.5	3.1	2.3	.70	.35	.87	2.5	13	29
3	3.5	3.9	3.6	2.5	2.9	2.2	.70	.35	.76	3.4	6.5	5.1
4	3.3	3.7	3.4	2.5	2.8	2.0	1.3	.34	.76	3.1	5.8	5.5
5	3.1	3.4	3.3	2.5	2.2	1.9	1.0	.33	.76	2.5	5.4	8.0
6	3.0	13	3.3	2.5	2.0	1.8	.76	.33	.76	2.2	4.4	48
7	2.8	5.9	3.1	2.3	2.1	1.7	.66	.47	.76	2.1	3.9	47
8	2.8	4.2	2.9	2.3	2.1	1.6	.62	.42	.87	7.3	3.7	13
9	2.7	3.8	2.9	2.2	1.8	1.5	.58	.37	1.1	4.0	5.6	8.9
10	2.6	3.5	22	2.0	1.8	1.4	.54	.40	.87	2.5	5.8	101
11	2.6	3.4	4.3	2.0	1.6	1.4	.50	.40	.81	2.2	4.2	50
12	2.8	3.4	5.0	2.1	1.4	1.3	.50	.38	.81	2.0	3.8	21
13	2.7	3.2	9.9	2.0	1.2	1.2	.50	.50	1.0	3.0	4.3	11
14	3.3	3.2	20	1.8	1.1	1.1	.49	.81	.81	2.7	3.6	12
15	7.2	3.1	9.5	1.8	2.8	1.1	.47	2.0	.76	2.5	3.6	10
16	17	5.3	6.9	1.6	3.4	1.1	.50	1.8	.66	2.3	3.3	7.5
17	15	4.0	5.9	1.6	2.0	1.0	.46	5.0	.66	2.1	3.2	59
18	17	4.0	5.9	1.6	1.8	.98	.44	3.1	.66	2.0	3.2	18
19	71	26	13	1.6	53	.95	.44	2.0	.62	8.4	3.9	12
20	11	155	7.5	1.8	6.2	.96	.41	1.6	.62	11	4.1	8.7
21	7.2	38	5.0	1.8	3.7	.85	.41	1.4	.66	5.4	6.6	7.0
22	11	19	4.2	1.6	8.8	.79	.42	1.5	1.0	3.9	4.4	6.1
23	6.3	8.6	4.0	1.6	4.3	.76	.41	2.8	35	3.4	8.9	5.5
24	5.2	10	3.8	1.6	3.1	.79	.46	2.1	9.4	4.4	4.6	21
25	10	6.2	3.4	1.8	2.6	.85	.40	1.8	3.8	5.8	4.1	8.0
26	6.0	5.6	3.4	1.6	2.3	.83	.38	1.5	2.8	5.7	3.7	6.3
27	5.0	5.0	3.3	1.6	2.3	.84	.38	1.5	2.0	9.4	3.5	5.3
28	4.7	4.7	2.9	1.6	2.9	.81	.36	1.2	1.5	12	3.5	4.9
29	4.7	4.2	2.9	1.6	---	.81	.41	1.1	4.5	26	3.2	4.6
30	4.1	4.0	2.9	1.5	---	.81	.35	1.0	6.2	14	3.7	4.5
31	3.9	---	2.9	1.4	---	.77	---	.93	---	11	3.0	---
TOTAL	249.4	367.1	178.9	59.7	126.7	39.00	16.31	38.13	82.71	172.1	152.5	556.4
MEAN	8.05	12.2	5.77	1.93	4.53	1.26	.54	1.23	2.76	5.55	4.92	18.5
MAX	71	155	22	2.8	53	2.6	1.3	5.0	35	26	13	101
MIN	2.6	3.1	2.9	1.4	1.1	.76	.35	.33	.62	2.0	3.0	4.5
AC-FT	495	728	355	118	251	77	32	76	164	341	302	1100

CAL YR 1981 TOTAL 2074.01 MEAN 5.68 MAX 155 MIN .54 AC-FT 4110
WTR YR 1982 TOTAL 2038.95 MEAN 5.59 MAX 155 MIN .33 AC-FT 4040

16847000 IMONG RIVER NEAR AGAT

LOCATION.--Lat 13°20'17" N., long 144°41'55" E., Hydrologic Unit 20100003, on left bank 500 ft (152 m) upstream from Fena Valley Reservoir, 1.4 mi (2.3 km) south of Fena Dam spillway, and 4.1 mi (6.6 km) southeast of Agat School.

DRAINAGE AREA.--1.95 mi^2 (5.05 km^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. Altitude of gage is 120 ft (37 m), from topographic map.

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

AVERAGE DISCHARGE.--21 years (water years, 1961-70, 1972-82), 10.3 ft^3/s (0.292 m^3/s), 7,460 acre-ft/yr (9.20 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,100 ft^3/s (173 m^3/s) Sept. 27, 1978, gage height, 11.3 ft (3.444 m), from outside floodmarks, and from rating curve extended above 58 ft^3/s (1.64 m^3/s) on basis of slope-area measurement of peak flow; minimum, 0.37 ft^3/s (0.010 m^3/s) May 21, 22, 26, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,400 ft^3/s (39.6 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 20	1115	1800	51.0	6.18	1.884
Sept. 17	0430	*2150	60.9	*6.77	2.063

Minimum discharge, 1.6 ft^3/s (0.05 m^3/s) June 18-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	8.5	13	9.2	5.4	4.4	2.6	2.0	2.6	6.4	10	49
2	6.6	7.7	11	8.8	11	4.5	2.6	2.0	2.4	4.6	14	50
3	6.2	6.3	11	9.2	7.3	4.7	2.8	2.0	2.2	9.4	7.7	13
4	5.9	5.8	9.7	9.2	5.0	3.8	4.0	2.0	2.2	5.3	8.3	11
5	5.7	5.5	9.7	7.8	4.6	3.8	2.9	2.1	2.2	5.0	7.0	19
6	5.7	8.9	9.2	8.8	4.3	3.6	2.8	2.0	2.2	4.5	6.0	55
7	5.5	6.4	8.8	7.8	9.0	3.7	2.8	2.5	2.8	4.1	5.2	57
8	5.2	5.5	8.8	7.3	8.4	3.7	2.7	2.1	2.6	20	4.9	20
9	5.0	5.2	7.8	6.8	7.3	3.5	2.5	2.0	3.8	8.5	7.1	14
10	5.0	6.7	101	6.8	4.7	3.3	2.4	2.3	3.2	5.4	6.4	64
11	5.7	6.1	29	6.3	4.1	3.3	2.4	2.5	2.6	5.4	5.4	30
12	5.9	7.4	31	6.0	3.8	3.3	2.4	2.2	2.4	4.4	17	19
13	6.0	5.4	65	6.0	3.7	3.0	2.3	2.5	2.2	4.0	8.6	15
14	7.3	5.1	116	6.0	3.6	3.0	2.2	4.9	2.0	3.7	6.1	15
15	9.4	6.4	46	5.7	12	3.2	2.2	4.3	2.0	3.7	5.8	13
16	32	12	31	6.3	6.2	3.2	2.3	7.6	1.8	3.8	5.2	11
17	39	6.5	24	6.0	4.3	3.0	2.2	12	2.0	3.3	4.9	106
18	36	9.0	23	5.7	3.8	3.0	2.2	3.8	2.0	3.2	5.5	31
19	61	28	34	5.4	56	2.8	2.2	2.8	1.7	22	5.6	18
20	14	219	31	5.4	8.9	3.2	2.2	2.4	1.6	13	12	13
21	9.6	99	25	5.4	5.7	3.2	2.2	2.4	1.8	12	24	12
22	13	77	21	5.7	15	3.0	2.2	2.6	2.4	7.4	9.1	11
23	8.2	51	17	5.4	6.2	2.9	2.2	7.3	69	12	53	10
24	7.1	69	15	5.4	5.1	2.8	2.3	3.8	14	14	18	24
25	12	37	15	7.8	4.5	2.8	2.1	3.2	5.7	9.1	11	17
26	7.5	28	13	6.0	4.1	2.8	2.0	3.0	4.1	6.3	8.8	11
27	6.8	20	11	5.1	4.1	2.9	2.0	2.8	3.4	17	28	17
28	6.2	18	12	5.4	7.3	2.9	2.0	2.6	3.0	18	13	11
29	6.0	17	11	5.1	---	3.5	2.3	2.6	27	17	9.7	9.7
30	5.8	14	10	4.8	---	3.0	2.1	2.4	16	11	9.2	9.2
31	5.7	---	9.7	4.4	---	2.8	---	2.4	---	8.8	8.8	---
TOTAL	362.1	801.4	779.7	201.0	225.4	102.6	72.1	101.1	192.9	272.3	345.3	754.9
MEAN	11.7	26.7	25.2	6.48	8.05	3.31	2.40	3.26	6.43	8.78	11.1	25.2
MAX	61	219	116	9.2	56	4.7	4.0	12	69	22	53	106
MIN	5.0	5.1	7.8	4.4	3.6	2.8	2.0	2.0	1.6	3.2	4.9	9.2
AC-FT	718	1590	1550	399	447	204	143	201	383	540	685	1500

CAL YR 1981 TOTAL 3977.5 MEAN 10.9 MAX 219 MIN 1.4 AC-FT 7890
WTR YR 1982 TOTAL 4210.8 MEAN 11.5 MAX 219 MIN 1.6 AC-FT 8350

16848100 ALMAGOSA RIVER NEAR AGAT

LOCATION.--Lat 13°20'43" N., long 144°41'36" E., Hydrologic Unit 20100003, on right bank 400 ft (122 m) upstream from Fena Valley Reservoir and 3.5 mi (5.6 km) southeast of Agat.

DRAINAGE AREA.--1.32 mi^2 (3.42 km^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. Altitude of gage is 155 ft (47 m), from topographic map.

REMARKS.--Records fair. Up to 3.9 ft^3/s (0.11 m^3/s) diverted upstream for domestic use. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 6.37 ft^3/s (0.180 m^3/s), 4,620 acre-ft/yr (5.70 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,650 ft^3/s (75.0 m^3/s) Sept. 27, 1978, gage height, 7.78 ft (2.371 m), from rating curve extended above 46 ft^3/s (1.30 m^3/s) on basis of slope-area measurement at gage height 7.32 ft (2.231 m); minimum, 0.13 ft^3/s (0.004 m^3/s) June 27, July 11, 12, 14, 16, 17, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft^3/s (19.8 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 20	1130	810	22.9	5.30	1.615
Sept. 17	0430	*1210	34.3	*6.01	1.832

Minimum discharge, 0.39 ft^3/s (0.011 m^3/s) May 2-4, 6, 7, 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	4.4	4.1	2.2	1.1	1.5	.68	.43	.64	8.1	6.5	19
2	4.1	4.5	3.8	2.1	3.0	1.2	.67	.43	.58	7.0	7.7	27
3	3.6	3.5	3.8	2.1	1.7	1.5	.75	.39	.56	7.5	5.4	11
4	3.3	3.2	3.6	2.0	1.3	.96	1.2	.43	.53	4.5	4.8	8.0
5	2.9	2.8	3.4	1.6	1.2	.90	.68	.43	.62	3.7	5.0	9.9
6	2.6	5.0	3.4	1.8	1.3	.98	.63	.43	.56	2.9	3.9	31
7	2.4	4.5	3.0	1.5	1.6	1.2	.63	.68	.79	2.5	3.4	62
8	2.3	3.5	2.8	1.4	3.2	1.1	.63	.47	.68	19	2.9	24
9	2.2	3.2	7.5	1.3	2.2	1.1	.58	.43	1.2	10	4.5	13
10	2.1	4.0	32	1.3	1.4	1.2	.52	.52	.96	5.6	3.8	41
11	2.2	3.2	5.8	1.3	1.1	1.1	.58	.58	.63	4.7	3.0	41
12	3.0	3.7	11	1.2	.89	1.1	.58	.52	.58	3.3	13	18
13	2.5	2.8	17	1.2	.89	1.0	.52	.79	.58	2.7	7.9	13
14	3.4	2.5	36	1.2	1.1	.98	.52	1.2	.58	2.4	5.3	12
15	4.3	3.0	14	1.2	5.8	1.0	.52	1.4	.52	2.0	4.4	10
16	20	5.4	9.3	1.7	2.4	.97	.58	3.1	.52	1.9	3.6	8.5
17	36	3.2	6.2	1.2	1.3	.89	.52	8.2	.52	1.4	2.9	80
18	21	5.0	7.1	1.3	1.0	.84	.47	1.9	.52	1.2	2.7	33
19	47	17	12	1.3	40	.80	.47	.92	.52	10	2.5	20
20	17	138	6.8	1.3	10	.86	.47	.86	.47	9.0	6.1	13
21	11	55	5.5	1.3	5.0	.97	.47	.69	.62	11	12	11
22	12	26	4.8	1.3	12	.85	.47	.83	.86	11	5.6	8.5
23	6.8	21	4.2	1.3	4.2	.75	.47	5.1	51	9.7	20	7.5
24	5.5	18	3.8	1.3	3.3	.68	.43	1.4	22	14	9.3	12
25	9.6	11	3.6	1.8	2.7	.70	.43	.83	7.6	11	6.6	9.5
26	5.3	8.7	3.3	1.3	2.1	.72	.43	1.1	4.3	7.0	5.2	6.5
27	4.8	7.7	3.2	1.2	1.8	.71	.43	.96	2.9	14	14	7.5
28	4.2	5.8	3.4	1.5	2.4	.68	.43	.76	1.9	14	5.8	5.5
29	3.8	5.2	3.2	1.3	---	.86	.52	.66	21	11	4.4	5.0
30	2.6	4.5	2.7	1.0	---	.82	.43	.61	17	8.6	4.0	4.4
31	3.3	---	2.2	1.1	---	.72	---	.59	---	6.6	3.2	---
TOTAL	255.8	385.3	232.5	44.6	115.98	29.64	16.71	37.64	141.74	227.3	189.4	571.8
MEAN	8.25	12.8	7.50	1.44	4.14	.96	.56	1.21	4.72	7.33	6.11	19.1
MAX	47	138	36	2.2	40	1.5	1.2	8.2	51	19	20	80
MIN	2.1	2.5	2.2	1.0	.89	.68	.43	.39	.47	1.2	2.5	4.4
AC-FT	507	764	461	88	230	59	33	75	281	451	376	1130

CAL YR 1981 TOTAL 2256.99 MEAN 6.18 MAX 138 MIN .27 AC-FT 4480
WTR YR 1982 TOTAL 2248.41 MEAN 6.16 MAX 138 MIN .39 AC-FT 4460

16848500 MAULAP RIVER NEAR AGAT

LOCATION.--Lat 13°21'14" N., long 144°41'44" E., Hydrologic Unit 20100003, on right bank 100 ft (30 m), from Fena Valley Reservoir and 3.2 mi (5.1 km) southeast of Agat.

DRAINAGE AREA.--1.15 mi² (2.98 km²).

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. Altitude of gage is 130 ft (40 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. No diversion above station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 5.33 ft³/s (0.151 m³/s), 3,860 acre-ft/yr (4.76 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,420 ft³/s (68.5 m³/s) Sept. 27, 1978, gage height, 9.2 ft (2.804 m), from rating curve extended above 23 ft³/s (0.65 m³/s), on basis of slope-area measurements at gage heights 8.21 ft (2.502 m) and 9.2 ft (2.804 m); minimum, 0.33 ft³/s (0.009 m³/s) June 10-12, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft³/s (17.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 20	a1130	770	21.8	5.85	1.783
Sept. 17	0430	*1520	43.0	*7.65	2.332

Minimum discharge, 0.83 ft³/s (0.024 m³/s) May 8-11.

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DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	3.5	3.2	2.8	1.9	2.3	1.3	.95	1.2	4.6	7.0	23
2	3.1	3.5	3.2	2.8	6.8	2.2	1.2	.90	1.2	3.7	7.5	17
3	2.9	3.0	3.4	2.8	2.6	2.2	1.4	.90	1.2	8.7	4.8	5.5
4	2.7	2.7	3.2	2.7	2.3	1.9	2.2	.90	1.2	3.9	4.7	5.5
5	2.7	2.5	3.4	2.5	2.0	1.8	1.4	.90	1.2	3.7	12	10
6	2.7	4.0	3.1	2.5	2.1	1.8	1.4	.85	1.2	3.2	4.8	38
7	2.6	3.5	2.9	2.7	2.2	2.0	1.3	1.2	1.3	2.9	4.1	50
8	2.6	3.0	2.9	2.4	5.1	1.8	1.3	.99	1.3	20	3.8	11
9	2.6	2.7	5.6	2.3	3.0	1.7	1.2	.83	1.9	5.2	7.0	7.4
10	2.6	3.5	35	2.4	2.1	1.6	1.1	1.1	1.7	4.2	5.0	41
11	2.7	2.6	3.7	2.3	2.0	1.6	1.2	1.0	1.3	4.1	4.2	22
12	4.1	3.0	14	2.2	1.9	1.6	1.2	1.1	1.2	3.4	28	8.6
13	2.7	2.5	12	2.1	1.7	1.5	1.0	1.9	1.2	3.4	5.6	7.9
14	3.1	2.5	29	2.0	1.7	1.4	1.0	1.9	1.1	3.2	4.5	9.8
15	4.8	2.7	5.9	2.0	6.9	1.6	1.0	2.3	1.0	2.9	4.4	6.5
16	22	4.0	5.0	2.3	2.8	1.6	1.1	5.3	1.0	3.0	4.1	5.7
17	28	2.5	4.2	2.1	2.3	1.5	1.0	6.9	1.2	2.7	3.8	77
18	23	4.5	5.9	2.0	2.2	1.5	1.0	1.8	1.1	2.6	3.5	15
19	32	20	11	1.9	33	1.4	1.0	1.2	1.0	16	3.7	9.6
20	6.9	110	4.2	1.9	3.9	1.6	1.0	1.1	.91	7.6	11	7.3
21	6.0	45	3.9	2.1	3.0	1.6	.95	1.0	1.3	11	13	8.2
22	9.0	25	3.7	2.0	11	1.4	.95	1.7	1.9	5.9	4.7	6.0
23	6.0	18	3.5	2.0	3.1	1.4	1.0	8.7	51	7.6	24	5.3
24	4.5	15	3.4	1.9	2.8	1.4	1.0	2.3	8.9	8.7	6.3	12
25	8.0	9.0	3.3	2.5	2.5	1.4	1.0	1.7	5.1	6.3	4.9	6.8
26	5.0	7.0	3.2	2.0	2.4	1.4	.95	1.5	3.6	4.8	4.4	4.8
27	4.0	6.0	3.2	1.9	2.3	1.3	.95	1.4	3.0	15	6.8	6.1
28	3.6	3.8	3.5	1.9	2.8	1.3	.90	1.3	2.6	9.0	4.3	5.0
29	3.4	3.6	3.0	1.8	---	1.8	1.1	1.2	17	9.2	3.8	4.5
30	3.2	3.4	2.9	1.7	---	1.6	1.0	1.3	12	6.3	4.4	4.5
31	3.0	---	2.8	1.8	---	1.4	---	1.2	---	5.2	3.7	---
TOTAL	212.9	322.0	197.2	68.3	118.4	50.6	34.10	57.32	130.81	198.0	213.8	441.0
MEAN	6.87	10.7	6.36	2.20	4.23	1.63	1.14	1.85	4.36	6.39	6.90	14.7
MAX	32	110	35	2.8	33	2.3	2.2	8.7	51	20	28	77
MIN	2.6	2.5	2.8	1.7	1.7	1.3	.90	.83	.91	2.6	3.5	4.5
AC-FT	422	639	391	135	235	100	68	114	259	393	424	875

CAL YR 1981 TOTAL 2034.13 MEAN 5.57 MAX 110 MIN .67 AC-FT 4030
WTR YR 1982 TOTAL 2044.43 MEAN 5.60 MAX 110 MIN .83 AC-FT 4060

NOTE.--No gage-height record Oct. 21 to Nov. 27.

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 (5.6 km) southeast of Agat and 5.8 mi (9.3 km) southwest of Yona.

DRAINAGE AREA.--5.88 mi^2 (15.23 km^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 (33.939 m) above mean sea level (from U.S. Navy construction plans).

REMARKS.--Gage-height records fair. About 10 ft^3/s (0.28 m^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 (0.507 m^3/s), 12,970 acre-ft/yr (16.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, not determined, occurred Oct. 15, 1953 (gage height, at least 4.5 ft or 1.37 m); no flow for many days each year. Minimum recorded gage height, -21.36 ft (-6.51 m), Aug. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 1.96 ft (0.597 m), Nov. 20; minimum, -7.95 ft (-2.423 m) June 22.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	.11	.09	.09	-.36	-.06	-2.16	-4.92	-6.18	-3.57	.12	.22
2	.09	.11	.09	.09	-.25	-.09	-2.26	-5.04	-6.28	-3.51	.17	.46
3	.07	.08	.09	.10	-.15	-.11	-2.31	-5.15	-6.37	-3.27	.09	.17
4	.06	.06	.08	.09	-.12	-.13	-2.31	-5.26	-6.48	-3.17	.08	.12
5	.05	.06	.08	.07	-.12	-.17	-2.37	-5.37	-6.58	-3.10	.15	.16
6	.04	.09	.07	.06	-.13	-.23	-2.45	-5.48	-6.68	-3.06	.10	.36
7	.04	.10	.07	.06	-.11	-.30	-2.51	-5.56	-6.77	-3.07	.05	.60
8	.03	.06	.07	.04	.01	-.35	-2.60	-5.62	-6.82	-2.55	.03	.27
9	.03	.05	.05	.03	.01	-.41	-2.70	-5.72	-6.84	-2.07	.06	.18
10	.03	.07	.43	.03	-.01	-.49	-2.79	-5.83	-6.87	-1.96	.08	.48
11	.03	.07	.19	.02	-.04	-.57	-2.87	-5.91	-6.97	-1.87	.05	.44
12	.07	.08	.20	.01	-.07	-.65	-2.97	-5.96	-7.06	-1.84	.20	.23
13	.06	.05	.36	-.02	-.12	-.73	-3.06	-6.01	-7.15	-1.81	.18	.18
14	.08	.03	.49	-.04	-.18	-.81	-3.16	-5.98	-7.25	-1.78	.08	.18
15	.12	.06	.27	-.05	-.09	-.87	-3.28	-5.96	-7.35	-1.81	.06	.17
16	.28	.13	.23	-.06	.02	-.95	-3.40	-5.95	-7.45	-1.83	.04	.15
17	.44	.09	.20	-.06	-.02	-1.02	-3.50	-5.53	-7.55	-1.87	.02	.75
18	.36	.11	.20	-.09	-.07	-1.11	-3.60	-5.46	-7.64	-1.90	.01	.38
19	.63	.24	.31	-.11	.39	-1.21	-3.70	-5.53	-7.72	-1.68	.02	.26
20	.26	1.11	.24	-.13	.17	-1.27	-3.80	-5.62	-7.83	-1.11	.06	.19
21	.18	.58	.20	-.14	.05	-1.32	-3.90	-5.72	-7.91	-.85	.25	.17
22	.22	.32	.17	-.15	.16	-1.39	-4.00	-5.77	-7.93	-.60	.12	.16
23	.14	.24	.17	-.16	.06	-1.49	-4.09	-5.53	-6.65	-.42	.40	.15
24	.12	.29	.16	-.17	.01	-1.58	-4.18	-5.53	-4.95	-.09	.18	.26
25	.20	.16	.16	-.16	-.03	-1.66	-4.29	-5.60	-4.78	.08	.14	.22
26	.12	.14	.14	-.15	-.06	-1.75	-4.39	-5.68	-4.75	.06	.09	.18
27	.09	.14	.14	-.17	-.10	-1.82	-4.50	-5.74	-4.77	.13	.17	.21
28	.08	.11	.18	-.21	-.07	-1.91	-4.61	-5.84	-4.82	.22	.15	.20
29	.07	.10	.15	-.24	---	-1.97	-4.71	-5.93	-4.43	.17	.08	.16
30	.06	.09	.13	-.27	---	-2.00	-4.81	-6.01	-3.76	.14	.08	.14
31	.06	---	.10	-.32	---	-2.07	---	-6.10	---	.11	.06	---
TOTAL	4.22	4.93	5.51	-2.01	-1.22	-30.49	-101.28	-175.31	-194.59	-47.88	3.37	7.80
MEAN	.14	.16	.18	-.06	-.04	-.98	-3.38	-5.66	-6.49	-1.54	.11	.26
MAX	.63	1.11	.49	.10	.39	-.06	-2.16	-4.92	-3.76	.22	.40	.75
MIN	.03	.03	.05	-.32	-.36	-2.07	-4.81	-6.10	-7.93	-3.57	.01	.12

CAL YR 1981 TOTAL -1146.87 MEAN -3.14 MAX 1.11 MIN -10.91
WTR YR 1982 TOTAL -526.95 MEAN -1.44 MAX 1.11 MIN -7.93

16854500 UGUM RIVER ABOVE TALOFOFO FALLS, NEAR TALOFOFO, GUAM

LOCATION.--Lat 13°19'16" N., long 144°44'01" E., Hydrologic Unit 20100003, about 300 ft (91 m) upstream from Talofofo Falls, 0.9 mi (1.4 km) north of NASA Tracking Station, and 3.5 mi (5.6 km) southwest of main intersection in Talofofo village.

DRAINAGE AREA.--5.76 mi^2 (14.92 km^2).

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

GAGE.--Water-stage recorder. Altitude of gage is 130 ft (40 m), from topographic map.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. No diversion above station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--5 years, 25.8 ft^3/s (0.731 m^3/s), 18,690 acre-ft/yr (23.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,890 ft^3/s (167 m^3/s) Feb. 26, 1980, gage height, 14.2 ft (4.328 m), from floodmarks, from rating curve extended above 350 ft^3/s (9.91 m^3/s); on basis of slope-area measurement at gage height 14.2 ft (4.328 m); minimum, 3.4 ft^3/s (0.10 m^3/s), June 27, 1978, July 14, 18, 19, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,300 ft^3/s (36.8 m^3/s), revised, and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 19	0115	1370	38.8	7.33	2.234	Sept. 10	0845	*1880	53.2	*8.39	2.557
Nov. 20	1400	1620	45.9	7.88	2.402	Sept. 17	0545	1600	45.3	7.83	2.387
Sept. 2	0215	1810	51.3	8.26	2.518						

Minimum discharge, 4.4 ft^3/s (0.12 m^3/s) June 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	28	24	19	11	14	10	6.4	5.7	14	50	104
2	22	23	22	18	24	15	9.2	6.4	5.5	11	52	178
3	21	20	21	18	16	13	9.5	6.4	5.3	19	30	36
4	20	20	20	18	17	12	16	6.4	5.1	12	26	33
5	20	18	20	17	14	12	9.2	6.4	5.3	11	24	43
6	19	37	20	17	13	12	9.0	6.1	5.4	11	21	167
7	20	21	19	17	20	12	8.8	6.4	6.1	9.2	19	150
8	19	19	17	16	19	12	8.5	6.6	6.1	41	17	58
9	18	19	17	16	19	11	8.2	6.1	7.8	20	25	42
10	18	20	100	16	13	11	8.0	5.6	6.9	13	22	230
11	19	19	25	15	12	11	8.2	5.7	5.5	12	19	109
12	19	19	30	15	11	10	8.0	5.6	5.4	11	31	72
13	20	18	67	15	11	10	7.8	6.7	5.4	9.8	23	52
14	20	17	119	15	11	10	7.8	11	5.1	9.8	19	51
15	30	20	55	14	29	10	7.8	11	5.0	9.2	19	45
16	83	34	40	14	17	10	7.5	9.7	5.0	10	17	41
17	82	20	35	14	12	9.7	7.5	23	5.2	9.5	17	243
18	59	21	35	14	12	9.5	7.3	9.0	5.0	8.8	17	97
19	220	87	70	13	189	9.2	7.5	7.1	4.9	45	19	61
20	53	496	45	14	27	11	7.3	6.3	5.1	37	25	48
21	36	107	30	14	17	10	7.0	6.1	5.3	31	62	41
22	49	60	25	13	48	9.5	7.0	7.2	7.0	19	26	39
23	32	58	25	13	21	8.7	7.0	17	143	18	126	37
24	28	46	23	12	16	9.0	7.3	8.5	32	19	45	57
25	50	40	23	13	15	9.0	7.0	6.9	13	19	32	50
26	30	35	21	12	13	8.2	6.8	6.7	9.5	19	24	36
27	27	30	21	12	13	9.0	6.8	6.5	8.2	34	93	63
28	25	27	20	11	21	9.0	6.6	5.9	7.5	52	35	38
29	25	25	20	11	---	9.7	6.8	5.8	38	78	24	32
30	22	24	20	12	---	10	6.6	5.7	34	45	22	32
31	20	---	19	12	---	9.0	---	5.9	---	75	20	---
TOTAL	1150	1428	1048	450	661	325.5	242.0	240.1	408.3	732.3	1001	2285
MEAN	37.1	47.6	33.8	14.5	23.6	10.5	8.07	7.75	13.6	23.6	32.3	76.2
MAX	220	496	119	19	189	15	16	23	143	78	126	243
MIN	18	17	17	11	11	8.2	6.6	5.6	4.9	8.8	17	32
AC-FT	2280	2830	2080	893	1310	646	480	476	810	1450	1990	4530

CAL YR 1981 TOTAL 9312.6 MEAN 25.5 MAX 496 MIN 4.7 AC-FT 18470
WTR YR 1982 TOTAL 9971.2 MEAN 27.3 MAX 496 MIN 4.9 AC-FT 19780

NOTE.--No gage-height record Nov. 25 to Dec. 12, Dec. 15 to Jan. 28.

16858000 YLIG RIVER NEAR YONA

LOCATION.--Lat 13°23'28" N., long 144°45'06" E., Hydrologic Unit 20100003, on right bank 2.2 mi (3.5 km) upstream from mouth, 1.9 mi (3.1 km) southwest of Yona, and 5.6 mi (9.0 km) south of Agana.

DRAINAGE AREA.--6.48 mi^2 (16.78 km^2).

PERIOD OF RECORD.--June 1952 to current year.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 20 ft (6.1 m), from topographic map.

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

AVERAGE DISCHARGE.--30 years, 28.7 ft^3/s (0.813 m^3/s), 20,790 acre-ft/yr (25.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,900 ft^3/s (139 m^3/s) Sept. 9, 1963, gage height, 19.77 ft (6.026 m), from floodmarks, from rating curve extended above 830 ft^3/s (23.5 m^3/s) on basis of slope-area measurements at gage heights 11.24 ft (3.426 m) and 15.87 ft (4.837 m), maximum gage height, 22.80 ft (6.949 m) Feb. 26, 1980; minimum, 0.07 ft^3/s (0.002 m^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 CURRENT YEAR.--Maximum discharge, 1,800 ft^3/s (51.0 m^3/s) Sept. 2, gage height, 12.51 ft (3.813 m), from rating curve extended above 155 ft^3/s (4.39 m^3/s), no peak above base of 2,000 ft^3/s (56.6 m^3/s); minimum, 1.8 ft^3/s (0.051 m^3/s) May 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	28	18	11	5.9	8.9	5.3	2.0	6.3	17	66	42
2	18	19	17	11	39	8.3	4.8	1.9	5.8	14	64	222
3	17	26	17	12	11	7.9	5.7	1.9	5.6	21	37	26
4	16	15	16	9.8	7.6	7.4	8.6	1.9	5.3	14	36	29
5	14	15	17	9.3	6.6	7.2	5.3	1.9	8.7	14	86	46
6	14	43	15	9.8	17	7.0	4.9	1.9	5.9	16	32	210
7	13	82	14	9.5	25	6.8	4.7	2.0	7.3	13	26	251
8	13	21	13	8.7	29	6.8	4.3	2.5	8.8	27	22	47
9	13	17	13	8.5	17	6.3	4.1	2.0	11	17	30	36
10	12	16	139	11	9.4	5.9	3.8	2.0	7.9	18	26	246
11	12	15	17	8.4	8.1	5.8	3.8	2.4	5.8	29	21	147
12	17	16	67	7.9	7.2	5.8	3.8	2.0	5.7	21	50	62
13	11	14	42	7.6	6.5	5.4	3.4	2.7	5.2	67	23	40
14	11	13	92	7.6	6.6	5.2	3.3	7.0	4.9	31	19	66
15	15	18	25	7.6	57	5.7	3.1	12	4.5	20	19	38
16	97	25	21	8.5	12	5.3	3.1	35	4.3	18	16	54
17	89	14	29	7.4	8.8	5.0	2.9	40	4.5	17	16	302
18	63	19	20	6.8	8.1	4.7	2.9	10	4.3	15	15	80
19	347	96	103	6.5	99	4.5	2.8	7.3	3.9	91	15	48
20	37	389	23	6.4	16	4.6	2.8	5.7	3.9	34	17	42
21	29	178	20	6.4	12	5.1	2.6	4.7	4.3	30	37	33
22	30	61	19	6.4	59	4.3	2.6	66	7.0	22	17	31
23	23	79	17	6.5	14	3.8	2.5	98	327	20	72	27
24	20	56	17	6.6	12	3.8	2.5	18	42	25	22	265
25	44	29	15	10	11	4.1	2.4	13	26	23	52	46
26	25	27	14	7.2	9.8	4.0	2.2	11	19	19	20	31
27	33	32	14	6.1	9.6	4.1	2.2	9.5	15	54	59	35
28	25	24	15	6.4	12	3.8	2.1	8.3	13	37	21	34
29	20	21	13	5.8	---	53	2.5	7.5	33	50	17	25
30	18	20	12	5.5	---	12	2.4	7.2	26	30	23	23
31	17	---	11	6.1	---	6.6	---	6.6	---	28	15	---
TOTAL	1133	1428	885	248.3	536.2	229.1	107.4	393.9	631.9	852	999	2584
MEAN	36.5	47.6	28.5	8.01	19.2	7.39	3.58	12.7	21.1	27.5	32.2	86.1
MAX	347	389	139	12	99	53	8.6	98	327	91	86	302
MIN	11	13	11	5.5	5.9	3.8	2.1	1.9	3.9	13	15	23
AC-FT	2250	2830	1760	493	1060	454	213	781	1250	1690	1980	5130

CAL YR 1981 TOTAL 10146.4 MEAN 27.8 MAX 499 MIN 1.3 AC-FT 20130
WTR YR 1982 TOTAL 10027.8 MEAN 27.5 MAX 389 MIN 1.9 AC-FT 19890

16865000 PAGO RIVER NEAR ORDOT

LOCATION.--Lat 13°26'08" N., long 144°45'14" E., Hydrologic Unit 20100003, on left bank 0.8 mi (1.3 km) south of Ordot, 2.6 mi (4.2 km) south of Agana, and 3.6 mi (5.8 km) southeast of Asan.

DRAINAGE AREA.--5.67 mi^2 (14.69 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1951 to current year.

REVISED RECORDS.--WSP 1937: 1954(M), 1958(M). WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 25 ft (7.6 m), from topographic map. Prior to Apr. 10, 1972, at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. No diversion above station.

AVERAGE DISCHARGE.--31 years, 26.3 ft^3/s (0.745 m^3/s), 19,050 acre-ft/yr (23.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,090 ft^3/s (286 m^3/s) May 21, 1976, gage height, 20.15 ft (6.142 m), from floodmarks, from rating curve extended above 320 ft^3/s (9.06 m^3/s) on basis of slope-area measurements at gage heights 13.22 ft (4.029 m), 15.07 ft (4.593 m), and 18.87 ft (5.752 m); no flow for many days in 1959 and 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,700 ft^3/s (76.5 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 7	1300	*3520	99.7	*13.72	4.182	Sept. 2	0230	3230	91.5	13.01	3.965
July 13	1400	3330	94.3	13.24	4.036	Sept. 17	0045	2860	81.0	11.95	3.642

Minimum discharge, 1.9 ft^3/s (0.054 m^3/s) May 3, 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	19	14	11	5.4	7.8	5.4	2.1	4.3	20	68	13
2	19	19	14	11	33	7.1	4.6	2.1	4.1	15	59	266
3	16	31	14	11	9.9	6.8	4.6	1.9	3.9	16	89	22
4	14	16	13	10	6.4	6.4	5.7	2.1	3.7	12	83	29
5	13	13	13	9.4	5.7	6.0	4.3	1.9	4.3	13	73	51
6	12	21	12	9.4	6.7	6.0	4.1	1.9	3.9	17	47	249
7	11	351	12	8.8	10	6.0	4.1	2.3	5.7	11	29	353
8	11	31	12	8.3	6.4	5.7	3.9	3.1	5.4	23	24	56
9	11	20	12	7.8	12	5.4	3.9	2.7	7.8	15	36	36
10	11	16	168	7.8	6.4	5.0	3.7	3.1	5.0	14	24	292
11	10	16	14	7.4	5.7	4.6	3.7	2.9	4.3	21	19	82
12	11	16	72	7.1	5.0	4.6	3.7	3.1	4.6	40	16	41
13	10	12	39	7.1	4.6	4.3	3.5	3.1	3.9	272	16	34
14	10	12	83	7.0	4.6	4.1	3.5	4.3	3.5	62	14	104
15	11	14	26	6.8	39	4.3	3.5	12	3.3	29	14	38
16	90	18	18	6.8	7.4	4.1	3.3	5.7	3.1	22	12	44
17	107	12	39	6.5	4.6	4.1	3.1	35	3.3	22	12	200
18	76	26	23	6.0	4.3	3.9	3.1	8.3	3.3	18	11	83
19	333	93	152	6.0	92	3.9	2.9	5.4	3.1	62	11	48
20	39	428	26	5.8	15	3.7	2.9	4.1	2.9	44	12	37
21	26	284	21	5.8	11	4.3	2.9	3.7	3.3	29	38	30
22	23	77	19	5.7	49	3.9	2.7	70	5.0	22	14	25
23	19	123	16	5.4	13	3.5	2.7	52	323	20	55	21
24	16	66	16	5.7	10	3.7	2.5	14	46	27	15	177
25	91	32	15	6.8	9.4	3.9	2.5	8.3	26	24	12	32
26	27	26	14	5.4	8.3	3.5	2.5	7.4	16	18	11	22
27	22	22	13	4.6	8.8	3.5	2.3	6.4	13	24	73	80
28	32	19	14	4.6	8.3	3.3	2.3	5.7	11	24	15	39
29	19	16	13	4.3	---	212	2.1	5.4	66	28	11	25
30	16	15	12	4.3	---	15	2.1	5.0	41	23	27	21
31	15	---	11	4.3	---	7.4	---	4.6	---	19	11	---
TOTAL	1143	1864	940	217.9	401.9	367.8	102.1	289.6	633.7	1026	951	2530
MEAN	36.9	62.1	30.3	7.03	14.4	11.9	3.40	9.34	21.1	33.1	30.7	84.3
MAX	333	428	168	11	92	212	5.7	70	323	272	89	333
MIN	10	12	11	4.3	4.3	3.3	2.1	1.9	2.9	11	11	13
AC-FT	2270	3700	1860	432	797	730	203	574	1260	2040	1890	5020

CAL YR 1981 TOTAL 11086.12 MEAN 30.4 MAX 569 MIN .88 AC-FT 21990
WTR YR 1982 TOTAL 10467.00 MEAN 28.7 MAX 428 MIN 1.9 AC-FT 20760

NOTE.--No gage-height record Dec. 22 to Jan. 21.

16865000 PAGO RIVER NEAR ORDOT--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)
NOV												
10...	0830	17	350	7.5	25.5	2.8	6.5	80	84	400	139	.00
JAN												
12...	0930	7.3	370	7.8	28.0	1.2	9.2	--	56	420	159	.00
APR												
01...	1130	5.4	365	7.8	25.0	.70	2.0	--	37	430	131	.00
13...	1400	2.4	363	8.3	28.0	.90	3.8	--	9	140	147	7.0
JUN												
08...	1100	5.4	365	8.0	27.5	1.7	8.1	103	44	320	122	.00
AUG												
12...	1030	18	321	7.5	26.5	11	7.0	88	--	--	142	.00
23...	0930	--	--	--	--	--	--	--	670	19000	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
NOV											
10...	42	8.2	16	20	.6	2.0	140	<5.0	15	.1	33
JAN											
12...	48	9.4	19	20	.7	1.7	170	5.0	17	.0	38
APR											
01...	40	7.5	16	21	.6	1.7	130	5.0	--	<.1	34
13...	45	8.4	18	21	.7	1.8	140	9.0	18	<.1	37
JUN											
08...	37	7.1	19	25	.8	1.8	129	<5.0	17	<.1	34
AUG											
12...	43	8.4	16	19	.6	1.7	153	<5.0	12	<.1	38

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)
NOV											
10...	204	--	.28	.25	.170	.40	.050	.030	<.020	<1	3
JAN											
12...	223	240	.30	.97	.110	.49	<.010	<.010	.040	--	--
APR											
01...	286	--	.39	<.10	.090	.33	.010	.020	<.010	<1	<1
13...	233	222	.32	.47	.090	.39	.010	.020	<.010	<1	<1
JUN											
08...	184	--	.25	--	--	--	--	--	--	--	--
AUG											
12...	185	--	.25	.18	.150	.70	.040	.030	<.010	<1	<1

< Actual value is known to be less than the value shown.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, SUS-PENDED RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)
NOV											
10...	<100	6	<1	<1	<10	<10	3	<3	8	5	3
APR											
01...	<100	9	<1	<3	<10	<10	1	<1	4	0	6
13...	<100	7	1	<3	<10	<10	1	<1	3	0	4
AUG											
12...	<100	10	1	<1	20	<10	<1	<1	5	2	3

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY SUS-PENDED RECOV-ERABLE (UG/L AS HG)
NOV											
10...	880	640	240	3	2	1	50	40	6	.2	.1
APR											
01...	130	20	110	14	0	14	40	20	21	.4	--
13...	70	0	73	3	0	6	40	10	27	.5	.0
AUG											
12...	320	290	31	20	--	<1	30	10	19	<.1	--

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, SUS-PENDED RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, SUS-PENDED RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV											
10...	.1	6	--	<1	<1	<1	<1	<1	40	30	6
APR											
01...	<.1	2	0	3	<1	<1	<1	<1	170	140	32
13...	--	10	0	10	<1	<1	<1	<1	250	0	250
AUG											
12...	.2	12	--	<1	<1	<1	2	<1	70	70	4

DATE	TIME	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV				
10...	0830	6	.28	100
JAN				
12...	0930	1	.02	100
APR				
01...	1130	5	.07	--
13...	1400	3	.02	--
JUN				
08...	1100	12	.17	100
AUG				
12...	1030	5	.24	100

< Actual value is known to be less than the value shown.

16890600 DIONGRADID RIVER, BABELTHUAP

LOCATION.--Lat 07°36'04" N., long 134°35'02" E., Hydrologic Unit 20100006, on right bank 0.3 mi (0.5 km) upstream from left-bank tributary, 0.9 mi (1.5 km) southeast of Ngetbong village school, and 2.4 mi (3.8 km) upstream from confluence with Ngerchetang River.

DRAINAGE AREA.--4.45 mi² (11.53 km²).

WATER-DISCHARGE RECORDS

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. Altitude of gage is 15 ft (4.6 km), from topographic map.

REMARKS.--Records fair. No diversion above station.

AVERAGE DISCHARGE.--13 years, 33.1 ft³/s (0.937 m³/s), 23,980 acre-ft/yr (29.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,310 ft³/s (65.4 m³/s) Jan. 22, 1975, gage height, 15.44 ft (4.706 m), from rating curve extended above 410 ft³/s (11.6 m³/s) on basis of field estimate at gage height 15.44 ft (4.706 m); minimum, 2.7 ft³/s (0.076 m³/s) Mar. 24, 25, 31, Apr. 1, 1973, Apr. 28, 29, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 561 ft³/s (15.9 m³/s) June 21, gage height, 6.98 ft (2.128 m), no peak above base of 600 ft³/s (17.0 m³/s); minimum, 6.0 ft³/s (0.170 m³/s) Apr. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	23	33	21	10	17	10	10	73	110	16	19
2	24	22	79	22	9.6	16	10	15	32	65	15	16
3	22	20	38	21	9.8	17	9.5	12	26	50	15	16
4	20	30	33	26	9.0	16	9.0	10	24	80	16	17
5	18	44	31	34	8.6	16	9.0	9.5	26	55	15	18
6	20	25	29	24	8.6	15	8.5	9.0	26	45	15	16
7	38	20	29	19	14	40	15	9.0	22	70	13	14
8	24	18	28	17	18	25	11	15	36	60	13	14
9	21	19	28	15	11	20	9.0	25	28	50	14	13
10	20	18	94	15	9.5	18	8.0	20	60	50	12	12
11	22	17	56	16	23	17	7.5	15	33	70	12	12
12	18	16	44	15	11	17	7.0	21	30	70	11	11
13	24	16	41	16	8.6	16	6.5	15	32	57	13	11
14	19	15	155	17	19	15	6.0	14	28	50	13	10
15	25	15	66	17	12	15	9.0	13	50	45	28	9.5
16	29	15	50	16	9.5	14	10	14	45	43	18	9.0
17	29	22	40	15	9.0	13	30	131	42	40	13	9.0
18	32	22	38	14	8.5	13	100	139	45	37	13	8.5
19	28	66	35	13	8.5	25	30	63	43	35	12	8.5
20	25	30	38	14	67	80	20	48	114	36	11	8.0
21	23	32	34	13	45	50	13	41	155	31	11	8.0
22	23	26	32	13	22	30	12	37	161	28	10	10
23	30	24	40	12	19	25	50	33	134	26	10	10
24	22	35	32	20	19	20	18	32	115	24	10	8.8
25	21	26	30	32	17	17	12	28	91	22	9.5	8.6
26	33	23	27	12	17	20	11	26	75	21	9.5	8.3
27	22	21	25	11	42	15	11	25	65	20	9.0	8.3
28	23	79	23	11	24	14	20	26	58	19	15	8.1
29	22	47	22	9.8	---	13	13	22	55	18	63	8.1
30	21	33	22	9.8	---	12	11	21	50	17	40	8.3
31	26	---	21	9.8	---	11	---	31	---	16	25	---
TOTAL	749	819	1293	520.4	489.2	652	496.0	929.5	1774	1360	500.0	338.0
MEAN	24.2	27.3	41.7	16.8	17.5	21.0	16.5	30.0	59.1	43.9	16.1	11.3
MAX	38	79	155	34	67	80	100	139	161	110	63	19
MIN	18	15	21	9.8	8.5	11	6.0	9.0	22	16	9.0	8.0
AC-FT	1490	1620	2560	1030	970	1290	984	1840	3520	2700	992	670

CAL YR 1981 TOTAL 13896.3 MEAN 38.1 MAX 663 MIN 4.8 AC-FT 27560
WTR YR 1982 TOTAL 9920.1 MEAN 27.2 MAX 161 MIN 6.0 AC-FT 19680

16890600 DIONGRADID RIVER, BABELTHUAP--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP 23...	1200	9.8	54	7.1	25.0	22	.00	4.5	2.6	3.4	25

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 23...	.3	.2	26	<5.0	4.3	<.1	17	<.10	120	6

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT 14...	1045	19	27.5	26.0
NOV 13...	1135	16	28.5	26.0
DEC 15...	1250	68	27.0	26.0
JAN 27...	1300	12	28.0	25.5
MAR 04...	1415	16	28.5	26.0
APR 21...	1405	13	28.5	26.0
MAY 11...	1200	14	--	26.0
JUN 14...	1255	29	28.5	26.0
JUL 16...	1315	44	27.5	26.0
AUG 23...	1455	10.0	29.0	26.0
SEP 23...	1200	9.8	27.5	25.0

16890900 TABECHEDING RIVER, BABBLTHUAP

LOCATION.--Lat 07°27'03" N., long 134°31'29" E., Hydrologic Unit 20100006, on left bank 0.2 mi (0.3 km) downstream from waterfall, 1.5 mi (2.4 km) upstream from boat landing, and 1.6 mi (2.6 km) east of forestry station.

DRAINAGE AREA.--6.07 mi² (15.72 km²).

WATER-DISCHARGE RECORDS

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. Altitude of gage is 20 ft (6.1 m), from topographic map.

REMARKS.--Records good except those above 500 ft³/s (14.2 m³/s), which are poor.

AVERAGE DISCHARGE.--12 years, 48.7 ft³/s (1.379 m³/s), 35,860 acre-ft/yr (44.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,580 ft³/s (101 m³/s) Dec. 23, 1973, gage height, 8.79 ft (2.679 m), from rating curve extended above 290 ft³/s (8.21 m³/s); minimum, 0.80 ft³/s (0.023 m³/s) Mar. 23, 24, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft³/s (25.5 m³/s), and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 7	0200	1300	36.8	6.74	2.054	May 18	0500	1080	30.6	6.28	1.914
Nov. 28	1630	1010	28.6	6.10	1.859	July 12	0600	1310	37.1	6.75	2.057
Dec. 14	0330	*3210	90.9	*8.57	2.612						

Minimum discharge, 6.9 ft³/s (0.20 m³/s) Apr. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	32	49	17	13	29	11	14	109	65	15	39
2	37	24	114	17	14	26	10	19	41	91	14	34
3	67	21	63	16	12	23	11	15	43	46	14	31
4	38	27	48	46	12	21	10	14	33	222	15	30
5	33	24	42	78	15	24	9.9	13	60	76	14	34
6	32	32	37	60	13	27	9.5	12	45	61	13	27
7	453	30	45	26	25	85	17	12	35	109	12	23
8	117	23	35	20	72	43	12	59	53	109	12	20
9	74	85	33	18	23	28	10	73	43	66	55	19
10	57	38	249	17	20	24	8.9	37	55	59	22	18
11	82	31	96	16	30	23	8.7	24	45	189	19	17
12	49	27	68	20	17	20	8.2	63	36	456	16	16
13	54	24	76	14	18	19	7.4	55	36	160	64	15
14	41	35	684	47	33	20	7.1	37	31	103	32	15
15	41	45	148	38	123	19	10	29	104	75	168	14
16	42	30	90	18	50	18	11	29	67	68	51	13
17	38	38	68	17	31	16	40	251	45	54	31	12
18	63	29	56	16	30	16	146	495	128	44	27	12
19	41	24	46	27	34	23	33	164	74	39	24	11
20	34	22	47	63	93	39	22	91	255	69	23	11
21	31	78	39	29	72	33	19	66	301	45	25	10
22	28	58	34	20	38	20	15	57	426	34	25	9.5
23	27	33	39	19	35	17	38	55	254	30	19	9.5
24	24	36	33	20	31	15	20	42	167	27	17	8.9
25	22	75	28	34	27	15	17	37	108	24	16	8.7
26	49	44	27	18	46	18	15	33	80	20	17	19
27	26	33	24	16	88	15	14	50	63	19	20	11
28	22	159	22	15	35	14	24	30	51	18	206	15
29	25	123	21	14	---	13	17	25	47	17	239	11
30	22	63	19	14	---	12	14	23	39	17	76	9.2
31	54	---	18	14	---	12	---	34	---	16	51	---
TOTAL	1767	1343	2398	804	1050	727	595.7	1938	2874	2408	1352	522.8
MEAN	57.0	44.8	77.4	25.9	37.5	23.5	19.9	62.5	95.8	77.7	43.6	17.4
MAX	453	159	684	78	123	85	146	495	426	436	239	39
MIN	22	21	18	14	12	12	7.1	12	31	16	12	8.7
AC-FT	3500	2660	4760	1590	2080	1440	1180	3840	5700	4780	2680	1040

CAL YR 1981 TOTAL 21253.1 MEAN 58.2 MAX 684 MIN 3.4 AC-FT 42160
WTR YR 1982 TOTAL 17779.5 MEAN 48.7 MAX 684 MIN 7.1 AC-FT 35270

16890900 TABECHEDING RIVER, BABELTHUAP--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP											
21...	1100	11	72	7.6	25.5	28	.00	4.8	3.8	4.9	28

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP										
21...	.4	.3	30	<5.0	3.8	<.1	25	<.10	170	5

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV				
12...	1015	29	27.0	25.5
JAN				
26...	1040	19	28.0	25.5
MAR				
03...	1125	26	28.0	25.0
APR				
16...	1125	9.5	26.5	25.5
MAY				
04...	1145	15	28.0	26.0
10...	1400	44	--	27.0

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUN				
10...	1020	63	27.0	26.0
JUL				
15...	1145	75	28.0	26.0
AUG				
24...	1030	18	29.0	26.0
SEP				
21...	1100	11	28.5	25.5

16891300 EDENG RIVER, BABELTHUAP

LOCATION.--Lat 07°23'00" N., long 134°33'07" E., Hydrologic Unit 20100006, on left bank 1,000 ft (305 m) upstream from confluence with Kmekumel River, 0.7 mi (1.1 km) north of Palau Mission Academy, and 1.5 mi (2.4 km) northeast of airport terminal.

DRAINAGE AREA.--4.26 mi^2 (11.03 km^2).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR HI-79-2: 1970-78(P). WDR HI-81-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of zero of gage is 2 ft (0.6 m), from stadia survey. Prior to Dec. 9, 1974, at site 300 ft (91 m) downstream at datum 0.30 ft (0.09 m) lower.

REMARKS.--Records fair. Small amount of water is pumped from site 300 ft (91 m) upstream from station for irrigation 0.5 mi (0.8 km) downstream. Continuous record of rainfall is obtained near station.

AVERAGE DISCHARGE.--13 years, 32.8 ft^3/s (0.929 m^3/s), 23,760 acre-ft/yr (29.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,850 ft^3/s (52.4 m^3/s) Apr. 13, 1979, gage height, 18.2 ft (5.54 m), from rating curve extended above 118 ft^3/s (3.34 m^3/s) on basis of measurement at gage height 13.0 ft (3.962 m); minimum, 1.6 ft^3/s (0.045 m^3/s) Mar. 23, 24, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft^3/s (22.7 m^3/s), and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 14	0230	*1450	41.1	*15.52	4.730
May 18	0400	801	22.7	10.92	3.328
Aug. 9	1800	1130	32.0	13.43	4.093

Minimum discharge, 6.6 ft^3/s (0.187 m^3/s) Apr. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	10	25	14	11	25	10	15	88	60	13	32
2	32	15	63	14	10	22	10	20	33	92	12	29
3	57	13	39	13	10	21	11	19	26	43	12	27
4	33	17	30	25	9.8	19	9.5	18	22	169	12	28
5	27	17	26	32	11	26	9.2	14	28	66	11	44
6	25	15	23	22	9.8	27	9.0	12	25	53	10	28
7	175	15	21	15	21	67	16	12	20	82	9.5	23
8	60	16	20	13	41	33	10	16	33	94	9.5	21
9	44	42	22	12	16	26	8.5	18	27	52	264	19
10	37	22	183	12	14	28	8.2	16	30	44	59	18
11	33	18	51	11	21	22	8.2	12	50	109	35	18
12	29	15	43	10	12	22	7.5	24	28	260	27	17
13	32	14	50	10	12	20	7.5	25	28	104	34	16
14	26	14	334	21	28	21	7.0	19	28	74	27	15
15	27	17	89	18	136	22	12	15	29	58	39	14
16	40	12	60	12	39	19	13	15	29	61	28	14
17	30	22	48	12	24	17	32	190	25	46	24	13
18	37	14	41	10	21	17	156	323	35	38	21	12
19	26	12	36	28	71	18	35	101	30	36	21	11
20	22	15	47	47	57	30	22	58	109	62	22	10
21	20	97	32	23	57	24	18	50	111	37	19	10
22	19	41	28	15	34	16	15	45	228	29	20	12
23	20	22	31	16	39	17	49	40	181	26	16	9.8
24	18	23	25	22	29	16	22	32	120	23	15	9.5
25	17	21	22	41	26	15	22	29	82	21	14	9.2
26	27	18	21	17	33	17	17	26	61	19	20	23
27	18	15	20	15	56	13	16	24	50	18	17	11
28	16	83	18	13	29	12	20	26	43	17	101	25
29	16	54	17	12	---	12	17	21	40	16	196	13
30	14	28	16	12	---	11	14	20	34	15	58	10
31	22	---	15	12	---	11	---	28	---	14	40	---
TOTAL	1027	745	1496	549	877.6	668	611.6	1283	1673	1838	1206.0	541.5
MEAN	33.1	24.8	48.3	17.7	31.3	21.5	20.4	41.4	55.8	59.3	38.9	18.1
MAX	175	97	334	47	136	67	156	323	228	260	264	44
MIN	14	12	15	10	9.8	11	7.0	12	20	14	9.5	9.2
AC-FT	2040	1480	2970	1090	1740	1320	1210	2540	3320	3650	2390	1070

CAL YR 1981 TOTAL 13452.1 MEAN 36.9 MAX 513 MIN 3.6 AC-FT 26680
WTR YR 1982 TOTAL 12515.7 MEAN 34.3 MAX 334 MIN 7.0 AC-FT 24820

16891300 BDBNG RIVER, BABELTHUAP--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP											
20...	1200	10	82	7.4	25.0	34	.00	6.9	4.0	4.6	23

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP										
20...	.4	.2	40	<5.0	4.2	<.1	24	<.10	150	5

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV				
18...	1140	15	29.0	25.0
DEC				
16...	1235	61	28.0	25.5
JAN				
20...	1220	14	29.0	25.0
FEB				
22...	1415	31	28.5	26.5
APR				
03...	1050	12	27.5	25.5

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
MAY				
13...	1025	15	--	25.5
JUL				
01...	1230	29	28.0	25.5
AUG				
05...	1205	11	30.0	26.0
SEP				
09...	1135	20	29.0	25.5
20...	1200	10	28.0	25.0

16891310 KMEKUMEL RIVER, BABELTHUAP

LOCATION.--Lat 07°23'14" N., long 134°32'42" E., Hydrologic Unit 20100006, 0.5 mi (0.8 km) upstream from confluence with Edeng River and 1.1 mi (1.8 km) north of Palau Mission Academy.

DRAINAGE AREA.--1.44 mi² (3.73 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1978 to current year. Low-flow partial-record station 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. Altitude of gage is 96.44 ft (29.39 m), from stadia survey.

REMARKS.--Records good. No diversion above gage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,560 ft³/s (44.2 m³/s) Apr. 13, 1979, gage height, 10.53 ft (3.210 m), from rating curve extended above 106 ft³/s (3.00 m³/s) on basis of slope-area measurement at gage height 10.53 ft (3.210 m); minimum, 0.78 ft³/s (0.022 m³/s) Apr. 27 to May 3, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 450 ft³/s (12.7 m³/s), revised, and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 14	0230	a750	21.2	--	--	July 12	0430	473	13.4	6.43	1.960
May 17	2000	457	12.9	6.34	1.932	Aug. 9	1600	*772	21.9	*7.86	2.396

Minimum discharge, 1.5 ft³/s (0.042 m³/s) Apr. 13-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	4.1	7.0	3.5	3.2	6.0	2.8	4.1	24	15	3.5	9.1
2	8.4	3.5	18	3.4	2.7	5.4	2.7	4.8	8.6	23	3.4	7.7
3	33	3.4	13	3.2	2.6	4.8	2.8	5.2	6.6	11	3.2	7.3
4	13	4.1	9.4	5.9	2.4	4.4	2.6	4.6	6.0	47	3.5	7.5
5	9.8	3.7	7.5	8.2	2.6	6.6	2.4	3.7	7.0	17	3.2	13
6	8.9	3.5	6.4	5.0	2.2	8.6	2.4	3.4	6.4	14	2.7	8.0
7	60	3.5	6.0	3.5	4.6	18	4.3	3.2	5.2	22	2.7	6.4
8	20	3.0	6.0	3.2	11	8.4	2.8	5.8	8.6	32	2.7	5.4
9	17	6.5	6.4	2.8	3.9	6.6	2.6	6.4	6.2	16	62	5.2
10	11	4.1	47	2.7	3.7	7.3	2.1	5.0	8.7	14	13	4.8
11	9.8	3.5	14	2.6	4.4	5.6	2.0	3.9	21	38	7.5	4.4
12	8.2	2.8	13	2.4	3.0	5.6	2.0	5.1	8.9	98	6.0	4.3
13	8.6	2.7	15	2.4	2.8	5.0	1.8	5.9	7.5	31	13	4.1
14	7.0	2.8	90	5.0	4.8	5.4	1.6	4.8	11	21	9.4	3.7
15	6.8	3.4	23	3.7	50	5.6	2.2	3.9	10	16	10	3.5
16	13	2.6	15	3.0	12	4.6	3.5	4.1	9.4	17	8.2	3.4
17	9.4	4.1	12	3.4	7.3	4.1	8.0	68	8.2	12	6.6	3.0
18	14	3.0	10	2.6	6.0	4.3	40	87	9.1	9.8	6.2	2.8
19	8.6	2.6	8.6	7.8	23	4.3	8.9	30	8.4	8.9	6.2	2.7
20	7.5	2.4	12	16	16	6.7	5.8	18	35	14	6.2	2.7
21	6.4	25	8.0	7.0	15	5.8	4.6	14	30	9.1	5.4	2.6
22	6.0	9.0	6.8	4.3	9.4	4.8	4.4	15	64	7.5	5.6	2.7
23	5.6	4.6	8.2	5.8	8.9	4.4	17	13	49	6.6	5.0	2.6
24	5.0	4.3	6.4	6.9	7.5	4.3	7.5	9.6	31	6.0	4.6	2.4
25	5.2	5.1	5.8	12	6.4	4.1	7.0	8.4	22	5.4	4.4	2.2
26	7.3	4.1	5.2	5.2	8.0	4.3	5.2	7.3	17	5.0	4.4	4.6
27	4.6	3.5	5.0	4.4	13	3.5	4.6	6.6	14	4.6	5.7	2.6
28	4.3	26	4.3	3.7	7.0	3.4	5.4	6.8	11	4.3	25	4.8
29	4.1	14	4.1	3.5	---	3.2	4.6	5.6	10	4.1	59	2.7
30	3.7	7.5	3.7	3.4	---	3.0	4.1	5.4	8.6	3.9	17	2.2
31	5.4	---	3.5	3.2	---	2.8	---	7.1	---	3.7	11	---
TOTAL	341.4	172.6	400.3	149.7	243.4	170.9	167.7	375.7	472.4	536.9	326.3	138.4
MEAN	11.0	5.75	12.9	4.83	8.69	5.51	5.59	12.1	15.7	17.3	10.5	4.61
MAX	60	26	90	16	50	18	40	87	64	98	62	13
MIN	3.7	2.4	3.5	2.4	2.2	2.8	1.6	3.2	5.2	3.7	2.7	2.2
AC-FT	677	342	794	297	483	339	333	745	937	1060	647	275

CAL YR 1981 TOTAL 3651.34 MEAN 10.0 MAX 186 MIN .78 AC-FT 7240
WTR YR 1982 TOTAL 3495.70 MEAN 9.58 MAX 98 MIN 1.6 AC-FT 6930

16891310 KMEKUMEL RIVER, BABELTHUAP--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP											
20...	1400	3.2	92	7.6	26.0	41	1.0	9.2	4.3	4.5	19

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP										
20...	.3	.2	40	<5.0	4.2	<.1	27	<.10	170	4

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
16...	1450	11	27.0	26.0
NOV				
23...	1115	4.7	29.5	26.0
DEC				
30...	1055	4.7	29.5	25.5
FEB				
03...	1115	3.0	27.5	25.0
MAR				
20...	1130	4.7	--	25.5
MAY				
14...	1015	4.9	--	25.5
JUN				
24...	1225	28	27.0	25.5
JUL				
23...	1300	6.2	29.0	26.0
SEP				
01...	1115	8.6	28.0	26.0
20...	1400	3.2	29.0	26.0

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 (0.5 km) from left-bank tributary, 1.3 mi (2.1 km) west of Rrai village, and 1.5 mi (2.4 km) upstream from confluence with North Fork Ngerdorch River.

DRAINAGE AREA.--2.44 mi² (6.32 km²).

WATER-DISCHARGE RECORDS

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. Altitude of gage is 25 ft (7.6 m), revised, from topographic map.

REMARKS.--Records fair. No diversion above station.

AVERAGE DISCHARGE.--11 years, 19.9 ft³/s (0.564 m³/s), 14,420 acre-ft/yr (17.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,750 ft³/s (163 m³/s), Dec. 13, 1974, gage height, 9.19 ft (2.801 m), from rating curve extended above 65 ft³/s (1.84 m³/s) on basis of field estimate at gage height 7.57 ft (2.307 m); minimum, 0.55 ft³/s (0.016 m³/s) Mar. 9, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 750 ft³/s (21.2 m³/s), and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 9	1300	1390	39.4	5.00	1.524	May 18	0330	1070	30.3	4.64	1.414
Nov. 28	1600	1280	36.2	4.84	1.475	Aug. 9	1730	1900	53.8	5.73	1.747
Dec. 10	0630	1500	42.5	5.15	1.570	Aug. 28	0930	978	27.7	4.48	1.366
Dec. 14	0230	*2610	73.9	*6.47	1.972	Aug. 29	0530	835	23.6	4.23	1.289

Minimum discharge, 3.0 ft³/s (0.085 m³/s) Apr. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	10	15	7.4	4.5	11	4.4	7.1	33	35	5.7	16
2	14	8.0	38	6.8	4.0	9.5	4.1	8.1	13	51	5.2	15
3	39	6.8	18	6.2	4.0	9.0	4.4	8.1	11	22	5.2	14
4	18	12	14	20	4.0	8.1	4.1	6.6	9.0	116	6.1	13
5	14	10	13	26	4.4	9.5	4.1	5.7	35	29	4.7	18
6	13	10	10	20	4.0	16	3.8	5.2	17	23	4.4	13
7	146	9.9	10	10	9.6	40	6.5	4.7	12	52	4.4	10
8	33	13	9.9	8.7	18	17	4.4	7.1	16	32	4.4	9.5
9	22	90	9.3	8.0	6.8	11	3.8	20	14	24	189	8.5
10	18	19	288	7.4	7.4	10	3.5	10	18	20	21	8.1
11	18	14	32	6.8	9.9	9.0	3.5	7.1	16	66	13	7.6
12	14	12	22	6.2	5.2	8.1	3.5	21	15	138	11	6.6
13	17	10	20	5.7	5.2	7.6	3.2	12	17	40	11	6.6
14	13	10	290	19	8.4	8.1	3.2	10	13	28	8.5	6.1
15	18	11	43	13	79	8.1	6.4	8.5	16	22	25	5.7
16	18	8.7	27	7.0	18	6.6	4.4	11	15	27	15	5.7
17	18	13	22	6.5	10	5.2	18	164	11	18	11	4.7
18	18	9.3	20	6.0	11	6.6	76	232	31	15	9.0	4.7
19	15	8.0	18	10	32	9.3	14	42	19	14	8.5	4.4
20	12	8.0	18	20	65	16	9.5	25	63	21	8.1	4.4
21	10	43	16	10	29	11	7.6	20	89	15	9.0	4.1
22	9.9	21	14	7.5	15	8.1	6.6	17	190	12	8.5	4.1
23	11	12	15	7.0	14	7.1	20	14	90	11	6.6	3.8
24	8.7	12	13	8.0	11	6.6	9.0	12	51	9.0	6.1	3.8
25	9.3	10	12	10	9.5	6.1	7.6	11	33	8.5	6.1	3.5
26	16	9.3	11	7.0	17	10	6.6	10	25	8.1	18	25
27	9.3	8.0	10	6.0	33	6.1	6.6	8.5	20	7.1	9.5	6.1
28	8.0	89	9.3	5.5	13	5.7	8.5	9.5	18	6.6	123	6.1
29	8.7	42	8.7	5.0	---	5.2	7.6	8.1	16	6.1	132	4.7
30	7.4	22	8.7	4.5	---	4.7	5.7	7.6	13	6.1	30	4.4
31	17	---	8.0	4.5	---	4.7	---	11	---	6.1	22	---
TOTAL	609.3	561.0	1062.9	295.7	451.9	301.0	270.6	743.9	939.0	888.6	741.0	249.2
MEAN	19.7	18.7	34.3	9.54	16.1	9.71	9.02	24.0	31.3	28.7	23.9	8.31
MAX	146	90	290	26	79	40	76	232	190	138	189	25
MIN	7.4	6.8	8.0	4.5	4.0	4.7	3.2	4.7	9.0	6.1	4.4	3.5
AC-FT	1210	1110	2110	587	896	597	537	1480	1860	1760	1470	494

CAL YR 1981 TOTAL 9116.3 MEAN 25.0 MAX 438 MIN 1.5 AC-FT 18080
WTR YR 1982 TOTAL 7114.1 MEAN 19.5 MAX 290 MIN 3.2 AC-FT 14110

16891400 SOUTH FORK NGERDORCH RIVER, BABELTHUAP--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP											
22...	1115	4.3	59	7.6	25.5	24	.00	4.6	3.0	4.1	27

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP										
22...	.4	.4	30	<5.0	4.0	<.1	21	<.10	200	4

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
09...	1155	21	29.0	26.0
NOV				
16...	1455	8.0	28.0	27.0
DEC				
17...	1240	22	27.5	26.0
FEB				
02...	1210	4.0	29.0	26.0
MAR				
24...	1225	6.9	28.0	26.0
APR				
27...	1220	6.4	29.0	27.5
JUN				
15...	1240	19	28.5	25.5
JUL				
20...	1210	12	29.0	26.5
AUG				
26...	1205	5.8	28.5	26.0
SEP				
22...	1115	4.3	30.0	25.5

16892000 QATLIW STREAM, YAP

LOCATION.--Lat 09°32'58" N., long 138°06'41" E., Hydrologic Unit 20100006, on right bank 90 ft (27 m) below confluence with major tributary, 0.5 mi (0.8 km) upstream from mouth, and 2.6 mi (4.2 km) northwest of Colonia.

DRAINAGE AREA.--0.31 mi^2 (0.80 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January to September 1982.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 40 ft (12.2 m), from topographic map.

REMARKS.--Records good. No diversion above station.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft^3/s (5.66 m^3/s) and maximum (*) during period February to September:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Feb. 6	0800	385	20.9	4.30	1.311
June 21	0445	*874	24.8	*5.96	1.817

No flow for several days.

DISCHARGE, IN CUBIC FEET PER SECOND, JANUARY TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				.10	.03	.11	.04	.00	.01	.30	.02	.51
2				.05	.03	.08	.03	.01	.00	.61	.05	.45
3				.04	.03	.06	.02	.01	.00	8.5	.11	.39
4				.04	.13	.05	.01	.00	.01	.70	.05	.34
5				.03	4.0	.04	.01	.00	.01	.27	.04	2.4
6				.03	15	.05	.02	.01	.01	.10	.03	7.1
7				.03	1.6	.13	.04	.02	1.1	.08	.03	5.4
8				.04	3.0	.11	.02	.01	1.8	1.7	.03	.94
9				.62	.82	.06	.02	.01	.19	.19	.02	.27
10				2.1	.19	.04	.04	.01	8.3	.06	.03	.11
11				1.0	.10	.03	.04	.05	1.6	.93	.04	.06
12				.51	.05	.02	.03	.06	.57	.51	.03	.04
13				.27	.06	.03	.03	.04	.19	.13	.02	3.3
14				.13	14	.03	.03	.05	.11	.06	.03	14
15				.10	4.0	.02	.03	.10	.11	17	1.8	1.5
16				.08	.51	.01	.05	3.0	13	9.4	7.6	.30
17				.13	.13	.02	.04	4.2	5.2	1.3	1.2	.13
18				.19	.11	.82	.02	4.3	3.9	.23	.16	.08
19				.10	.23	.23	.01	1.1	.63	.23	3.3	.05
20				.05	.16	.05	.01	.16	35	.88	6.2	.03
21				.04	.16	.03	.01	.08	106	.16	9.7	.03
22				.03	.11	10	.01	.05	15	.08	2.1	.02
23				5.0	.11	2.5	.01	.10	2.8	4.6	1.8	.01
24				19	.19	.50	.01	.11	7.7	1.1	4.0	.01
25				.70	.11	.10	.00	.05	7.0	.82	.13	2.6
26				.39	2.7	.05	.00	.03	2.4	.27	.10	1.2
27				.13	.51	.05	.01	.03	11	.08	.39	.94
28				.08	.13	.04	.00	.04	2.8	.04	6.3	2.4
29				.05	---	.05	.00	.02	3.6	.03	8.3	.45
30				.04	---	.06	.00	.01	.94	.02	15	.13
31				.03	---	.05	---	.01	---	.02	1.1	---
TOTAL				31.13	48.20	15.42	.59	13.67	230.98	50.42	69.71	45.19
MEAN				1.00	1.72	.50	.020	.44	7.70	1.63	2.25	1.51
MAX				19	15	10	.05	4.3	106	17	15	14
MIN				.03	.03	.01	.00	.00	.00	.02	.02	.01
AC-FT				62	96	31	1.2	27	458	100	138	90

16892000 QATLIW STREAM, YAP--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
SEP										
14...	0930	8.4	70	7.6	26.0	32	5.0	4.6	4.9	5.3

DATE	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP										
14...	27	.4	.2	27	9.5	<.1	16	<.10	350	6

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
FEB				
12...	1140	.05	27.0	25.5
MAR				
25...	1115	.13	26.5	25.5
JUN				
18...	1025	2.3	29.0	26.0
JUL				
14...	1305	.05	27.5	26.0
AUG				
03...	0945	.20	27.5	26.0
24...	0915	.46	26.0	25.5
SEP				
14...	0930	8.4	27.5	26.0
30...	0935	.17	26.5	25.0

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 (0.5 km) southwest of Dalipeebinaew School.

DRAINAGE AREA.--0.24 mi² (0.62 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m), from topographic map.

REMARKS.--Records fair. No diversion above station.

AVERAGE DISCHARGE.--14 years, 1.12 ft³/s (0.032 m³/s), 811 acre-ft/yr (1.00 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 674 ft³/s (19.1 m³/s) July 13, 1981, gage height, 7.82 ft (2.384 m), from rating curve extended above 20 ft³/s (0.57 m³/s); no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft³/s (5.66 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 23	0700	358	10.1	6.02	1.835	June 21	0500	*445	12.6	*6.60	2.012
Feb. 6	0800	260	7.36	5.37	1.637	Aug. 30	0530	304	8.61	5.66	1.725
May 18	a1600	232	6.57	5.18	1.579						

No flow for many days.

a About.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.77	.59	.27	.10	.01	.00	.00	.00	.03	.21	.02	.77
2	.72	.35	.13	.07	.01	.00	.00	.00	.02	1.1	.02	2.6
3	.19	.17	3.2	.04	.00	.00	.00	.04	.02	5.6	.02	.81
4	3.0	7.6	.29	.03	.07	.00	.00	.00	.01	.41	.02	.55
5	.94	1.7	.16	.02	5.0	.00	.00	.00	.01	.29	.01	2.0
6	1.2	1.6	1.5	.02	12	.00	.00	.00	.01	.17	.01	5.2
7	.31	.37	.68	.01	.61	.00	.00	.32	.75	.13	.01	5.8
8	.11	.19	.25	.01	2.2	.00	.00	.04	1.5	3.3	.01	.57
9	.04	.11	1.4	.01	.44	.01	.00	.02	.15	.31	.01	.27
10	.03	.06	.73	3.4	.14	.01	.00	.05	7.5	.17	.01	.13
11	.01	.05	.31	4.9	.04	.00	.00	.61	1.0	1.7	.01	.06
12	.11	.04	1.5	.44	.02	.00	.00	.53	.25	.53	.01	.04
13	1.5	.04	.69	.23	.01	.01	.00	.13	.10	.33	.01	1.3
14	1.8	.19	.27	.06	8.5	.00	.00	.67	.08	.13	.01	14
15	.35	2.4	.44	.04	.57	.00	.00	.15	.03	11	.23	.88
16	.17	.56	.19	.03	.13	.00	.00	2.5	5.4	5.5	5.3	.55
17	.06	.58	.10	.02	.05	.00	.00	3.5	2.0	.47	.47	.17
18	.57	.67	.06	.02	.03	.23	.00	4.0	1.3	.17	.25	.11
19	1.2	.19	.04	.02	.03	.11	.00	1.0	5.7	.19	1.0	.07
20	2.8	.10	.13	.01	.03	.03	.00	.15	38	.23	3.5	.04
21	.31	.05	.05	.01	.03	.01	.00	.08	92	.21	6.4	.03
22	9.6	.76	.04	.01	.01	16	.00	.05	7.2	.07	1.4	.02
23	1.1	.93	32	.01	.01	6.4	.00	.10	1.2	5.5	.92	.02
24	.31	.29	1.3	14	.01	.39	.00	.10	6.0	.89	.29	.01
25	.86	.13	.98	.41	.00	.13	.00	.05	3.7	1.9	.11	7.7
26	3.3	.08	.37	.14	1.5	.04	.00	.03	.90	.53	.06	.73
27	.92	2.3	.17	.06	.14	.03	.00	.05	4.5	.27	2.6	1.1
28	.86	.62	.08	.04	.02	.01	.00	.10	.86	.13	5.7	.69
29	.57	.50	.04	.02	---	.01	.00	.10	3.0	.07	.61	.29
30	2.4	.47	.03	.01	---	.01	.00	.05	.50	.04	20	.16
31	15	---	.03	.01	---	.00	---	.03	---	.03	.77	---
TOTAL	51.31	23.49	47.43	24.20	31.61	23.43	.00	14.45	183.72	41.58	49.79	46.27
MEAN	1.66	.78	1.53	.78	1.13	.76	.000	.47	6.12	1.34	1.61	1.54
MAX	15	7.6	32	14	12	16	.00	4.0	92	11	20	14
MIN	.01	.04	.03	.01	.00	.00	.00	.00	.01	.03	.01	.01
AC-FT	102	47	94	48	63	46	.00	29	364	82	99	92

CAL YR 1981 TOTAL 468.56 MEAN 1.28 MAX 32 MIN .00 AC-FT 929
WTR YR 1982 TOTAL 537.28 MEAN 1.47 MAX 92 MIN .00 AC-FT 1070

168924000 QARINGBBL STREAM, YAP--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
SEP										
14...	1230	19	45	7.2	26.0	20	.00	3.0	3.0	3.7

DATE	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP										
14...	29	.4	.2	20	6.0	<.1	9.5	<.10	190	5

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
19...	1010	1.8	29.0	26.5
NOV				
05...	1355	.66	28.0	26.5
25...	1420	.13	28.0	26.0
FEB				
12...	1320	.02	27.5	25.5
MAR				
24...	1335	.31	27.5	26.0
JUN				
01...	1050	.03	28.0	27.0
JUN				
14...	1050	.10	28.5	25.5
JUL				
13...	1310	.32	28.0	26.5
AUG				
03...	1115	.02	28.5	27.0
23...	1350	.82	28.0	26.5
SEP				
14...	1230	19	27.5	26.0

16892800 DALOELAEB STREAM, YAP

LOCATION.--Lat 09°31'05" N., long 138°06'21" E., Hydrologic Unit 20100006, on left bank 0.17 mi (0.27 km) north of Daloelaeb Hill water tank and 1.3 mi (2.1 km) northwest of Protestant Mission Church in Colonia.

DRAINAGE AREA.--0.07 mi^2 (0.18 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1968 to December 1981 (discontinued). Prior to October 1980, published as Dalolab Stream.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 110 ft (34 m), from topographic map.

REMARKS.--Records fair. No diversion above station.

AVERAGE DISCHARGE.--13 years, 0.366 ft^3/s (0.010 m^3/s), 265 acre-ft/yr (327,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180 ft^3/s (5.10 m^3/s) Sept. 15, 1973, gage height, 4.80 ft (1.463 m), from floodmark in well, from rating curve extended above 17 ft^3/s (0.48 m^3/s); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period October to December, 57 ft^3/s (1.61 m^3/s), Oct. 31, gage height, 3.22 ft (0.9815 m), no peak above base of 75 ft^3/s (2.12 m^3/s); minimum, 0.01 ft^3/s (<0.001 m^3/s) Oct. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER TO DECEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	.06	.06									
2	.21	.06	.04									
3	.03	.03	1.2									
4	1.0	2.5	.08									
5	.34	.77	.04									
6	.64	.62	.64									
7	.06	.10	.24									
8	.01	.04	.06									
9	.01	.04	.66									
10	.02	.03	.30									
11	.02	.03	.10									
12	.19	.02	1.5									
13	.98	.02	.19									
14	.94	.06	.04									
15	.10	.58	.04									
16	.04	.15	.02									
17	.02	.15	.02									
18	.26	.20	.03									
19	.46	.06	.01									
20	1.3	.03	.62									
21	.06	.02	.03									
22	3.1	.25	.01									
23	.33	.30	10									
24	.05	.08	.40									
25	.48	.04	.30									
26	1.1	.02	.10									
27	.30	.25	.05									
28	.30	.12	.03									
29	.12	.29	.02									
30	.81	.22	.01									
31	4.8	---	.01									
TOTAL	18.42	7.14	16.85									
MEAN	.59	.24	.54									
MAX	4.8	2.5	10									
MIN	.01	.02	.01									
AC-FT	37	14	33									

CAL YR 1981 TOTAL 151.95 MEAN .42 MAX 10 MIN .00 AC-FT 301

16892800 DALOBLABB STREAM, YAP--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
SEP 15...	1300	.09	6.9	27.5	43	3.0	5.9	6.9	6.1	23	.4

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 15...	.1	40	10	10	<.1	18	81	.11	<.10	260	6

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT 19...	1115	.48	29.5	26.5
NOV 06...	0950	.80	--	25.5
27...	1135	.08	27.0	26.5

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
SEP 15...	1300	.09	--	27.5

CAROLINE ISLANDS, YAP ISLANDS

16892900 PBEMGOY STREAM, YAP

LOCATION.--Lat 09°31'07" N., long 138°06'36" E., Hydrologic Unit 20100006, on right bank at Taalgum, 100 ft (30 m) upstream from Taalgum Stream, 0.3 mi (0.5 km) southeast of Mount Peemgoy, and 1.0 mi (1.6 km) northwest of Protestant Mission Church in Colonia.

DRAINAGE AREA.--0.14 mi² (0.36 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1968 to July 1982 (discontinued). Prior to October 1980, published as Pemgoy Stream.

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

GAGE.--Water-stage recorder. Concrete control since Mar. 30, 1974. Altitude of gage is 60 ft (18 m), from topographic map.

REMARKS.--Records fair. No diversion above station.

AVERAGE DISCHARGE.--13 years (water years 1969-81), 0.591 ft³/s (0.017 m³/s), 428 acre-ft/yr (528,000 m³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 335 ft³/s (9.49 m³/s) July 13, 1981, gage height, 5.40 ft (1.646 m), from rating curve extended above 15 ft³/s (0.42 m³/s); no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 70 ft³/s (1.98 m³/s) during period October 1981 to July 1982 and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 31	0200	71	2.01	3.02	0.920	Mar. 22	2230	86	2.44	3.22	0.981
Dec. 23	0700	117	3.31	3.60	1.097	June 21	0600	*303	8.58	*5.18	1.579
Feb. 6	0800	128	3.62	3.72	1.134						

Minimum discharge, 0.01 ft³/s (<0.001 m³/s) for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1981 to JULY 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.62	.16	.08	.04	.01	.06	.01	.02	.08	.07		
2	.69	.08	.04	.03	.01	.05	.01	.03	.06	.06		
3	.09	.03	1.5	.02	.01	.04	.01	.02	.04	4.2		
4	1.9	3.1	.11	.02	.10	.05	.01	.01	.04	1.1		
5	.75	1.2	.04	.01	2.0	.05	.01	.01	.03	.64		
6	1.3	1.6	.54	.01	6.5	.06	.01	.01	.03	.16		
7	.21	.16	.34	.01	.50	.07	.02	.04	.48	.06		
8	.05	.09	.07	.01	3.0	.05	.02	.02	1.1	1.1		
9	.03	.04	.69	.01	.35	.05	.05	.02	.14	.12		
10	.04	.02	.52	.42	.10	.05	.07	.02	5.2	.06		
11	.02	.02	.18	1.2	.07	.05	.02	.06	.69	.68		
12	.16	.01	4.2	.11	.05	.04	.02	.16	.12	.42		
13	1.6	.01	.58	.03	.05	.05	.01	.04	.07	.30		
14	2.3	.08	.08	.02	4.0	.05	.01	.18	.05	.07		
15	.30	1.0	.05	.01	1.0	.04	.01	.52	.05	7.3		
16	.08	.84	.03	.01	.15	.04	.05	1.7	4.6	4.2		
17	.04	.34	.02	.02	.10	.04	.03	3.2	1.8	.34		
18	.26	.24	.02	.02	.06	.30	.02	5.0	2.0	.41		
19	.75	.05	.01	.01	.07	.11	.01	.96	.67	.34		
20	2.5	.02	.58	.01	.08	.04	.01	.12	18	.30		
21	.27	.01	.09	.01	.08	.03	.01	.05	51	.07		
22	4.0	.48	.03	.01	.06	8.0	.02	.03	5.4	.04		
23	1.2	.68	11	.02	.07	5.8	.01	.14	.87	2.6		
24	.14	.06	.64	7.0	.06	.34	.01	.21	2.8	.87		
25	1.0	.02	.42	.18	.05	.05	.01	.04	3.1	1.1		
26	2.5	.02	.24	.03	1.5	.03	.01	.02	.64	.34		
27	.94	.18	.05	.02	.21	.02	.01	.18	4.8	.09		
28	1.1	.12	.03	.01	.08	.02	.01	.34	.58	.04		
29	.21	.47	.02	.01	---	.01	.01	.16	.38	.03		
30	.68	.21	.02	.01	---	.02	.01	.05	.18	.03		
31	6.4	---	.01	.01	---	.01	---	.04	---	.02		
TOTAL	32.13	11.34	22.23	9.33	20.32	15.62	.52	13.40	105.00	27.16		
MEAN	1.04	.38	.72	.30	.73	.50	.017	.43	3.50	.88		
MAX	6.4	3.1	11	7.0	6.5	8.0	.07	5.0	51	7.3		
MIN	.02	.01	.01	.01	.01	.01	.01	.01	.03	.02		
AC-FT	64	22	44	19	40	31	1.0	27	208	54		

CAL YR 1981 TOTAL 254.85 MEAN .70 MAX 12 MIN .00 AC-FT 505

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
SEP											
15...	0930	.68	7.4	26.0	33	13	4.0	5.7	5.6	27	.4

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP											
15...	.1	20	10	8.7	<.1	20	66	.09	.47	350	5

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
20...	0940	3.8	26.5	25.5
NOV				
06...	1120	1.7	26.0	25.5
27...	1025	.50	27.0	25.5
FEB				
17...	1050	.08	28.0	26.0
MAR				
25...	1445	.04	27.5	26.0

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUN				
01...	1240	.10	28.0	26.5
18...	1315	.69	27.5	26.0
JUL				
19...	1015	.54	26.5	25.5
AUG				
04...	1005	.01	26.5	25.0
SEP				
15...	0930	.68	27.0	26.0

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 (0.40 km) upstream from mouth, and 0.5 mi (0.8 km) northeast of Mount Gamuw.

DRAINAGE AREA.--0.23 mi² (0.60 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1968 to current year.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m), from topographic map.

REMARKS.--Records good. No diversion above station.

AVERAGE DISCHARGE.--14 years, 0.973 ft³/s (0.028 m³/s), 705 acre-ft/yr (869,000 m³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 550 ft³/s (15.6 m³/s) June 21, 1982, gage height, 5.45 ft (1.661 m), from rating curve extended above 15 ft³/s (0.42 m³/s); no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft³/s (2.83 m³/s), and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 23	0700	151	4.28	3.78	1.152	June 21	0600	*550	15.6	*5.45	1.661
Feb. 6	0730	211	5.98	4.16	1.268	Aug. 30	0500	128	3.62	3.62	1.103
Mar. 22	2200	112	3.17	3.50	1.067						

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.67	.57	.27	.08	.01	.04	.01	.00	.05	.22	.08	.65
2	1.0	.24	.13	.04	.01	.02	.01	.00	.03	.99	.10	.70
3	.24	.14	.96	.04	.01	.01	.01	.00	.02	6.0	.18	.60
4	1.2	2.4	.22	.03	.06	.01	.01	.00	.01	.75	.08	.53
5	.65	2.7	.13	.02	1.7	.01	.01	.00	.01	.50	.06	2.6
6	1.2	3.6	.81	.01	12	.01	.01	.00	.00	.24	.04	5.6
7	.40	.65	.60	.01	.57	.06	.01	.00	.40	.16	.03	4.5
8	.16	.99	.20	.01	1.6	.01	.01	.00	.89	1.5	.02	.95
9	.13	.57	.75	.01	.34	.01	.01	.00	.14	.34	.02	.34
10	.08	.24	.90	.60	.08	.01	.01	.00	7.5	.16	.02	.18
11	.04	.16	.30	.77	.04	.00	.01	.00	.80	.68	.04	.11
12	.11	.11	5.8	.18	.03	.00	.01	.02	.22	.53	.04	.08
13	1.5	.10	.99	.08	.03	.00	.01	.00	.10	.27	.02	1.8
14	3.1	1.1	.30	.06	8.0	.00	.01	.09	.07	.16	.07	11
15	.53	2.8	.44	.05	1.2	.00	.01	.20	.04	14	.13	1.0
16	.20	1.0	.16	.04	.20	.00	.01	1.4	5.6	7.5	3.0	.30
17	.10	4.0	.10	.03	.09	.00	.01	2.3	2.9	1.2	.60	.14
18	.29	.85	.08	.02	.07	.27	.01	4.7	2.6	.57	.20	.10
19	.95	.30	.05	.01	.06	.07	.00	1.1	.40	.75	4.6	.07
20	4.4	.16	.13	.02	.06	.02	.00	.20	34	.47	4.8	.05
21	.50	.14	.27	.01	.05	.01	.00	.10	115	.22	8.5	.04
22	6.2	1.0	.07	.01	.04	13	.00	.07	11	.13	1.9	.04
23	2.1	1.5	18	.03	.03	8.1	.00	.21	1.7	3.4	1.4	.02
24	.34	.22	1.9	12	.02	.57	.00	.34	5.9	1.0	.47	.02
25	.63	.13	2.5	.50	.02	.16	.00	.07	5.4	1.1	.18	2.6
26	2.7	.10	1.4	.13	1.2	.09	.00	.03	2.7	.34	.14	.98
27	1.2	3.7	.47	.07	.18	.06	.00	.03	18	.14	.58	.40
28	.80	1.4	.13	.05	.08	.05	.00	.24	1.5	.08	4.5	.83
29	.37	2.0	.08	.04	---	.04	.00	.20	.90	.07	3.4	.40
30	.27	.50	.06	.02	---	.03	.00	.08	.47	.04	13	.16
31	7.4	---	.07	.02	---	.02	---	.07	---	.03	.80	---
TOTAL	39.46	33.37	38.27	14.99	27.78	22.68	.18	11.45	218.35	43.54	49.00	36.79
MEAN	1.27	1.11	1.23	.48	.99	.73	.006	.37	7.28	1.40	1.58	1.23
MAX	7.4	4.0	18	12	12	13	.01	4.7	115	14	13	11
MIN	.04	.10	.05	.01	.01	.00	.00	.00	.00	.03	.02	.02
AC-FT	78	66	76	30	55	45	.4	23	433	86	97	73

CAL YR 1981 TOTAL 409.73 MEAN 1.12 MAX 20 MIN .00 AC-FT 813
WTR YR 1982 TOTAL 535.86 MEAN 1.47 MAX 115 MIN .00 AC-FT 1060

16893100 BURONG STREAM, YAP--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP											
17...	0830	.14	101	7.0	26.5	43	3.0	5.8	7.0	5.4	21

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP										
17...	.4	.1	40	<5.0	8.1	<.1	21	.21	81	16

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
19...	1440	.98	28.5	26.5
NOV				
05...	1220	.73	29.0	26.5
25...	1200	.12	29.0	26.0
DEC				
29...	1310	.06	28.0	26.5
FEB				
12...	1425	.03	28.0	26.5
MAR				
24...	1045	.60	27.0	25.5
MAY				
28...	1305	.26	28.0	26.5

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUN				
16...	1230	9.1	26.0	25.5
JUL				
13...	1055	.35	27.5	25.5
AUG				
02...	1440	.07	28.5	26.0
18...	1310	.12	28.0	26.0
SEP				
17...	0830	.14	27.5	26.5
29...	1510	.29	28.0	26.0

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 (0.3 km) upstream from mouth and 0.9 mi (1.4 km) south of U.S. Coast Guard LORAN station.
DRAINAGE AREA.--0.50 mi² (1.29 km²).

WATER DISCHARGE-RECORDS

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. Altitude of gage is 5 ft (1.5 m), from topographic map.
REMARKS.--Records poor. At times some water is pumped from above station for village use.
AVERAGE DISCHARGE.--6 years (water years 1976-77, 1979-82), 2.08 ft³/s (0.059 m³/s), 1,510 acre-ft/yr (1.86 hm³/yr).
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 153 ft³/s (4.33 m³/s) June 21, 1982, gage height, 4.10 ft (1.250 m), from rating curve extended above 18 ft³/s (0.51 m³/s); minimum, 0.07 ft³/s (0.002 m³/s) Apr. 9, 1979, Mar. 15, 1980, May 4, 1981.
EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft³/s (1.42 m³/s), revised, and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 27	0700	75	2.12	3.45	1.052	June 21	0700	*153	4.33	*4.10	1.250
Dec. 23	1000	70	1.98	3.38	1.030	July 15	0930	63	1.78	3.28	1.000
Jan. 24	0730	85	2.41	3.57	1.088	Aug. 16	1100	67	1.90	3.34	1.018
Feb. 6	1000	102	2.89	3.73	1.137						

Minimum discharge, 0.20 ft³/s (0.006 m³/s) Mar. 5, 6.

REVISIONS.--The peak discharges and annual maximum (*) for water years 1980-81 have been revised as shown in the following table. They supersede figures published in WDR HI-80-2, 81-2.

Water Year	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Water Year	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
1980	Dec. 24, 1979	0500	62	1.76	3.27	0.997	1980	July 1, 1980	0430	73	2.07	3.43	1.045
	Mar. 20, 1980	2400	69	1.95	3.37	1.027		July 4, 1980	0630	*110	3.12	3.80	1.158
	May 22, 1980	1000	63	1.78	3.28	1.000	1981	July 14, 1981	0200	*90	2.55	3.62	1.103

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	2.2	1.3	1.4	.45	.38	.59	.34	.45	3.0	3.0	3.6
2	5.3	1.9	1.1	1.0	.34	.29	.52	.48	.42	3.9	1.5	3.0
3	2.2	1.4	3.3	.95	.42	.24	.45	.48	.38	13	.71	2.9
4	2.4	3.1	1.1	.85	1.5	.29	.38	.38	.38	3.7	.59	2.4
5	2.5	2.2	.85	.76	5.7	.27	.34	.34	.38	2.4	.59	4.5
6	3.0	6.6	1.7	.71	30	.38	.34	.34	.31	1.8	.59	9.5
7	1.9	2.5	1.7	.71	5.0	.76	.87	.31	.31	1.7	.82	8.7
8	1.6	2.9	1.1	.71	2.5	.48	.38	.31	.59	2.5	.80	3.5
9	1.4	2.3	1.4	.66	1.7	.34	.34	.34	.48	1.7	.45	2.6
10	1.4	1.9	2.2	1.8	.90	.34	.48	.34	9.7	1.6	.48	2.3
11	1.3	1.7	1.3	1.0	.80	.30	.29	.31	3.4	2.5	.85	2.1
12	1.8	1.4	3.9	.85	.76	.30	.26	.31	1.2	2.6	.48	1.9
13	2.3	1.4	1.7	.71	.62	.35	.29	.29	.90	1.6	.34	15
14	5.4	2.1	1.0	.62	15	.30	.29	.31	.66	1.3	.89	18
15	2.6	4.2	1.1	.56	6.2	.30	.29	4.0	.59	25	1.8	5.0
16	1.9	6.2	.90	.48	1.4	.25	2.4	7.1	6.4	13	19	3.3
17	1.6	2.9	.80	.56	.85	.29	1.0	3.9	4.3	4.4	3.3	2.6
18	2.1	1.7	.76	.71	.95	2.3	.49	8.9	5.3	3.0	1.4	2.2
19	2.5	2.0	.71	.56	.90	.71	.45	4.7	2.0	3.0	6.2	2.0
20	5.3	1.7	.71	.48	1.0	.45	.45	1.7	27	9.2	6.5	1.8
21	1.9	1.7	.66	.45	.71	.34	.42	1.3	79	4.0	15	1.7
22	12	2.1	.62	.45	.56	11	.42	.76	24	2.1	7.0	1.7
23	6.1	1.7	20	.42	.76	20	.38	.62	8.2	10	4.1	1.7
24	2.0	1.3	2.1	31	.85	2.9	.34	.62	11	3.3	2.3	1.6
25	2.5	1.1	3.0	2.9	.45	1.3	.31	.34	13	2.8	1.9	6.6
26	4.7	1.1	2.1	1.3	6.7	1.2	.31	.31	5.2	2.1	6.4	3.2
27	2.8	18	1.3	1.0	1.3	1.0	.38	.42	16	1.6	12	1.8
28	1.9	2.1	1.1	.76	.71	.85	.38	.76	6.5	1.3	7.8	2.0
29	1.9	2.1	1.0	.59	---	.71	.38	.56	12	.95	6.2	1.5
30	2.0	1.7	.95	.42	---	1.2	.34	.34	4.1	.85	21	4.4
31	8.7	---	.95	.45	---	.59	---	.45	---	.71	5.1	---
TOTAL	105.0	85.2	62.41	55.82	89.03	50.41	14.56	41.66	244.15	130.61	139.09	123.1
MEAN	3.39	2.84	2.01	1.80	3.18	1.63	.49	1.34	8.14	4.21	4.49	4.10
MAX	12	18	20	31	30	20	2.4	8.9	79	25	21	18
MIN	1.3	1.1	.62	.42	.34	.24	.26	.29	.31	.71	.34	1.5
AC-FT	208	169	124	111	177	100	29	83	484	259	276	244

CAL YR 1981 TOTAL 735.23 MEAN 2.01 MAX 25 MIN .10 AC-FT 1460
WTR YR 1982 TOTAL 1141.04 MEAN 3.13 MAX 79 MIN .24 AC-FT 2260

16893200 MUKONG STREAM, GAGIL-TAMIL--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP											
16...	1200	2.7	59	6.8	27.5	23	.00	4.0	3.1	3.8	27

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP										
16...	.4	.1	27	<5.0	5.3	<.1	7.6	<.10	430	100

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
16...	1145	2.0	28.0	27.0
NOV				
05...	1040	1.9	28.5	26.0
25...	1040	1.0	28.5	27.0
DEC				
30...	1040	.94	27.5	26.5
JAN				
20...	1145	.46	28.0	26.5
FEB				
09...	1110	1.8	27.5	26.5
MAR				
16...	1355	.22	28.0	27.5
APR				
08...	1010	.38	--	27.0
APR				
26...	1140	.30	28.0	27.5
MAY				
06...	0950	.34	--	27.0
28...	0950	.78	27.5	26.0
JUN				
15...	1030	.57	28.5	26.5
JUL				
07...	1105	1.6	27.5	26.5
AUG				
02...	1055	1.3	28.0	26.5
18...	1015	1.5	27.5	26.0
SEP				
16...	1200	2.7	--	27.5

16893400 EYEB STREAM, GAIL-TAMIL

LOCATION.--Lat 09°33'02" N., long 138°09'03" E., Hydrologic Unit 20100006, on left bank 0.6 mi (1.0 km) southeast of the Tagireeng Canal bridge and 1.2 mi (1.9 km) northwest of the Coast Guard LORAN Station.

DRAINAGE AREA.--0.22 mi² (0.57 mi²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January to September 1982.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft (4.6 m), from topographic map.

REMARKS.--Records good. No diversion above station.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft³/s (4.25 m³/s) and maximum (*) during period January to September, from rating curve extended above 14 ft³/s (0.40 m³/s):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Feb. 6	0830	207	5.86	4.66	1.420
June 21	0430	*490	13.9	*6.22	1.896
Aug. 16	0900	153	4.33	4.14	1.262

Minimum discharge, 0.12 ft³/s (0.003 m³/s) May 8, 9, 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, JANUARY TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				1.3	.69	.76	.62	.19	.36	2.7	1.5	2.7
2				.83	.69	.69	.56	.36	.31	3.2	1.1	2.3
3				.76	.69	.56	.46	.31	.27	10	.83	2.2
4				.56	1.6	.51	.36	.23	.41	3.2	.69	1.9
5				.51	6.9	.46	.36	.19	.31	2.2	.69	3.0
6				.46	23	.62	.36	.19	.27	1.9	.62	4.8
7				.41	3.0	1.0	.56	.36	.31	1.4	.62	4.6
8				.41	2.9	.69	.36	.19	.51	2.0	.56	2.3
9				.41	1.6	.56	.31	.15	.36	1.3	.51	1.7
10				1.7	1.3	.51	.46	.19	3.9	1.1	.56	1.4
11				.83	1.2	.46	.36	.15	1.2	1.7	.83	1.3
12				.69	1.1	.41	.27	.27	.83	1.6	.62	1.2
13				.56	1.1	.51	.27	.27	.56	1.1	.51	9.9
14				.51	13	.46	.27	.23	.41	.97	.76	15
15				.56	3.9	.41	.31	1.6	.36	27	1.3	3.9
16				.56	2.1	.46	1.2	4.4	5.2	9.9	20	2.3
17				.69	1.5	.56	.56	1.3	2.6	4.8	2.2	1.9
18				.76	1.5	1.5	.36	3.2	2.7	2.9	1.3	1.4
19				.56	1.3	.69	.31	1.6	1.3	2.4	3.4	1.3
20				.46	1.3	.46	.27	.97	41	11	3.4	1.1
21				.46	1.1	.36	.36	.83	130	5.7	9.9	1.0
22				.51	.97	7.8	.36	.62	27	2.2	4.6	.97
23				.62	1.0	8.3	.27	.56	7.8	8.6	3.4	.90
24				26	1.0	2.1	.27	.51	10	3.2	2.3	.83
25				2.6	.83	1.3	.23	.46	9.9	2.6	1.7	4.6
26				1.5	2.6	1.1	.19	.41	4.6	2.0	2.3	1.6
27				1.1	1.2	.90	.36	.36	16	1.5	5.7	1.2
28				.97	.83	.83	.31	.56	5.7	1.3	5.5	1.2
29				.83	---	.69	.27	.41	13	1.2	3.4	.97
30				.83	---	.83	.23	.36	4.0	1.1	11	.90
31				.76	---	.62	---	.36	---	1.0	3.9	---
TOTAL				49.71	79.90	37.11	11.44	21.79	291.17	122.77	95.70	80.37
MEAN				1.60	2.85	1.20	.38	.70	9.71	3.96	3.09	2.68
MAX				26	23	8.3	1.2	4.4	130	27	20	15
MIN				.41	.69	.36	.19	.15	.27	.97	.51	.83
AC-FT				99	158	74	23	43	578	244	190	159

16893800 WICHEN RIVER AT ALTITUDE 18 M, MOBN--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
NOV 11...	1200	2.2	--	--	27.5	11	3.0	2.4	1.3	5.9	53	.8
SEP 17...	1350	.59	50	6.7	26.5	16	3.0	4.1	1.4	5.3	42	.6

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 11...	.2	8.0	5.0	6.0	<.1	12	38	.05	.17	120	10
SEP 17...	.2	13	<5.0	5.8	.3	14	--	--	<.10	130	9

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV 11...	1200	2.2	29.5	27.5
JUN 03...	1630	.66	28.5	26.0

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
SEP 17...	1350	.59	28.5	26.5

16897600 NANPIL RIVER

LOCATION.--Lat 06°55'09" N., long 158°11'59" E., Hydrologic Unit 20100006, on left bank 0.1 mi (0.2 km) upstream from diversion dam and 1.3 mi (2.1 km) upstream from Kiepw River.

DRAINAGE AREA.--3.00 mi² (7.77 km²).

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. Altitude of gage is 370 ft (113 m), from topographic map.

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

AVERAGE DISCHARGE.--12 years, 47.1 ft³/s (1.334 m³/s), 34,120 acre-ft/yr (42.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,820 ft³/s (250 m³/s) Aug. 4, 1976, gage height, 9.68 ft (2.950 m), from rating curve extended above 168 ft³/s (4.76 m³/s) on basis of slope-area measurement at gage height 9.68 ft (2.950 m); minimum, 1.6 ft³/s (0.045 m³/s) Nov. 17-23, 1972, Feb. 6, Oct. 21, 22, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 5,850 ft³/s (166 m³/s) May 8, gage height about 8.85 ft (2.697 m), no other peak above base of 3,200 ft³/s (90.6 m³/s); minimum, 2.2 ft³/s (0.062 m³/s) Apr. 13, 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	12	8.3	10	100	7.0	11	70	17	183	28	350
2	16	14	38	9.4	50	6.5	7.4	74	50	99	38	148
3	26	31	157	8.0	30	5.6	8.8	75	150	49	52	79
4	15	33	57	8.3	50	5.3	6.3	179	80	47	82	80
5	12	70	22	21	30	5.0	4.8	64	40	88	32	131
6	15	33	26	60	20	5.0	3.9	21	80	39	26	64
7	12	114	39	120	16	13	3.4	27	50	37	83	30
8	20	40	20	50	13	17	34	200	35	185	112	23
9	60	43	18	30	30	45	8.1	50	30	76	38	23
10	25	64	16	15	20	20	4.5	20	50	89	26	18
11	90	114	35	60	15	10	3.6	28	45	51	43	19
12	40	76	23	16	20	21	2.8	18	50	41	42	14
13	30	22	13	20	16	91	2.6	27	95	47	18	9.6
14	22	15	62	50	30	40	25	45	50	81	16	7.4
15	16	14	23	70	14	69	5.6	65	110	59	25	5.6
16	27	11	14	110	18	36	3.1	45	80	34	52	5.6
17	16	9.0	72	160	25	16	16	32	41	26	46	58
18	12	20	92	80	30	16	18	35	71	28	21	31
19	46	12	22	35	25	46	14	45	43	24	16	30
20	80	129	36	20	15	18	134	30	33	60	14	44
21	50	24	37	12	25	121	127	15	110	150	9.6	23
22	25	39	98	20	50	82	81	10	96	250	12	18
23	16	18	25	16	30	43	26	8.0	79	130	42	25
24	12	12	36	14	23	22	39	6.5	38	70	86	33
25	22	9.4	31	12	17	12	132	6.0	64	25	72	22
26	31	9.8	16	25	12	8.8	134	55	37	40	233	13
27	90	8.7	11	30	9.0	51	32	40	41	20	38	31
28	95	8.0	14	80	8.0	39	80	25	33	15	21	37
29	41	8.3	32	30	---	93	80	17	49	12	14	101
30	22	12	14	20	---	29	44	11	71	26	20	76
31	13	---	15	15	---	18	---	28	---	69	80	---
TOTAL	1027	1025.2	1122.3	1226.7	741.0	1011.2	1091.9	1371.5	1818	2150	1437.6	1529.2
MEAN	33.1	34.2	36.2	39.6	26.5	32.6	36.4	44.2	60.6	69.4	46.4	51.0
MAX	95	129	157	160	100	121	134	200	150	250	233	330
MIN	12	8.0	8.3	8.0	8.0	5.0	2.6	6.0	17	12	9.6	5.6
AC-FT	2040	2030	2230	2430	1470	2010	2170	2720	3610	4260	2850	3030

CAL YR 1981 TOTAL 12691.3 MEAN 34.8 MAX 280 MIN 5.1 AC-FT 25170
WTR YR 1982 TOTAL 15551.6 MEAN 42.6 MAX 330 MIN 2.6 AC-FT 30850

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 (91 m) upstream from right-bank tributary and 2.4 mi (3.9 km) upstream from mouth.

DRAINAGE AREA.--0.46 mi² (1.19 km²).

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. Altitude of gage is 290 ft (88 m), from topographic map.

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

AVERAGE DISCHARGE.--12 years, 5.64 ft³/s (0.160 m³/s), 4,090 acre-ft/yr (5.04 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,190 ft³/s (33.7 m³/s) Aug. 4, 1976, gage height, 5.92 ft (1.804 m), from rating curve extended above 37 ft³/s (1.05 m³/s), on basis of slope-area measurement at gage height 5.92 ft (1.804 m); minimum, 0.13 ft³/s (0.004 m³/s) Feb. 2-4, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 4	2030	720	20.4	4.80	1.463	July 1	1830	950	26.9	5.40	1.646
May 8	a0600	*1080	30.6	*5.70	1.737	Sept. 1	2230	583	16.5	4.39	1.338

Minimum discharge, 0.67 ft³/s (0.019 m³/s) Mar. 2.

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DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	2.8	1.5	1.4	16	.80	1.2	21	3.0	77	3.0	124
2	2.2	4.0	4.9	1.5	6.5	.67	.99	8.3	8.0	29	3.4	36
3	3.8	5.2	32	1.4	4.5	.70	1.1	17	25	9.8	7.3	18
4	2.1	5.9	11	1.4	8.0	.90	.93	59	8.0	7.8	16	22
5	1.7	7.4	3.3	2.1	5.0	1.0	.93	9.8	7.0	27	4.4	58
6	1.4	4.4	2.8	7.5	3.0	1.2	.93	4.0	14	5.5	2.4	15
7	1.9	23	3.6	22	2.5	1.5	.93	4.2	8.0	13	34	5.7
8	3.0	6.8	2.6	20	2.0	.93	2.9	63	6.0	55	31	3.7
9	10	6.0	3.2	5.0	5.0	4.3	.93	5.2	5.7	18	15	4.3
10	4.0	9.7	2.0	3.0	3.0	1.2	.93	3.2	8.7	15	6.1	3.2
11	15	22	6.8	9.0	2.4	.93	.99	8.5	8.4	8.1	12	2.8
12	10	11	4.0	2.5	3.2	2.3	.93	5.2	9.0	7.6	13	2.1
13	6.0	3.6	2.2	3.5	2.4	12	1.2	3.2	17	11	3.1	1.6
14	4.0	2.8	12	8.0	4.6	4.9	5.4	6.4	11	38	2.4	1.3
15	2.8	4.2	3.6	11	2.2	9.9	1.0	9.4	20	15	2.6	.97
16	3.9	2.6	2.2	19	3.0	3.6	.93	3.8	15	5.3	4.4	.97
17	2.1	2.0	8.2	25	4.5	1.5	5.4	2.4	8.7	3.7	3.4	15
18	1.7	3.1	15	11	6.0	1.4	2.4	1.9	10	3.1	1.5	3.2
19	8.5	2.4	3.9	6.0	4.0	3.0	1.6	1.9	5.7	4.8	1.1	2.6
20	12	12	4.7	3.0	2.4	1.7	16	6.9	4.0	2.6	1.5	3.6
21	6.2	3.6	4.4	2.0	4.0	14	18	3.4	25	19	.89	2.0
22	3.4	4.9	15	3.5	8.0	11	12	2.1	21	29	1.2	1.3
23	2.2	2.8	3.9	2.5	4.5	3.2	3.3	1.7	35	15	3.0	1.5
24	1.8	1.9	5.5	2.0	3.5	1.6	7.4	1.6	8.7	7.3	3.7	3.6
25	3.0	1.5	4.7	1.5	2.0	1.2	19	1.5	19	3.0	17	2.0
26	2.1	1.6	2.4	3.8	1.6	1.0	28	12	7.6	4.4	57	1.3
27	8.2	1.5	1.8	7.5	1.2	3.7	5.5	7.0	4.6	2.4	3.8	2.5
28	9.3	1.6	1.8	13	1.0	4.3	12	4.0	3.8	1.5	1.8	6.0
29	10	1.6	4.6	4.5	---	11	15	3.0	11	1.1	1.5	24
30	4.4	2.5	2.8	3.3	---	3.8	5.6	2.0	8.9	2.4	1.6	14
31	2.6	---	1.9	2.4	---	2.0	---	5.0	---	11	16	---
TOTAL	153.9	164.4	178.3	209.3	116.0	111.23	173.42	287.6	346.8	452.4	274.89	382.24
MEAN	4.96	5.48	5.75	6.75	4.14	3.59	5.78	9.28	11.6	14.6	8.87	12.7
MAX	15	23	32	25	16	14	28	63	35	77	57	124
MIN	1.4	1.5	1.5	1.4	1.0	.67	.93	1.5	3.0	1.1	.89	.97
AC-FT	305	326	354	415	230	221	344	570	688	897	545	758

CAL YR 1981 TOTAL 1670.46 MEAN 4.58 MAX 43 MIN .35 AC-FT 3310
WTR YR 1982 TOTAL 2850.48 MEAN 7.81 MAX 124 MIN .67 AC-FT 5650

16898200 LEWI RIVER AT MOUTH

LOCATION.--Lat 06°57'04" N., long 158°12'39" E., Hydrologic Unit 20100006, on right bank 0.3 mi (0.5 km) upstream from bridge at mouth and 0.4 mi (0.6 km) west southwest of Ponape State Hospital.

DRAINAGE AREA.--2.08 mi^2 (5.39 km^2).

PERIOD OF RECORD.--March 1970 to December 1981 (discontinued). Prior to October 1980, published as Lui River at mouth.

REVISED RECORDS.--WDR HI-76-1: 1970(P), 1971-75. WDR HI-81-2: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 30 ft (9.1 m), from topographic map.

REMARKS.--Records poor. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years, 25.5 ft^3/s (0.722 m^3/s), 18,470 acre-ft/yr (22.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,360 ft^3/s (180 m^3/s) Aug. 4, 1976, gage height, 8.91 ft (2.716 m), from rating curve extended above 288 ft^3/s (8.16 m^3/s) on basis of slope-area measurement at gage height 8.91 ft (2.716 m); minimum, 0.26 ft^3/s (0.007 m^3/s) Jan. 20, 1973, during short regulation of flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period October to December, 684 ft^3/s (19.4 m^3/s) Nov. 7, gage height, 3.94 ft (1.201 m), no other peak above base of 2,000 ft^3/s (56.6 m^3/s); minimum, 5.7 ft^3/s (0.161 m^3/s) Nov. 29, Dec. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1981 TO DECEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	12	6.2									
2	17	12	13									
3	25	13	90									
4	17	21	66									
5	12	16	20									
6	10	15	15									
7	12	111	17									
8	20	38	14									
9	60	25	13									
10	25	22	10									
11	90	110	20									
12	40	68	18									
13	25	22	11									
14	20	16	58									
15	15	18	18									
16	24	13	12									
17	13	10	27									
18	11	11	112									
19	38	9.4	20									
20	59	39	20									
21	34	16	18									
22	20	19	66									
23	14	13	20									
24	11	9.9	27									
25	15	8.6	22									
26	11	7.7	13									
27	21	6.8	9.9									
28	26	6.7	9.4									
29	26	6.3	18									
30	16	8.1	11									
31	10	---	8.6									
TOTAL	767	703.5	803.1									
MEAN	24.7	23.5	25.9									
MAX	90	111	112									
MIN	10	6.3	6.2									
AC-FT	1520	1400	1590									

CAL YR 1981 TOTAL 9058.9 MEAN 24.8 MAX 250 MIN 2.5 AC-FT 17970

16898600 LUHPWOR RIVER

LOCATION.--Lat 06°54'09" N., long 158°09'07" E., Hydrologic Unit 20100006, on left bank about 300 ft (91 m) upstream from 50-ft (15-m) waterfall, 0.2 mi (0.3 km) downstream from highway bridge, and 0.2 mi (0.3 km) west of Pwakorokot Hill.

DRAINAGE AREA.--0.72 mi² (1.86 km²).

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. Altitude of gage is 145 ft (44 m), from topographic map.

REMARKS.--Records poor. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 9.19 ft³/s (0.260 m³/s), 6,660 acre-ft/yr (8.21 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,090 ft³/s (87.5 m³/s) Aug. 4, 1976, gage height, 8.26 ft (2.518 m), from rating curve extended above 47 ft³/s (1.33 m³/s), on basis of estimate of peak flow; minimum, 0.40 ft³/s (0.011 m³/s) Feb. 18, 19, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 750 ft³/s (21.2 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 8	0600	*2140	60.6	*7.56	2.304
Aug. 7	0730	870	24.6	5.85	1.783

Minimum discharge, 1.2 ft³/s (0.034 m³/s) Apr. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	3.5	2.3	3.0	30	2.5	3.9	17	8.0	59	6.8	100
2	5.2	3.5	3.7	2.5	15	2.0	3.4	14	20	32	6.0	35
3	9.0	4.2	26	1.8	8.5	1.8	3.0	21	35	14	6.4	22
4	5.4	4.8	11	1.8	14	1.6	2.6	61	15	13	34	25
5	4.0	15	5.9	2.7	8.5	1.6	2.3	19	10	45	8.0	35
6	5.0	6.8	4.6	10	5.5	1.6	2.1	9.0	20	11	5.7	20
7	4.0	25	8.3	28	4.5	2.1	1.8	13	7.9	7.3	48	8.2
8	7.0	11	5.2	22	3.5	2.0	8.5	88	7.7	58	25	7.0
9	20	16	3.9	10	8.5	5.2	2.7	12	5.1	18	9.3	6.2
10	6.0	14	13	4.0	5.5	2.9	2.0	7.8	4.2	13	6.6	5.0
11	35	28	18	17	4.5	1.4	1.8	11	3.7	12	7.7	4.0
12	13	21	8.4	4.5	5.5	2.3	1.6	6.8	3.0	8.6	9.8	3.5
13	8.0	8.3	5.5	7.0	4.5	21	1.5	10	5.8	7.8	5.2	3.0
14	6.0	6.0	8.0	9.0	8.5	6.2	1.9	13	5.0	17	5.1	2.5
15	5.0	5.2	4.6	15	6.0	7.3	1.4	18	9.0	11	4.6	2.1
16	6.4	5.9	3.7	22	4.0	4.7	1.3	13	8.6	7.8	7.0	2.0
17	5.7	4.2	16	35	7.0	2.8	6.0	8.5	6.6	8.0	6.0	36
18	4.0	9.9	21	8.5	11	2.6	3.9	11	19	8.0	4.4	7.5
19	17	4.6	6.4	6.5	7.0	4.9	3.0	14	7.8	6.9	3.7	7.3
20	29	27	10	4.8	4.5	2.8	46	9.5	5.5	5.5	3.0	10
21	9.3	8.6	15	3.5	7.0	28	36	7.0	17	12	2.6	5.1
22	6.0	11	28	5.6	17	22	22	5.0	37	20	5.0	3.8
23	4.6	6.0	7.0	4.5	12	7.1	8.8	4.0	44	15	11	3.9
24	3.7	4.7	9.5	3.5	9.0	5.1	10	3.0	10	9.3	21	9.6
25	8.1	3.9	8.0	3.0	7.0	3.9	42	2.6	14	6.6	19	5.2
26	4.6	3.5	4.5	5.5	5.5	3.4	41	18	8.0	5.2	60	3.5
27	19	3.0	3.0	12	4.5	7.7	11	14	7.3	4.2	13	5.0
28	9.3	2.8	4.0	23	4.0	6.0	27	12	6.0	3.5	7.0	4.8
29	6.4	2.6	9.0	8.0	---	23	26	8.0	9.0	3.2	4.2	19
30	4.6	3.0	4.0	5.5	---	6.9	17	6.0	26	4.6	7.0	11
31	3.7	---	3.0	4.2	---	5.1	---	13	---	23	15	---
TOTAL	285.0	273.0	280.5	293.4	232.0	197.5	341.5	469.2	385.2	469.5	377.1	412.2
MEAN	9.19	9.10	9.05	9.46	8.29	6.37	11.4	15.1	12.8	15.1	12.2	13.7
MAX	35	28	28	35	30	28	46	88	44	59	60	100
MIN	3.7	2.6	2.3	1.8	3.5	1.4	1.3	2.6	3.0	3.2	2.6	2.0
AC-FT	565	541	556	582	460	392	677	931	764	931	748	818

CAL YR 1981 TOTAL 2986.21 MEAN 8.18 MAX 79 MIN .68 AC-FT 5920
WTR YR 1982 TOTAL 4016.10 MEAN 11.0 MAX 100 MIN 1.3 AC-FT 7970

16898690 LEHN MESI RIVER

LOCATION.--Lat 06°50'41" N., long 158°11'02" E., Hydrologic Unit 20100006, on left bank 3.2 mi (5.1 km) upstream from mouth, 1.7 mi (2.7 km) southwest of Mount Tolenpwoaipwoai, and 4.5 mi (7.2 km) south of Mount Temwetemwensekir.

DRAINAGE AREA.--2.31 mi² (5.98 km²).

PERIOD OF RECORD.--November 1981 to September 1982.

GAGE.--Water-stage recorder. Altitude of gage is 260 ft (79.2 m), from topographic map.

REMARKS.--Records fair. Periodic determinations of water temperature for the current year are published elsewhere in this report.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*), from rating curve extended above 126 ft³/s (38.4 m³/s):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Mar. 21	2200	3660	104	7.38	2.249	July 8	2330	3730	106	7.44	2.268
May 8	0700	*7740	219	*10.14	3.091	Aug. 7	0630	6090	172	9.17	2.795
June 21	1400	3970	112	7.64	2.329	Aug. 26	0100	3600	102	7.33	2.234

Minimum discharge, 16.0 ft³/s (0.453 m³/s) Apr. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, NOVEMBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		38	33	36	195	21	43	175	44	280	77	793
2		43	120	41	182	20	36	163	56	233	87	352
3		78	400	28	52	18	45	239	250	107	95	163
4		85	150	25	200	18	33	335	96	77	130	201
5		180	70	59	74	18	26	157	44	143	61	313
6		80	76	166	42	18	22	68	61	64	49	170
7		300	100	393	61	64	19	188	79	63	492	81
8		100	70	236	41	37	100	556	75	460	227	62
9		110	60	125	115	143	50	94	40	241	90	81
10		160	56	127	43	36	25	60	32	158	57	60
11		300	100	84	32	25	20	94	25	166	77	55
12		190	58	48	25	58	18	84	21	120	101	45
13		100	45	40	71	214	16	53	47	93	44	36
14		70	150	35	258	98	30	56	41	204	71	30
15		56	68	33	129	164	22	145	203	131	70	28
16		45	50	299	97	64	17	52	170	91	125	26
17		36	180	143	96	37	41	35	79	62	101	71
18		48	230	70	164	40	46	30	187	107	54	67
19		67	70	40	63	126	36	83	72	77	59	48
20		378	90	36	40	44	330	150	44	57	43	45
21		113	96	35	54	297	310	51	229	141	33	37
22		142	257	26	119	219	220	32	242	253	49	40
23		70	73	23	58	144	80	26	121	124	66	49
24		51	98	21	79	71	90	23	62	85	189	107
25		42	98	20	50	45	271	21	100	50	154	50
26		42	52	19	34	38	292	113	53	62	455	35
27		38	36	29	28	203	100	62	79	44	77	103
28		34	46	281	23	138	205	44	55	45	52	170
29		32	90	111	---	280	208	45	99	32	45	496
30		42	39	39	---	102	177	66	107	62	58	192
31		---	62	46	---	59	---	33	---	183	147	---
TOTAL		3070	3123	2714	2425	2859	2928	3333	2815	4015	3435	4006
MEAN		102	101	87.5	86.6	92.2	97.6	108	93.8	130	111	134
MAX		378	400	393	258	297	330	556	250	460	492	793
MIN		32	33	19	23	18	16	21	21	32	33	26
AC-FT		6090	6190	5380	4810	5670	5810	6610	5580	7960	6810	7950

16899500 MUTUNTE RIVER

LOCATION.--Lat 05°21'45" N., long 162°59'20" E., Hydrologic Unit 20100006, on left bank at dam, 0.6 mi (1.0 km) upstream from mouth, and 1.2 mi (1.9 km) north of Mount Mutunte.

DRAINAGE AREA.--0.52 mi² (1.35 km²).

PERIOD OF RECORD.--May 1971 to September 1982 (discontinued).

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 46 ft (14.0 m) from stadia survey.

REMARKS.--Records poor. Water is diverted from diversion dam above station through a 12-in (0.30-m) pipe for domestic use in Tafunsak. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years, 5.63 ft³/s (0.159 m³/s), 4,080 acre-ft/yr (5.03 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,430 ft³/s (40.5 m³/s) July 16, 1976, gage height, 2.94 ft (0.896 m), from rating curve extended above 140 ft³/s (3.96 m³/s); minimum, 0.15 ft³/s (0.004 m³/s) Feb. 15, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft³/s (17.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 10	1700	607	17.2	2.49	0.759	Jan. 30	2100	695	19.7	2.55	0.777
Nov. 15	1630	*1030	29.2	*2.74	.835	Mar. 13	2300	876	24.8	2.66	.811

Minimum discharge, 0.24 ft³/s (0.007 m³/s) Apr. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	1.3	1.5	6.4	3.6	1.5	4.5	4.0	2.1	4.0	3.7	13
2	2.3	1.6	2.0	23	46	1.4	3.8	3.2	1.5	15	5.7	6.1
3	1.8	3.4	1.6	5.4	7.7	1.4	3.0	6.5	8.0	17	3.0	5.4
4	6.2	2.8	1.4	6.7	4.1	1.5	2.7	2.3	6.6	9.4	2.0	11
5	4.2	1.5	4.1	19	3.0	1.5	2.1	2.0	2.5	5.9	1.7	14
6	2.3	1.5	26	9.3	2.5	2.5	1.7	1.5	1.8	8.4	1.8	11
7	1.6	1.8	3.6	10	4.7	9.0	1.2	1.5	2.8	2.7	3.6	5.2
8	1.5	1.3	1.9	20	2.7	2.0	3.2	8.1	2.0	3.4	1.8	3.6
9	4.2	4.9	1.5	7.5	6.3	2.7	2.4	3.0	1.5	3.7	1.6	3.4
10	3.2	60	1.4	5.4	2.7	3.0	1.2	1.8	1.5	4.6	2.0	3.2
11	4.4	9.2	6.6	6.0	2.3	2.5	.64	4.7	2.0	8.5	3.0	2.5
12	3.8	3.8	9.0	7.6	2.0	4.9	4.6	11	1.5	5.5	2.1	2.3
13	2.5	7.8	3.9	4.9	2.0	34	2.2	5.7	1.5	21	1.8	2.1
14	2.5	5.8	22	9.8	4.8	28	1.7	8.3	6.6	4.0	2.0	1.6
15	11	81	7.5	26	4.7	24	1.5	3.2	21	3.4	15	1.6
16	2.3	17	12	16	3.2	4.2	1.4	11	3.9	4.4	3.4	1.3
17	1.8	12	16	26	2.7	14	1.4	3.8	1.8	8.0	6.6	1.4
18	1.6	6.7	8.1	46	2.5	8.4	2.3	2.3	1.4	4.0	17	1.6
19	1.4	5.6	25	6.0	2.0	25	2.1	2.5	1.2	12	27	2.1
20	.95	4.9	12	8.5	1.8	4.5	11	1.8	1.8	20	4.7	1.4
21	.86	3.8	7.8	5.4	3.4	3.8	4.6	1.6	4.8	11	3.8	2.0
22	.86	5.9	6.7	3.4	2.1	3.0	14	1.5	3.4	4.7	2.7	1.6
23	.86	11	5.4	2.7	2.3	13	4.0	1.5	1.6	3.4	15	1.6
24	.95	3.6	5.2	2.7	2.5	3.8	2.7	1.4	9.8	2.3	26	2.7
25	2.4	2.3	4.9	2.1	1.8	2.5	9.9	1.5	6.8	2.3	30	1.4
26	1.0	1.6	4.7	2.5	1.6	17	3.2	2.4	2.7	2.1	6.4	2.8
27	1.0	1.3	4.7	2.5	1.6	8.7	2.1	1.5	1.5	3.0	4.1	5.9
28	.86	1.0	4.9	3.6	1.6	28	3.4	1.6	1.4	3.6	2.7	4.9
29	5.1	1.2	6.7	4.0	---	5.6	13	5.2	.95	8.1	4.2	3.4
30	2.4	1.6	6.5	47	---	16	8.7	3.4	.71	4.1	5.6	2.1
31	1.3	---	5.2	9.2	---	7.0	---	4.3	---	2.5	8.4	---
TOTAL	80.34	267.2	229.8	354.6	128.2	284.4	120.24	114.1	106.66	212.0	218.4	122.2
MEAN	2.59	8.91	7.41	11.4	4.58	9.17	4.01	3.68	3.56	6.84	7.05	4.07
MAX	11	81	26	47	46	34	14	11	21	21	30	14
MIN	.86	1.0	1.4	2.1	1.6	1.4	.64	1.4	.71	2.1	1.6	1.3
AC-FT	159	530	456	703	254	564	238	226	212	421	433	242

CAL YR 1981 TOTAL 1851.63 MEAN 5.07 MAX 81 MIN .64 AC-FT 3670
WTR YR 1982 TOTAL 2238.14 MEAN 6.13 MAX 81 MIN .64 AC-FT 4440

16899600 OKAT RIVER

LOCATION.--Lat 05°19'11" N., long 162°58'19" E., Hydrologic Unit 20100006, on left bank 0.6 mi (1.0 km) upstream from mouth and 0.9 mi (1.4 km) north of Mount Okat.

DRAINAGE AREA.--1.94 mi² (5.02 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1971 to current year.

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

GAGE.--Water-stage recorder. Altitude of gage is 13 ft (4.0 m), from topographic map.

REMARKS.--Records poor. No diversion above station.

AVERAGE DISCHARGE.--11 years, 22.2 ft³/s (0.629 m³/s), 16,080 acre-ft/yr (19.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,060 ft³/s (30.0 m³/s) Aug. 2, 1976, gage height, 8.22 ft (2.505 m), from rating curve extended above 230 ft³/s (6.51 m³/s); minimum, 1.4 ft³/s (0.040 m³/s) Mar. 11, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (19.8 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 10	1700	908	25.7	7.53	2.295	Mar. 15	0630	728	20.6	6.74	2.054
Nov. 15	1600	*1040	29.5	*8.02	2.444	Aug. 18	0100	790	22.4	7.05	2.149
Mar. 13	2300	766	21.7	6.93	2.112	Aug. 24	0600	726	20.6	6.73	2.051

Minimum discharge, 3.7 ft³/s (0.105 m³/s) Mar. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	6.3	10	16	25	5.4	34	29	11	25	18	32
2	10	7.0	10	81	144	5.1	25	21	10	63	22	31
3	9.6	16	10	12	54	5.1	19	47	50	96	17	25
4	45	30	11	14	36	4.8	15	20	26	61	14	67
5	35	14	19	34	27	4.6	11	16	14	38	12	64
6	11	12	58	35	20	5.5	8.2	14	18	54	11	57
7	9.6	21	16	42	30	8.7	7.0	22	40	37	13	33
8	9.3	12	12	61	17	5.1	37	52	20	43	9.3	23
9	8.9	15	8.5	34	28	5.4	25	29	13	30	7.8	18
10	9.6	188	10	24	16	5.4	12	16	16	36	11	16
11	27	91	19	22	10	10	9.3	49	28	34	11	13
12	13	45	35	16	8.2	6.3	18	54	15	40	7.8	11
13	9.3	35	30	14	7.8	23	10	39	10	69	7.4	10
14	8.9	37	89	17	19	73	8.9	46	33	29	7.8	9.0
15	36	209	30	74	28	96	6.7	26	66	33	63	8.4
16	8.5	104	38	57	10	28	6.3	57	30	31	13	7.6
17	7.8	68	53	96	7.8	38	5.4	32	25	45	17	11
18	7.4	48	30	202	7.4	35	5.4	29	18	28	164	12
19	7.0	40	69	48	7.4	75	6.0	21	17	54	161	9.6
20	6.3	32	50	57	7.0	29	45	16	23	92	52	7.0
21	6.0	31	35	36	7.0	19	16	14	22	58	37	8.4
22	5.7	41	23	27	6.7	15	68	12	15	39	26	7.0
23	5.7	37	18	20	13	65	30	12	10	31	92	7.4
24	9.3	25	14	19	9.2	18	19	20	35	24	117	11
25	14	19	11	14	6.7	11	47	13	51	23	119	6.8
26	7.0	17	9.3	13	6.3	33	25	27	19	19	51	10
27	6.7	14	8.2	11	6.0	26	16	16	14	25	32	35
28	6.3	13	8.8	21	5.7	213	18	12	11	25	23	40
29	25	13	11	17	---	58	69	16	16	48	20	20
30	23	11	6.3	85	---	71	36	13	9.3	37	28	13
31	9.3	---	6.3	43	---	49	---	12	---	23	33	---
TOTAL	408.2	1251.3	758.4	1262	570.2	1046.4	658.2	802	685.3	1290	1217.1	623.2
MEAN	13.2	41.7	24.5	40.7	20.4	33.8	21.9	25.9	22.8	41.6	39.3	20.8
MAX	45	209	89	202	144	213	69	57	66	96	164	67
MIN	5.7	6.3	6.3	11	5.7	4.6	5.4	12	9.3	19	7.4	6.8
AC-FT	810	2480	1500	2500	1130	2080	1310	1590	1360	2560	2410	1240

CAL YR 1981 TOTAL 9212.4 MEAN 25.2 MAX 308 MIN 3.7 AC-FT 18270
WTR YR 1982 TOTAL 10572.3 MEAN 29.0 MAX 213 MIN 4.6 AC-FT 20970

16899600 OKAT RIVER--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
NOV 02...	1205	5.8	93	26.5	38	4.0	7.8	4.6	3.8	17	.3

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 02...	.6	34	<5.0	11	.1	18	73	.10	.18	520	34

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV 02...	1205	5.8	--	26.5
JUN 11...	1335	12	29.0	27.0
SEP 08...	1335	20	30.0	27.0

16899620 MELO RIVER

LOCATION.--Lat 05°20'30" N., long 162°58'33" E., Hydrologic Unit 20100006, on left bank 0.5 mi (0.8 km) upstream from mouth and 1.3 mi (2.1 km) southwest of Mount Mutunte.

DRAINAGE AREA.--0.68 mi² (1.76 km²).

WATER-DISCHARGE RECORDS

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. Altitude of gage is 20 ft (6.1 m), from topographic map.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--7 years (water years 1975-79, 1981-82), 7.13 ft³/s (0.202 m³/s), 5,170 acre-ft/yr (6.37 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 784 ft³/s (22.2 m³/s) Mar. 22, 1976, gage height, 5.78 ft (1.762 m), from rating curve extended above 17 ft³/s (0.48 m³/s); minimum, 0.58 ft³/s (0.016 m³/s) Mar. 19, 20, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft³/s (8.50 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 10	1700	572	16.2	4.64	1.414	Mar. 13	2330	560	15.9	4.60	1.402
Nov. 15	1600	*706	20.0	*5.04	1.536	Mar. 15	0700	360	10.2	3.85	1.173
Jan. 30	2100	366	10.4	3.88	1.183	Mar. 28	0200	482	13.7	4.34	1.323
Feb. 2	0500	390	11.0	4.00	1.219	Aug. 25	0300	430	12.2	4.16	1.268

Minimum discharge, 1.0 ft³/s (0.028 m³/s) Mar. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.4	2.9	4.0	3.8	1.3	7.2	6.2	2.8	7.0	4.3	11
2	2.9	3.3	4.0	25	56	1.2	5.3	5.3	2.5	20	7.8	7.6
3	2.8	4.9	3.3	6.0	17	1.2	4.6	7.9	11	30	5.3	7.5
4	10	5.8	3.0	4.0	9.9	1.3	3.6	4.6	6.0	13	3.8	16
5	8.0	4.3	10	16	7.9	1.2	3.1	3.4	3.2	9.5	3.1	20
6	3.5	4.7	26	9.0	6.0	2.0	2.6	2.9	2.8	14	2.6	14
7	2.8	4.8	5.0	10	7.5	6.0	2.2	3.1	6.0	7.2	4.8	9.5
8	2.7	3.4	3.5	20	5.3	2.8	7.4	12	3.5	8.0	2.6	7.2
9	5.0	5.3	2.6	10	9.7	2.6	5.1	4.8	2.5	6.0	2.4	5.8
10	4.5	84	2.5	8.5	5.0	3.4	3.3	3.3	3.0	6.0	2.9	5.0
11	8.0	20	6.4	9.0	3.6	3.8	2.8	6.3	5.6	8.8	3.4	4.3
12	4.5	11	9.0	9.5	3.1	4.6	9.6	14	4.3	5.0	2.4	3.4
13	2.8	11	6.3	4.5	2.2	27	3.6	9.9	2.4	23	2.1	2.9
14	2.7	9.5	2.3	5.5	5.9	35	3.4	14	9.6	6.3	2.7	2.6
15	11	73	9.5	22	6.3	39	2.9	6.0	20	5.5	14	2.4
16	4.0	18	12	13	4.1	13	2.4	15	7.6	7.3	3.3	2.1
17	2.5	12	17	25	3.1	22	1.7	6.4	5.3	8.9	6.6	2.9
18	2.2	10	10	53	4.3	15	3.0	5.0	4.8	6.0	25	3.1
19	2.0	8.5	22	14	3.3	35	2.5	5.5	3.8	13	34	2.6
20	1.8	7.5	14	15	1.9	11	15	4.3	4.2	23	9.5	1.7
21	1.6	6.5	9.0	8.5	2.9	8.5	6.9	3.3	6.4	17	7.5	2.7
22	1.5	8.0	7.0	5.8	1.8	6.0	17	2.8	4.3	9.5	5.0	1.9
23	2.2	14	5.5	4.8	3.1	23	7.9	2.2	3.3	6.9	25	1.9
24	3.4	6.0	4.0	4.8	3.7	7.2	5.8	3.5	11	5.0	32	2.9
25	4.9	4.0	3.5	3.3	1.8	5.5	14	3.0	14	5.4	33	1.7
26	2.9	3.3	3.0	4.6	1.5	19	6.6	4.0	5.0	3.8	12	2.7
27	2.4	2.6	2.6	3.8	1.4	13	4.8	3.0	3.8	6.3	7.6	8.6
28	2.1	2.2	2.8	5.4	1.3	59	5.9	2.4	3.8	4.0	5.5	8.6
29	9.5	2.5	3.5	5.5	---	12	16	5.5	2.9	10	6.0	3.8
30	6.3	3.0	2.5	32	---	21	7.9	4.5	2.4	7.6	8.0	2.8
31	4.3	---	2.2	9.0	---	11	---	4.8	---	4.3	9.6	---
TOTAL	127.8	356.3	217.1	370.5	183.4	413.6	184.1	178.9	167.8	307.3	293.8	169.2
MEAN	4.12	11.9	7.00	12.0	6.55	13.3	6.14	5.77	5.59	9.91	9.48	5.64
MAX	11	84	26	53	56	59	17	15	20	30	34	20
MIN	1.5	2.2	2.2	3.3	1.3	1.2	1.7	2.2	2.4	3.8	2.1	1.7
AC-FT	253	707	431	735	364	820	365	355	333	610	583	336

CAL YR 1981 TOTAL 2757.34 MEAN 7.56 MAX 90 MIN .69 AC-FT 5470
WTR YR 1982 TOTAL 2969.80 MEAN 8.14 MAX 84 MIN 1.2 AC-FT 5890

16899620 MELO RIVER--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
NOV											
02...	0935	1.9	124	26.5	56	5.0	12	6.3	4.6	15	.3

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV											
02...	.7	51	5.0	2.6	.1	20	82	.11	.16	220	7

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV				
02...	0935	1.9	--	26.5
JUN				
11...	1555	3.0	28.0	26.5
SEP				
08...	1015	7.1	29.0	26.0

16899750 MALEM RIVER

LOCATION.--Lat 05°17'35" N., long 163°00'54" E., Hydrologic Unit 20100006, on left bank 0.9 mi (1.4 km) upstream from mouth and 2.0 mi (3.2 km) southeast of Mount Finkol.

DRAINAGE AREA.--0.76 mi^2 (1.97 km^2).

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 95 ft (29 m) from stadia survey.

REMARKS.--Records fair. Water is diverted through a 6-in (15-cm) pipe from dam above station for domestic use in village of Malem.

AVERAGE DISCHARGE.--9 years (1972-80), 7.17 ft^3/s (0.203 m^3/s), 5,190 acre-ft/yr (6.40 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,550 ft^3/s (43.9 m^3/s) Mar. 22, 1976, gage height, 6.20 ft (1.890 m), from rating curve extended above 110 ft^3/s (3.12 m^3/s); minimum, 0.14 ft^3/s (0.004 m^3/s) Nov. 20, 1974, during flushing at dam upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges during period March to September, above base of 350 ft^3/s (9.91 m^3/s), and annual maximum about 1,500 ft^3/s (42 m^3/s) Nov. 10, 1981, from comparsion of peak flows for nearby gaging stations:

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 10	a1600	a1500	42	--	--	July 3	1930	392	11.1	4.68	1.426
Mar. 13	2300	470	13.3	4.84	1.475	Aug. 18	0100	372	10.5	4.63	1.411
May 8	1000	415	11.8	4.73	1.442						

Minimum discharge, 0.84 ft^3/s (0.024 m^3/s) Mar. 5, 6, 10.

a About.

DISCHARGE, IN CUBIC FEET PER SECOND, MARCH TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						1.6	13	12	3.0	10	3.2	13
2						1.5	10	5.1	2.1	11	5.2	13
3						1.4	8.6	8.5	22	51	3.6	8.4
4						1.3	7.6	4.3	7.6	22	2.8	18
5						1.2	6.6	3.3	4.3	11	2.4	18
6						1.2	5.6	2.8	4.3	16	2.1	15
7						1.8	5.2	2.8	5.7	10	2.0	11
8						1.3	5.0	21	4.6	8.6	1.8	7.4
9						1.4	6.0	7.6	3.0	6.7	1.7	5.9
10						1.4	4.2	4.3	4.7	8.6	1.6	4.9
11						2.7	3.7	3.6	6.7	8.6	1.6	4.1
12						3.8	6.6	6.9	4.1	16	1.6	3.9
13						28	2.4	5.5	2.9	22	1.4	3.3
14						20	2.3	8.3	9.7	6.7	1.8	2.8
15						39	1.7	4.3	19	6.3	19	2.4
16						10	1.7	14	6.7	12	3.2	3.3
17						12	1.8	6.5	4.3	8.1	5.9	3.0
18						13	1.8	6.1	3.8	6.3	38	2.4
19						25	1.7	6.7	4.1	9.7	39	2.4
20						12	6.1	4.7	5.1	28	8.6	8.6
21						7.4	2.5	3.8	5.1	13	6.3	3.3
22						6.0	16	2.9	3.6	8.2	4.6	2.5
23						20	5.7	2.6	2.9	6.7	19	2.3
24						6.0	8.8	3.6	18	4.9	13	4.7
25						5.0	18	2.4	13	4.6	27	2.5
26						14	6.6	6.5	4.7	5.9	9.2	7.5
27						9.0	3.8	2.6	3.8	5.6	6.3	15
28						50	3.2	2.1	3.2	6.0	4.7	21
29						15	10	3.7	3.0	5.1	5.2	6.3
30						25	4.3	4.7	2.3	3.6	9.4	5.9
31						20	---	3.9	---	2.9	15	---
TOTAL						357.0	180.5	177.1	187.3	345.1	266.2	219.8
MEAN						11.5	6.02	5.71	6.24	11.1	8.59	7.33
MAX						50	18	21	22	51	39	21
MIN						1.2	1.7	2.1	2.1	2.9	1.4	2.3
AC-FT						708	358	351	372	685	528	436

16899750 MALEM RIVER--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
OCT 28...	1600	.75	116	7.8	28.0	48	.00	9.1	6.2	4.7	17	.3

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 28...	.7	53	<5.0	4.8	.1	25	76	.10	.17	28	3

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT 28...	1600	.75	29.5	28.0
JUN 09...	1225	2.7	28.0	26.5
JUL 06...	1510	12	33.0	28.0
JUL 21...	1000	14	26.0	25.0
AUG 17...	1020	1.6	31.0	25.5

16899800 TOFOL RIVER

LOCATION.--Lat 05°19'10" N., long 163°00'24" E., Hydrologic Unit 20100006, on left bank 25 ft (7.6 m) downstream from right-bank tributary, 0.9 mi (1.4 km) upstream from mouth, and 1.3 mi (2.1 km) northeast of Mount Finkol.

DRAINAGE AREA.--0.53 mi^2 (1.37 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 98 ft (29.9 m) from stadia survey.

REMARKS.--Records fair. Water is diverted through 8-in (20-cm) pipe from dam above station for domestic use.

AVERAGE DISCHARGE.--10 years (1971-79, 1981-82), 6.05 ft^3/s (0.171 m^3/s), 4,380 acre-ft/yr (5.40 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,560 ft^3/s (42.2 m^3/s) Nov. 10, 1981, gage height, 5.97 ft (1.820 m), from rating curve extended above 79 ft^3/s (2.24 m^3/s); minimum, 0.58 ft^3/s (0.016 m^3/s) Oct. 16, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 450 ft^3/s (12.7 m^3/s), and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 10	1600	*1560	44.2	*5.97	1.820	Mar. 28	0100	556	15.7	4.34	1.323
Nov. 15	1530	1170	33.1	5.41	1.649	Aug. 18	0100	564	16.0	4.36	1.329
Mar. 13	2330	472	13.4	4.13	1.259						

Minimum discharge, 1.1 ft^3/s (0.031 m^3/s) Mar. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	1.9	2.3	4.0	4.8	1.4	11	7.8	2.2	7.6	3.1	12
2	2.3	1.8	2.7	15	30	1.3	8.6	4.5	2.1	17	5.0	10
3	2.1	4.7	2.1	2.5	9.5	1.2	7.3	12	11	28	3.1	8.6
4	5.2	4.3	2.1	3.6	6.6	1.3	6.4	5.0	5.7	14	2.7	16
5	4.7	2.7	7.5	5.7	5.0	1.2	5.5	3.8	3.3	9.5	2.6	22
6	3.1	2.6	10	8.0	4.3	1.7	4.8	3.3	4.3	17	2.3	16
7	2.3	2.9	2.9	9.1	6.5	2.6	4.2	3.3	9.5	11	2.5	11
8	2.0	2.1	2.5	14	4.7	1.3	4.0	15	4.2	6.8	2.0	7.8
9	2.0	4.0	2.2	6.8	5.8	1.5	5.0	4.3	2.8	5.9	1.9	6.4
10	1.9	63	3.2	5.6	3.6	1.2	3.5	2.9	4.2	7.6	1.9	5.5
11	4.0	15	5.1	5.6	2.8	4.7	3.2	9.8	6.2	7.3	1.9	4.5
12	3.3	8.9	9.2	5.0	2.3	2.0	6.8	10	4.0	11	1.7	3.8
13	2.2	6.8	4.5	3.8	2.1	21	3.2	5.2	2.7	17	1.6	3.3
14	3.1	7.1	15	3.6	4.7	20	3.1	7.7	7.3	6.8	1.9	2.8
15	9.2	84	3.8	14	5.2	34	2.8	4.3	17	6.4	18	2.6
16	2.7	18	21	11	2.3	8.6	2.6	9.9	5.7	11	3.2	2.5
17	2.0	13	11	26	2.4	9.2	2.5	4.5	4.2	11	5.9	3.6
18	2.3	8.9	5.2	40	2.7	10	2.3	4.0	3.6	7.3	34	2.8
19	1.9	7.1	18	16	1.9	19	2.1	4.4	5.2	12	31	5.0
20	1.8	6.2	8.6	17	1.8	8.9	7.8	3.2	5.5	20	7.8	2.8
21	1.5	6.4	6.2	9.2	1.7	6.2	2.9	3.5	5.5	11	5.9	3.6
22	1.3	7.6	4.7	7.1	1.5	4.8	18	2.8	3.5	7.6	4.8	2.1
23	1.4	6.4	4.0	5.9	5.3	15	6.2	2.5	2.8	6.4	26	2.2
24	2.0	4.7	3.6	5.5	2.8	5.0	5.3	4.9	14	5.0	17	4.3
25	2.8	4.2	3.2	4.5	2.2	4.0	9.6	2.9	9.2	5.5	30	2.1
26	1.5	3.5	2.8	4.3	1.9	12	5.0	6.1	4.3	4.3	12	5.2
27	4.3	3.1	2.6	4.3	1.5	7.8	3.5	3.2	3.8	4.7	8.4	12
28	1.8	2.9	2.8	5.4	1.5	46	3.6	2.3	3.3	6.6	6.6	15
29	14	2.8	2.3	6.5	---	13	11	3.4	3.6	5.5	5.9	5.2
30	4.7	2.5	2.1	21	---	22	5.7	2.9	2.8	4.5	9.5	3.5
31	2.3	---	1.9	8.9	---	18	---	2.5	---	3.2	11	---
TOTAL	98.4	309.1	175.1	298.9	127.4	305.9	167.5	161.9	163.5	298.5	271.2	204.2
MEAN	3.17	10.3	5.65	9.64	4.55	9.87	5.58	5.22	5.45	9.63	8.75	6.81
MAX	14	84	21	40	30	46	18	15	17	28	34	22
MIN	1.3	1.8	1.9	2.5	1.5	1.2	2.1	2.3	2.1	3.2	1.6	2.1
AC-FT	195	613	347	593	253	607	332	321	324	592	538	405

CAL YR 1981 TOTAL 2273.86 MEAN 6.23 MAX 95 MIN .82 AC-FT 4510
WTR YR 1982 TOTAL 2581.60 MEAN 7.07 MAX 84 MIN 1.2 AC-FT 5120

16899800 TOFOL RIVER--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
OCT 29...	1000	8.3	82	7.3	26.0	35	10	7.7	3.9	3.4	17	.3

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 29...	1.0	25	6.0	3.5	.1	18	59	.08	.17	110	4

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT 29...	1000	8.3	27.0	26.0
JUN 10...	1535	3.7	28.0	26.0
JUL 08...	1410	7.4	30.0	26.5
AUG 04...	1030	2.9	29.0	25.5
18...	1000	7.3	30.0	25.0
31...	1010	8.8	--	25.5

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 (0.3 km) south of Afono and 0.3 mi (0.5 km) upstream from mouth.

DRAINAGE AREA.--0.60 mi² (1.55 km²).

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. Altitude of gage is 30 ft (9 m), from topographic map.

REMARKS.--Records good. About 0.06 ft³/s (0.002 m³/s) is diverted above station for domestic use in Afono. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--23 years (water years 1960-82), 3.54 ft³/s (0.100 m³/s), 2,560 acre-ft/yr (3.16 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,350 ft³/s (38.2 m³/s) July 5, 1969, gage height, 5.49 ft (1.673 m), from rating curve extended above 52 ft³/s (1.47 m³/s); minimum, 0.15 ft³/s (0.004 m³/s) Oct. 25, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 210 ft³/s (5.95 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 5	0330	330	9.35	3.70	1.128	Dec. 30	0945	650	18.4	4.48	1.366
Nov. 4	2200	586	16.6	4.34	1.323	Jan. 18	0630	285	8.07	3.55	1.082
Nov. 30	2230	252	7.14	3.44	1.049	Feb. 6	1030	*660	18.7	*4.50	1.372

Minimum discharge, 0.16 ft³/s (0.005 m³/s) July 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.84	2.0	19	29	1.3	35	4.2	.28	.76	.33	.33	2.7
2	.76	1.8	6.5	15	1.2	7.9	1.8	.24	14	.33	.92	2.6
3	.76	56	5.7	6.7	3.8	4.7	1.2	.24	2.7	.33	.43	6.0
4	5.1	49	8.3	5.2	39	3.4	1.0	.24	1.6	.33	.33	3.4
5	31	11	5.7	3.8	21	2.9	1.0	.24	1.3	.33	1.2	2.4
6	4.0	6.2	4.5	3.1	109	2.7	.92	.28	1.0	.28	.92	32
7	2.6	9.0	3.1	2.4	27	2.4	.84	.75	.92	.33	.43	13
8	24	4.5	2.7	2.2	17	2.3	.84	.38	.84	.33	3.8	5.4
9	5.7	2.9	2.6	1.9	30	1.9	.84	1.0	.76	.49	1.8	4.5
10	15	5.1	2.6	1.8	8.3	1.8	.84	.62	.69	1.8	1.3	9.1
11	14	5.9	2.4	1.6	7.9	1.8	.76	.38	.62	14	8.1	4.0
12	6.7	4.2	2.2	1.6	5.7	1.9	.69	.33	.62	2.4	11	2.4
13	4.0	4.5	2.3	1.6	4.5	1.8	.69	.33	.55	.90	6.5	2.0
14	3.1	11	3.4	1.5	3.4	1.6	.67	.33	.55	.50	4.2	1.8
15	2.4	5.9	3.6	1.4	2.7	1.5	.69	.28	.55	.43	2.3	1.5
16	1.9	3.4	15	1.4	2.4	1.4	.62	.28	.49	.38	1.9	1.3
17	1.8	2.3	3.8	2.3	2.4	1.4	.55	8.2	.49	.33	1.4	1.1
18	1.5	2.0	2.9	46	3.8	1.4	.49	5.0	.55	.28	1.0	1.1
19	3.0	3.4	2.4	19	4.0	1.3	.49	6.5	.49	.24	.84	1.0
20	2.0	2.2	4.0	4.0	2.9	1.3	.55	14	.49	.24	.76	1.0
21	3.4	1.8	11	2.9	4.9	1.2	.62	2.3	.49	.24	1.5	1.6
22	3.8	7.6	4.7	2.4	4.0	1.2	.49	1.9	.49	.24	1.3	1.3
23	7.6	17	25	7.8	2.4	1.1	.49	1.2	.43	.24	25	1.2
24	5.9	4.0	13	3.8	2.2	1.2	.55	1.0	.43	.28	48	1.1
25	3.5	2.6	7.0	2.4	2.0	1.4	.49	.84	.76	.24	8.7	1.0
26	3.1	2.0	4.2	2.2	2.4	1.2	.43	.76	.49	.20	4.2	.92
27	2.6	4.0	4.3	1.9	2.7	1.1	.38	1.2	.49	.20	3.1	.92
28	3.3	3.6	5.7	1.8	15	3.1	.33	.92	1.0	.38	2.6	1.0
29	2.3	2.2	13	1.5	---	2.2	.33	.76	.49	.33	16	.92
30	2.6	14	71	1.7	---	1.6	.33	.62	.38	.24	8.5	.92
31	2.3	---	86	1.5	---	10	---	.77	---	.24	3.8	---
TOTAL	170.56	251.1	347.6	181.4	332.9	105.7	24.12	52.17	35.42	27.41	172.16	109.18
MEAN	5.50	8.37	11.2	5.85	11.9	3.41	.80	1.68	1.18	.88	5.55	3.64
MAX	31	56	86	46	109	35	4.2	14	14	14	48	32
MIN	.76	1.8	2.2	1.4	1.2	1.1	.33	.24	.38	.20	.33	.92
AC-FT	338	498	689	360	660	210	48	103	70	54	341	217

CAL YR 1981 TOTAL 2160.80 MEAN 5.92 MAX 104 MIN .76 AC-FT 4290
WTR YR 1982 TOTAL 1809.72 MEAN 4.96 MAX 109 MIN .20 AC-FT 3590

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 (61 m) upstream from mouth.

DRAINAGE AREA.--1.03 mi^2 (2.67 km^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. Altitude of gage is 5 ft (1.5 m) by hand levels from high-tide mark.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Small diversion above station 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.--23 years (water years 1960-82), 6.20 ft^3/s (0.176 m^3/s), 4,490 acre-ft/yr (5.54 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 498 ft^3/s (14.1 m^3/s) Sept. 7, 1972, gage height, 5.16 ft (1.573 m), from rating curve extended above 20 ft^3/s (0.57 m^3/s) on basis of slope-area measurement at gage height 4.57 ft (1.393 m); minimum, 0.12 ft^3/s (0.003 m^3/s) Oct. 21, 23, 24, 27, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 180 ft^3/s (5.10 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 10	1500	*392	11.1	*4.72	1.439
Dec. 31	0015	188	5.32	3.55	1.082
Feb. 6	2230	265	7.50	4.05	1.234

Minimum discharge, 0.95 ft^3/s (0.026 m^3/s) July 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	7.6	14	26	3.4	32	3.8	1.8	8.4	1.2	2.7	9.5
2	2.4	13	16	20	3.0	20	2.5	1.7	20	1.1	3.0	8.4
3	2.7	8.8	13	15	5.2	13	2.2	1.6	11	1.1	2.1	9.2
4	11	15	15	13	28	14	1.9	1.5	7.0	1.1	2.0	7.0
5	25	16	17	13	26	12	4.5	1.4	6.0	1.0	4.4	7.0
6	12	12	13	10	54	9.8	3.2	1.4	5.0	1.0	3.0	29
7	9.8	11	11	8.8	50	12	2.4	1.7	4.5	.95	2.3	20
8	13	10	9.5	7.4	38	8.8	2.5	3.0	4.0	1.0	5.6	15
9	11	14	8.4	8.4	37	7.8	2.7	4.0	3.6	1.8	3.8	14
10	18	32	7.8	6.4	24	6.7	3.9	2.2	3.4	6.4	5.3	19
11	15	19	8.1	6.1	18	6.1	2.7	3.0	3.2	20	8.0	13
12	12	14	6.4	5.5	14	5.5	2.4	1.8	3.0	7.8	14	10
13	9.8	12	6.7	4.6	13	5.2	2.2	1.7	2.7	4.9	11	9.2
14	10	21	9.5	4.6	10	4.3	2.2	1.6	2.5	4.0	9.0	8.1
15	8.8	15	8.1	4.6	8.8	4.0	2.2	1.5	2.2	3.8	7.4	7.0
16	8.1	12	12	3.8	8.1	3.8	2.2	1.5	2.1	3.6	8.8	6.7
17	6.7	10	8.1	3.8	8.1	3.6	2.1	8.4	2.1	3.4	7.8	5.8
18	6.4	10	6.4	6.5	12	3.4	2.1	4.5	2.1	3.2	6.7	5.2
19	8.1	9.5	5.8	4.6	9.4	3.0	2.1	5.7	1.8	3.0	5.5	4.3
20	6.4	10	6.4	4.0	11	3.0	2.1	7.6	2.1	2.8	5.5	3.8
21	11	8.4	6.4	3.4	15	2.8	1.9	6.0	1.8	2.5	31	4.0
22	12	9.2	6.3	3.2	9.8	2.7	1.8	5.0	1.6	2.4	20	3.4
23	9.2	16	14	4.9	8.4	2.7	1.8	4.6	1.5	2.2	33	3.0
24	8.1	9.8	7.8	6.6	7.4	2.7	2.5	4.8	1.5	2.4	53	2.8
25	9.7	8.4	6.4	5.8	8.4	3.0	1.9	4.0	2.1	2.1	30	2.7
26	9.5	7.4	5.5	4.0	15	2.4	1.7	3.2	1.6	2.0	20	2.5
27	8.1	13	6.8	3.7	14	2.1	1.6	3.1	1.4	1.8	16	2.4
28	7.0	9.5	6.8	3.6	21	3.8	1.7	2.8	2.2	2.6	13	3.0
29	7.0	9.1	25	3.4	---	2.4	2.1	2.6	1.5	2.1	18	2.7
30	7.4	11	25	3.6	---	1.9	1.9	2.4	1.4	1.8	15	3.8
31	6.4	---	55	3.6	---	5.6	---	2.6	---	2.2	11	---
TOTAL	294.3	373.7	367.2	221.9	480.0	210.1	70.8	98.7	113.3	97.25	377.9	241.5
MEAN	9.49	12.5	11.8	7.16	17.1	6.78	2.36	3.18	3.78	3.14	12.2	8.05
MAX	25	32	55	26	54	32	4.5	8.4	20	20	53	29
MIN	2.4	7.4	5.5	3.2	3.0	1.9	1.6	1.4	1.4	.95	2.0	2.4
AC-FT	584	741	728	440	952	417	140	196	225	193	750	479

CAL YR 1981 TOTAL 3325.40 MEAN 9.11 MAX 64 MIN 1.6 AC-FT 6600
WTR YR 1982 TOTAL 2946.65 MEAN 8.07 MAX 55 MIN .95 AC-FT 5840

NOTE.--No gage-height record Apr. 24 to June 9, July 26 to Aug. 16.

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 (30 m) upstream from highway bridge, and 300 ft (91 m) upstream from mouth.

DRAINAGE AREA.--0.24 mi^2 (0.62 km^2).

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

REVISED RECORDS.--WSP 1937: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 20 ft (6 m) by hand levels from high-tide mark.

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

AVERAGE DISCHARGE.--23 years (water years 1960-82), 1.48 ft^3/s (0.042 m^3/s), 1,070 acre-ft/yr (1.32 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 815 ft^3/s (23.1 m^3/s) Oct. 28, 1979, gage height, 4.47 ft (1.362 m), from rating curve extended above 30 ft^3/s (0.85 m^3/s); minimum, 0.04 ft^3/s (0.001 m^3/s) Oct. 24-26, Oct. 28-31, Nov. 1, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 180 ft^3/s (5.10 m^3/s) revised, and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 4	1900	280	7.93	3.06	0.930	Dec. 1	2300	182	5.15	2.63	0.800
Nov. 10	1500	*327	9.26	*3.24	.985	Feb. 4	1430	275	7.79	3.04	.924
Nov. 23	0130	292	8.27	3.11	.945	Feb. 6	a2200	235	6.66	2.88	.876
Nov. 27	1300	191	5.41	2.68	.815						

Minimum discharge, 0.15 ft^3/s (0.004 m^3/s) May 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	1.1	6.1	2.5	.30	13	.94	.21	.30	.44	.59	1.6
2	.27	3.0	8.9	1.9	.27	3.3	.44	.19	3.5	.49	.64	2.1
3	.33	1.2	2.6	1.4	1.5	2.1	.40	.19	.74	.64	.49	6.3
4	4.8	17	3.3	.94	23	1.6	.36	.19	.49	.74	.49	2.2
5	16	5.6	7.8	2.6	15	1.3	.40	.19	.33	.49	.85	1.8
6	2.5	2.5	3.8	.87	27	1.2	.36	.19	.30	.44	.59	18
7	1.3	2.0	2.1	.64	16	2.3	.36	.17	.27	.49	.40	5.8
8	1.3	1.6	1.6	.49	14	1.3	.30	.17	.27	.59	.54	3.1
9	1.2	1.6	1.3	2.2	11	1.0	.30	.27	.27	.92	.59	2.5
10	4.4	15	1.3	.64	6.0	.87	.33	.30	.24	5.3	.80	2.0
11	3.9	4.5	.94	.49	3.6	.87	.27	.38	.24	12	1.3	2.1
12	1.9	2.2	5.2	.44	2.5	.74	.27	.21	.27	2.0	3.2	1.8
13	1.6	1.6	1.3	.39	2.7	.69	.27	.19	.24	.94	1.9	1.6
14	1.2	3.1	6.1	.40	1.6	.64	.24	.19	.21	.59	1.0	1.5
15	.87	4.8	1.9	.81	1.2	.59	.21	.19	.21	.49	.74	1.2
16	.74	2.1	1.6	.33	1.5	.59	.21	.19	.24	.40	1.3	1.2
17	.69	1.4	1.1	.75	2.8	.59	.21	2.7	.21	.36	1.1	1.2
18	.59	1.2	.74	.94	2.0	.54	.24	1.3	.21	.36	.74	1.0
19	6.1	1.8	.64	7.2	1.6	.54	.27	2.2	.24	.40	.59	1.0
20	1.6	1.3	.64	1.1	4.1	.49	.27	3.0	.24	.36	.59	.94
21	1.6	1.0	.54	.90	3.4	.49	.33	1.0	.21	.36	18	.87
22	1.6	7.5	.98	.54	1.9	.44	.21	.69	.21	.36	3.5	.80
23	1.6	11	6.5	1.6	1.3	.44	.24	.54	.19	.40	9.4	.74
24	1.2	1.9	.94	2.9	1.1	.44	.52	.30	.19	.59	23	.80
25	1.1	1.3	.59	1.3	1.1	1.1	.19	.19	.30	.49	5.2	.80
26	1.1	.94	.49	.94	5.6	.44	.17	.19	.24	.36	2.6	.80
27	.94	6.5	2.0	.54	2.2	.40	.17	.19	.21	.36	2.1	.69
28	.80	1.6	.74	.40	9.4	1.2	.19	.17	.30	.47	1.6	1.1
29	1.9	1.0	2.2	.33	---	.49	.34	.17	.40	.36	5.8	.87
30	1.8	1.8	6.2	.33	---	.40	.27	.17	.54	.40	3.9	1.1
31	1.1	---	9.2	.33	---	1.3	---	.15	---	.40	1.9	---
TOTAL	66.27	109.14	89.34	37.14	163.67	41.39	9.28	16.38	11.81	32.99	95.44	68.11
MEAN	2.14	3.64	2.88	1.20	5.85	1.34	.31	.53	.39	1.06	3.08	2.27
MAX	16	17	9.2	7.2	27	13	.94	3.0	3.5	12	23	18
MIN	.24	.94	.49	.33	.27	.40	.17	.15	.19	.36	.40	.69
AC-FT	131	216	177	74	325	82	18	32	23	65	189	135

CAL YR 1981 TOTAL 790.98 MEAN 2.17 MAX 36 MIN .17 AC-FT 1570
WTR YR 1982 TOTAL 740.96 MEAN 2.03 MAX 27 MIN .15 AC-FT 1470

16931500 ASILI STREAM AT ALTITUDE 330 FT (100 M) NEAR ASILI

LOCATION.--Lat 14°19'34" S., long 170°47'38" W., Hydrologic Unit 20100001, on right bank 1.3 mi (2.1 km) northwest of Leone, 1.5 mi (2.4 km) southwest of Aoloaufou and 0.8 mi (1.2 km) upstream from mouth.

DRAINAGE AREA.--0.32 mi^2 (0.83 km^2).

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

GAGE.--Water-stage recorder. Altitude of gage is 330 ft (100 m), from topographic map.

REMARKS.--Records good. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--5 years, 2.76 ft^3/s (0.078 m^3/s), 2,000 acre-ft/yr (2.47 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 635 ft^3/s (18.0 m^3/s), Oct. 28, 1980, gage height, 4.73 ft (1.442 m), from rating curve extended above 14 ft^3/s (0.40 m^3/s); minimum, 0.41 ft^3/s (0.012 m^3/s) May 7, 16, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 402 ft^3/s (11.4 m^3/s) Nov. 10, gage height, 4.19 ft (1.277 m), from rating curve extended above 14 ft^3/s (0.40 m^3/s), no other peak above base of 205 ft^3/s (5.81 m^3/s); minimum, 0.41 ft^3/s (0.012 m^3/s) May 7, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.81	2.4	6.4	7.6	1.1	12	1.1	.48	1.8	.51	1.1	2.5
2	.74	4.1	9.0	5.4	.98	6.0	.74	.48	6.6	.51	1.1	3.6
3	.89	2.2	5.7	4.0	2.6	4.0	.71	.46	2.6	.48	.74	7.0
4	6.3	8.0	5.6	3.4	18	2.8	.67	.46	1.8	.48	.74	4.0
5	11	6.9	7.0	4.6	14	2.4	1.1	.44	1.6	.48	2.0	3.6
6	5.2	4.8	6.0	2.8	21	1.8	1.7	.44	1.3	.46	1.1	13
7	3.2	4.1	4.2	2.2	15	3.4	.71	.51	1.2	.46	.91	8.8
8	3.6	3.3	3.1	1.9	14	2.2	.67	.72	1.2	.75	2.0	6.0
9	2.6	4.7	2.5	1.9	13	2.2	.80	1.1	1.1	1.6	1.4	5.0
10	6.2	16	2.4	1.6	7.1	1.7	.88	.59	.98	5.9	2.0	5.6
11	5.3	8.0	1.9	1.8	5.0	1.6	.64	.95	.91	10	2.4	3.9
12	3.6	5.4	3.0	1.7	3.8	1.5	.61	.48	.91	4.8	5.1	3.0
13	3.5	4.6	1.7	1.4	4.0	1.4	.61	.46	.84	2.7	3.8	2.6
14	2.6	7.4	4.2	1.2	2.5	1.3	.58	.46	.81	2.0	2.8	2.2
15	2.1	5.8	3.3	1.6	1.9	1.2	.58	.46	.78	1.7	2.4	1.8
16	1.8	4.6	2.7	1.1	2.0	1.3	.58	.46	.78	1.5	3.0	1.7
17	1.6	3.5	2.2	2.2	2.7	1.1	.56	2.2	.74	1.3	2.2	1.5
18	1.6	3.3	1.7	2.2	2.3	1.1	.56	1.5	.71	1.2	1.8	1.4
19	4.0	3.2	1.6	4.0	1.9	1.0	.53	3.2	.67	1.1	1.6	1.3
20	3.2	2.2	2.0	1.9	2.3	1.0	.53	3.8	.64	.95	1.4	1.2
21	3.8	1.8	1.6	1.7	2.8	.91	.62	1.7	.61	.91	10	1.3
22	4.9	2.7	1.4	1.6	2.2	.88	.56	1.3	.58	.88	6.3	1.0
23	5.1	4.9	4.6	2.4	1.8	.84	.57	1.1	.58	.81	12	.95
24	3.5	3.0	1.6	3.0	1.6	.95	.97	1.3	.56	.85	19	.91
25	3.9	2.1	1.4	1.8	1.8	1.3	.53	.95	.75	.81	9.1	.88
26	3.3	1.6	1.3	1.6	5.2	.81	.51	.88	.58	.74	6.2	.84
27	2.6	4.8	3.5	1.4	3.4	.78	.51	.88	.56	.71	4.5	.81
28	2.2	2.9	3.1	1.3	8.0	1.9	.51	.81	.94	1.0	3.1	1.1
29	2.2	2.3	6.7	1.2	---	.88	.80	.78	.53	.78	4.4	.84
30	2.2	3.6	12	1.2	---	.81	.51	.74	.53	.67	4.3	1.7
31	2.1	---	14	1.3	---	2.0	---	1.0	---	.71	3.0	---
TOTAL	105.64	134.4	127.4	73.0	161.98	63.06	20.95	31.09	34.19	47.75	121.49	90.03
MEAN	3.41	4.48	4.11	2.35	5.79	2.03	.70	1.00	1.14	1.54	3.92	3.00
MAX	11	16	14	7.6	21	12	1.7	3.8	6.6	10	19	13
MIN	.74	1.8	1.3	1.1	.98	.78	.51	.44	.53	.46	.74	.81
AC-FT	210	267	253	145	321	125	42	62	68	95	241	179

CAL YR 1981 TOTAL 1165.54 MEAN 3.19 MAX 28 MIN .67 AC-FT 2310
WTR YR 1982 TOTAL 1010.98 MEAN 2.77 MAX 21 MIN .44 AC-FT 2010

16933500 LEAFU STREAM AT ALTITUDE 370 FT (113 M) NEAR LEONE

LOCATION.--Lat 14°19'31" S., long 170°46'50" W., Hydrologic Unit 20100001, on left bank 900 ft (274 m) upstream from village stream intake, 1.1 mi (1.8 km) north of Leone, and 1.0 mi (1.6 km) southwest of Aoloaufou.

DRAINAGE AREA.--0.31 mi² (0.80 km²).

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

REVISED RECORDS.--WDR HI-79-2: 1978 (P).

GAGE.--Water-stage recorder. Altitude of gage is 370 ft (113 m), from topographic map.

REMARKS.--Records good. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--5 years, 4.99 ft³/s (0.141 m³/s), 3,620 acre-ft/yr (4.46 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 370 ft³/s (10.48 m³/s) Mar. 17, 1981, gage height, about 6.4 ft (1.95 m), from rating curve extended above 48 ft³/s (1.36 m³/s); minimum, 0.66 ft³/s (0.019 m³/s) July 6, 1982.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 160 ft³/s (4.53 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 4	0400	192	5.44	4.62	1.408	Feb. 6	1130	a197	5.58	a4.67	1.423
Nov. 2	0600	a230	6.51	a5.00	1.524	Feb. 26	1830	195	5.52	4.65	1.417
Nov. 4	2015	233	6.60	5.03	1.533	May 17	1915	205	5.81	4.75	1.448
Nov. 10	1530	*358	10.1	*6.28	1.914	June 2	0715	172	4.87	4.42	1.347
Nov. 27	1330	185	5.24	4.55	1.387	Sept. 6	1230	172	4.87	4.42	1.347
Dec. 30	2345	a190	5.38	a4.60	1.402						

Minimum discharge, 0.66 ft³/s (0.019 m³/s) July 6.

a About.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	6.7	8.1	24	1.9	29	2.1	.82	9.4	.78	1.6	4.8
2	1.2	16	14	15	1.7	16	1.5	.78	21	.78	1.7	6.2
3	1.4	8.1	8.3	9.2	3.7	10	1.3	.78	7.6	.74	1.2	13
4	11	21	10	6.8	31	6.6	1.2	.74	5.6	.74	1.2	6.1
5	25	17	13	7.1	30	5.5	1.9	.74	4.4	.70	2.9	6.0
6	9.8	11	11	4.9	51	4.2	1.6	.74	3.6	.70	1.7	37
7	6.2	9.0	7.4	4.1	44	5.4	1.3	.94	3.1	.70	1.4	24
8	7.2	6.2	6.2	3.5	38	3.4	1.5	1.8	2.7	1.3	4.0	15
9	5.4	9.6	5.2	3.7	34	3.3	1.6	2.3	2.4	2.5	2.5	11
10	12	27	4.8	2.8	20	3.3	2.4	1.1	2.0	12	3.2	13
11	9.2	17	4.0	2.7	13	2.7	1.4	1.8	1.9	25	4.5	7.9
12	6.9	12	4.6	2.5	8.6	2.3	1.4	.94	1.9	8.3	9.3	6.2
13	5.7	8.5	3.5	2.2	7.5	2.0	1.3	.86	1.6	5.6	6.6	5.1
14	5.5	14	6.0	2.0	5.1	1.9	1.3	.78	1.5	4.3	5.5	4.3
15	4.0	12	5.3	2.7	4.0	1.8	1.2	.74	1.4	3.5	4.7	3.7
16	3.4	8.8	4.9	1.9	5.1	1.8	1.2	.82	1.4	3.0	5.4	3.3
17	3.0	6.8	3.6	3.6	4.2	1.7	1.2	9.7	1.3	2.8	4.8	2.8
18	2.8	5.9	3.2	3.0	4.6	1.7	1.2	3.9	1.3	2.3	3.8	2.4
19	5.8	6.7	3.0	3.1	3.4	1.6	1.2	6.5	1.2	2.0	3.2	2.2
20	3.3	5.6	4.4	2.2	5.2	1.7	1.1	8.7	1.2	1.8	2.8	1.9
21	5.2	4.0	3.4	2.0	6.9	1.4	1.2	4.0	1.1	1.6	28	2.0
22	7.0	3.7	2.7	1.9	4.1	1.4	1.1	3.2	1.0	1.4	17	1.7
23	7.2	8.2	7.2	3.8	3.6	1.4	1.3	2.8	.98	1.3	30	1.6
24	5.5	5.9	4.3	5.8	3.2	1.4	1.4	3.0	.94	1.6	49	1.4
25	6.6	4.3	3.1	3.2	3.6	9.3	1.0	2.2	1.5	1.3	28	1.4
26	5.5	3.8	2.8	2.6	12	1.3	.94	2.0	.98	1.2	15	1.4
27	4.6	9.9	5.0	2.3	7.2	1.2	.90	2.0	.94	1.1	8.6	1.2
28	3.9	5.5	8.5	1.7	19	3.3	.94	1.7	1.5	1.7	5.9	2.2
29	4.7	4.5	25	2.2	---	1.4	1.2	1.6	.94	1.3	14	1.5
30	4.8	5.7	27	2.0	---	1.2	.90	1.4	.82	1.0	7.6	4.2
31	6.9	---	39	2.1	---	3.8	---	1.5	---	1.2	5.6	---
TOTAL	191.9	284.4	258.5	136.6	375.6	133.0	39.78	70.88	87.20	94.24	280.7	194.5
MEAN	6.19	9.48	8.34	4.41	13.4	4.29	1.33	2.29	2.91	3.04	9.05	6.48
MAX	25	27	39	24	51	29	2.4	9.7	21	25	49	37
MIN	1.2	3.7	2.7	1.7	1.7	1.2	.90	.74	.82	.70	1.2	1.2
AC-FT	381	564	513	271	745	264	79	141	173	187	557	386

CAL YR 1981 TOTAL 2472.40 MEAN 6.77 MAX 85 MIN 1.0 AC-FT 4900
WTR YR 1982 TOTAL 2147.30 MEAN 5.88 MAX 51 MIN .70 AC-FT 4260

16948000 APUBLO STREAM AT MATUU

LOCATION.--Lat 14°18'07" S., long 170°41'07" W., Hydrologic Unit 20100001, on left bank 0.2 mi (0.3 km) northwest of Matuu and 0.3 mi (0.5 km) upstream from mouth.

DRAINAGE AREA.--0.25 mi^2 (0.65 km^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. Altitude of gage is 80 ft (24.4 m), from topographic map.

REMARKS.--Records good. Small diversion above station for domestic use since September 1972. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--24 years, 1.50 ft^3/s (0.042 m^3/s), 1,090 acre-ft/yr (1.34 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 502 ft^3/s (14.2 m^3/s) Apr. 29, 1975, gage height, 4.59 ft (1.399 m), from rating curve extended above 26 ft^3/s (0.74 m^3/s) on basis of slope-area measurement of peak flow; minimum, 0.01 ft^3/s (<0.001 m^3/s) Sept. 16, 17, 20-26, 28, 29, 1975, Apr. 5-7, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 160 ft^3/s (4.53 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 23	0230	203	5.75	3.17	0.966	Dec. 30	2330	188	5.32	3.08	0.939
Dec. 20	2300	*304	8.61	*3.72	1.134	Feb. 6	0600	213	6.03	3.23	.985

Minimum discharge, 0.03 ft^3/s (0.001 m^3/s) May 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	1.7	5.3	5.7	.22	13	1.2	.05	.11	.11	.41	.49
2	.07	3.1	5.0	2.9	.20	2.0	.15	.06	9.9	.11	.68	.42
3	.11	8.7	1.4	1.4	.71	.91	.09	.08	.84	.11	.15	2.2
4	3.4	9.6	3.1	1.1	22	.58	.07	.05	.39	.12	.12	.78
5	16	2.6	1.7	1.1	14	.72	.06	.05	.33	.13	.49	.49
6	2.5	1.5	2.2	.84	32	.53	.14	.06	.20	.09	.25	14
7	.72	1.8	.67	.79	14	1.7	.08	.25	.18	.11	.13	3.2
8	3.8	.98	.45	.40	9.8	.72	.06	1.2	.18	.13	.99	1.1
9	1.8	.78	.36	.53	13	.45	.07	1.6	.17	.25	.28	.84
10	8.0	4.1	.30	.42	2.3	.36	.08	.15	.17	2.4	.72	3.4
11	5.1	2.3	.30	.58	2.2	.28	.06	.12	.15	7.7	3.0	.91
12	3.7	2.0	.22	.45	1.2	.25	.05	.08	.15	.98	1.9	.45
13	1.4	1.8	.33	.39	.91	.18	.05	.06	.15	.33	1.8	.33
14	.84	4.8	1.7	.33	.72	.15	.06	.05	.15	.20	1.1	.28
15	.58	1.9	1.1	.39	.53	.15	.05	.06	.15	.18	.42	.22
16	.45	1.1	.42	.30	.45	.15	.06	.05	.15	.18	1.9	.30
17	.30	.67	.25	.61	.45	.13	.06	4.4	.15	.15	.63	.18
18	.33	1.6	.22	2.5	.49	.12	.05	1.9	.13	.13	.32	.15
19	.62	1.5	.18	5.2	.86	.12	.07	2.8	.13	.12	.20	.13
20	.36	.72	7.4	1.1	.63	.12	.20	6.1	.12	.12	.20	.13
21	1.7	.45	12	.53	.84	.12	.09	.42	.12	.13	14	.28
22	1.1	.49	2.5	.42	.67	.11	.07	.20	.13	.11	2.1	.13
23	2.2	8.8	5.3	2.0	.28	.10	.09	.15	.13	.11	13	.12
24	.91	.78	7.4	2.0	.33	.12	.23	.12	.13	.12	20	.12
25	1.6	.49	1.9	1.1	.53	.15	.16	.10	.18	.10	2.6	.11
26	2.0	.30	.91	.53	2.3	.11	.08	.10	.12	.10	.91	.11
27	1.3	1.8	5.8	.39	1.5	.09	.07	.13	.10	.13	.72	.10
28	.67	.72	4.1	.33	4.7	.31	.07	.09	.17	.17	.58	.20
29	2.6	.40	9.4	.30	---	.11	.07	.08	.10	.13	10	.18
30	4.4	1.6	19	.39	---	.09	.05	.09	.10	.11	2.9	.15
31	1.5	---	28	.30	---	1.7	---	.16	---	.12	.84	---
TOTAL	70.14	69.08	128.91	35.32	127.82	25.63	3.69	20.81	15.18	14.98	83.34	31.50
MEAN	2.26	2.30	4.16	1.14	4.57	.83	.12	.67	.51	.48	2.69	1.05
MAX	16	9.6	28	5.7	32	13	1.2	6.1	9.9	7.7	20	14
MIN	.07	.30	.18	.30	.20	.09	.05	.05	.10	.09	.12	.10
AC-FT	139	137	256	70	254	51	7.3	41	30	30	165	62

CAL YR 1981 TOTAL 812.21 MEAN 2.23 MAX 42 MIN .06 AC-FT 1610
WTR YR 1982 TOTAL 626.40 MEAN 1.72 MAX 32 MIN .05 AC-FT 1240

16963900 LEAFU STREAM NEAR AUASI

LOCATION.--Lat 14°16'27" S., long 170°34'26" W., Hydrologic Unit 20100001, on right bank 35 ft (11 m) upstream from upper village intake, 0.1 mi (0.2 km) north of Auasi, and 0.2 mi (0.3 km) upstream from mouth.

DRAINAGE AREA.--0.11 mi^2 (0.28 km^2).

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

REVISED RECORDS.--WDR HI-75-1: 1972(P), 1973-74.

GAGE.--Water-stage recorder. Altitude of gage is 120 ft (37 m), from topographic map.

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

AVERAGE DISCHARGE.--10 years, 0.38 ft^3/s (0.011 m^3/s), 275 acre-ft/yr (339,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 234 ft^3/s (6.63 m^3/s) Dec. 5, 1980, gage height, 4.43 ft (1.350 m), from recorded range in stage, from rating curve extended above 19 ft^3/s (0.54 m^3/s); minimum, 0.02 ft^3/s (0.001 m^3/s) Sept. 17-19, 26-30, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 30 ft^3/s (0.85 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Oct. 5	0400	*51	1.44	*2.61	0.796	Dec. 30	0830	50	1.42	a2.60	0.792
Nov. 4	1300	46	1.30	2.54	.774	Mar. 12	0500	49	1.39	2.58	.786
Dec. 20	2330	31	.88	2.27	.692	Aug. 11	0530	35	.99	2.34	.713
Dec. 23	1400	38	1.08	2.40	.732						

Minimum discharge, 0.07 ft^3/s (0.002 m^3/s) July 27-29.

a About.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.24	2.5	1.3	.16	5.8	.37	.14	.14	.12	.12	.27
2	.10	.16	1.4	.95	.14	1.3	.27	.14	2.7	.12	.14	.24
3	.14	.30	.65	.45	.38	.54	.24	.14	.59	.12	.12	.34
4	.34	1.3	.84	.34	5.7	.37	.24	.12	.34	.12	.16	.27
5	2.5	.59	.49	.30	2.2	.36	.21	.12	.24	.12	.27	.24
6	.41	.37	.41	.27	4.3	.37	.21	.14	.21	.12	.30	2.0
7	.24	.37	.34	.21	2.4	.34	.19	.65	.19	.12	.30	.50
8	3.0	.24	.30	.19	1.3	.30	.19	.27	.19	.12	.41	.40
9	.70	.19	.30	.19	2.9	.27	.19	.19	.16	.12	.30	.36
10	2.1	.54	.24	.19	1.1	.24	.19	.21	.16	.21	.37	.58
11	2.2	.30	.24	.19	.82	.21	.19	.16	.14	.54	2.5	.30
12	1.2	.24	.21	.19	.70	1.2	.16	.12	.14	.65	.34	.20
13	.49	.21	.21	.19	.49	.30	.14	.12	.14	.14	.19	.18
14	.30	.27	.30	.19	.41	.27	.12	.10	.16	.12	.14	.16
15	.24	.24	.21	.19	.30	.24	.12	.10	.19	.12	.12	.14
16	.19	.21	.21	.19	.34	.21	.12	.08	.16	.12	.12	.12
17	.16	.19	.21	.37	.34	.21	.12	.71	.16	.12	.10	.12
18	.14	.21	.21	2.4	.45	.19	.12	.70	.16	.12	.10	.12
19	.35	.44	.19	.82	.41	.19	.12	1.9	.14	.10	.10	.10
20	.16	.24	.30	.49	.45	.16	.12	2.7	.14	.10	.12	.10
21	.16	.19	.90	.34	.41	.14	.14	.49	.12	.10	.14	.12
22	.19	.16	.37	.30	.34	.14	.12	.27	.12	.10	.14	.10
23	.16	.19	1.2	1.1	.27	.14	.12	.21	.12	.08	1.4	.10
24	.16	.16	.45	.49	.27	.14	.12	.16	.12	.08	3.7	.10
25	.16	.19	.30	.34	.27	.21	.12	.16	.12	.08	.76	.10
26	.16	.21	.24	.27	.21	.16	.10	.14	.10	.08	.34	.10
27	.16	.34	.27	.24	.24	.19	.10	.22	.10	.07	.21	.08
28	.14	.16	.24	.24	1.6	.29	.39	.16	.12	.07	.16	.08
29	.14	.14	.24	.21	---	.21	.24	.14	.08	.07	1.7	.08
30	.14	.53	5.9	.19	---	.21	.16	.14	.10	.10	1.0	.08
31	.14	---	4.6	.16	---	.63	---	.14	---	.16	.37	---
TOTAL	16.79	9.12	24.47	13.49	28.90	15.53	5.24	11.04	7.55	4.41	16.24	7.68
MEAN	.54	.30	.79	.44	1.03	.50	.17	.36	.25	.14	.52	.26
MAX	3.0	1.3	5.9	2.4	5.7	5.8	.39	2.7	2.7	.65	3.7	2.0
MIN	.10	.14	.19	.16	.14	.14	.10	.08	.08	.07	.10	.08
AC-FT	33	18	49	27	57	31	10	22	15	8.7	32	15

CAL YR 1981 TOTAL 225.10 MEAN .62 MAX 18 MIN .08 AC-FT 446
WTR YR 1982 TOTAL 160.46 MEAN .44 MAX 5.9 MIN .07 AC-FT 318

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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 floodflow 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 1982

Station No.	Station name	Location	Drainage area mi^2 (km^2)	Period of record	Measurements: Date	Measurements: Discharge (ft^3/s)
		Mariana Islands, Island of Guam				
16808200	Faata Spring near Agat	Lat 13°22'35" N., long 144°39'47" E., 0.7 mi (1.1 km) south of Agat Junior High School and 0.8 mi (1.3 km) southwest of Santa Rita Catholic Church.	-	1963-73, 1975-78, 1980, 1982	5- 6-82	0.14
16808500	Taleyfac River near Agat	Lat 13°21'35" N., long 144°38'57" E., 800 ft (244 m) upstream from bridge on Highway 2 at Biyae and 1.7 mi (2.7 km) south of Mount Carmel School in Agat.	1.96 (5.08)	1959-70, 1972-73, 1975-77, 1980, 1982	5- 6-82	.50
16812000	Madog River near Umatac	Lat 13°17'24" N., long 144°40'30" E., 50 ft (15 m) downstream from right-bank tributary and 1.1 mi (1.8 km) southeast of Sanchez School in Umatac.	.36 (.93)	1960-79, 1982	5- 3-82	.12
16813000	Piga Spring near Umatac	Lat 13°17'56" N., long 144°40'49" E., on left bank of Astaban River right-bank tributary, 0.3 mi (0.5 km) west of Mount Bolanos, and 1.3 mi (2.1 km) east of Sanchez School in Umatac.	-	1955, 1961-65, 1967-79, 1982	5- 3-82	.19
16814000	Astaban River at Umatac	Lat 13°17'41" N., long 144°40'15" E., 200 ft (61 m) upstream from mouth and 0.7 mi (1.1 km) southeast of Sanchez School in Umatac.	.38 (.98)	1960-79, 1982	5- 3-82	.10
16815800	Laelae River at Umatac	Lat 13°17'50" N., long 144°39'51" E., 100 ft (30 m) upstream from mouth and 0.2 mi (0.3 km) east of Sanchez School in Umatac.	.96 (2.49)	1960-78, 1982	5- 4-82	.20
16820000	Geus River above Siligin Spring tributary near Merizo	Lat 13°16'38" N., long 144°40'56" E., 100 ft (30 m) upstream from Siligin Spring tributary, 0.1 mi (0.2 km) upstream from dam, and 1.5 mi (2.4 km) northeast of Merizo School.	.51 (1.32)	1960-80, 1982	5- 4-82	.06
16820700	Geus River below Siligin Spring tributary near Merizo	Lat 13°16'35" N., long 144°40'53" E., 100 ft (30 m) upstream from diversion dam, 300 ft (91 m) downstream from Siligin Spring tributary, and 1.4 mi (2.3 km) northeast of Merizo School.	.68 (1.76)	1962-79, 1982	5- 4-82	.33
16825000	Ajayan River near Inarajan	Lat 13°15'16" N., long 144°42'56" E., 0.4 mi (0.6 km) upstream from mouth and 2.4 mi (3.9 km) southwest of Inarajan Catholic Church.	1.16 (3.00)	1962-73, 1975-78, 1980, 1982	5- 4-82	.17

Discharge measurements made at low-flow partial-record stations during water year 1982--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Measurements Date	Measurements Discharge (ft³/s)
		Mariana Islands, Island of Guam--Continued				
16830000	Pasamano River near Inarajan	Lat 13°16'59" N., long 144°43'26" E., 25 ft (7.6 m) upstream from confluence with Yledigao River and 1.7 mi (2.7 km) northwest of Inarajan Catholic Church.	1.42 (3.68)	1960-73, 1975-78, 1982	5- 5-82	0.87
16831000	Yledigao River near Inarajan	Lat 13°17'00" N., long 144°43'26" E., 75 ft (23 m) upstream from confluence with Pasamano River and 1.7 mi (2.7 km) northwest of Inarajan Catholic Church.	1.08 (2.80)	1960-73, 1975-78, 1982	5 -5-82	.95
16833000	Fintasa River near Inarajan	Lat 13°17'18" N., long 144°43'54" E., 100 ft (30 m) upstream from falls, 0.4 mi (0.6 km) upstream from confluence with Pensol River, and 1.5 mi (2.4 km) northwest of Inarajan Catholic Church.	.80 (2.07)	1960-73, 1975-78, 1982	5- 5-82	.24
16834000	Pensol River near Inarajan	Lat 13°17'09" N., long 144°44'08" E., 300 ft (91 m) upstream fron confluence with Fintasa River and 1.1 mi (1.8 km) northwest of Inarajan Catholic Church.	.40 (1.04)	1960-73, 1975-78, 1982	5- 5-82	.10
16842000	Asalonso River near Talofofo	Lat 13°19'43" N., long 144°45'34" E., 10 ft (3.0 m) downstream from left-bank tributary, 500 ft (152 m) downstream from bridge on Highway 4, and 1.6 mi (2.6 km) south of Talofofo.	1.85 (4.79)	1952, 1961-73, 1975-77, 1980, 1982	5-11-82	.33
16854000	Bubulao River near Talofofo	Lat 13°19'08" N., long 144°43'45" E., 50 ft (15 m) upstream from mouth, 0.8 mi (1.3 km) northwest of NASA Tracking Station, and 2.8 mi (4.5 km) southwest of Talofofo.	2.93 (7.59)	1961-70, 1973, 1975-79, 1982	5-11-82	2.15
16859000	Manengon River near Yona	Lat 13°24'02" N., long 144°45'01" E., 200 ft (61 m) downstream from left-bank tributary, 0.2 mi (0.3 km) upstream from mouth, and 1.7 mi (2.7 km) west of Saint Francis School at Yona.	2.04 (5.28)	1960-62, 1964-66, 1968-70, 1973, 1975-77	5-11-82	.31
		Caroline Islands, Palau Islands				
*16890620	Ngechutrong River, Babelthuap	Lat 07°36'11" N., long 134°34'50" E., at trail crossing, 300 ft (91 m) upstream from Diongradid River and 0.7 mi (1.1 km) southeast of Ngetbong village school.	.25 (.65)	1974-82	10-14-81 11-13-81 12-15-81 1-27-82 4-21-82 6-14-82 7-16-82 9-23-82	1.31 .94 3.34 1.19 .70 1.34 2.18 .76
16890650	Ngerchetang River, Babelthuap	Lat 07°35'48" N., long 134°34'13" E., 0.7 mi (1.1 km) south of Ngetbong village school and 0.9 mi (1.4 km) upstream from Diongradid River.	1.51 (3.91)	1974-77, 1980-82	10-14-81 11-24-81 1-12-82	10.2 8.01 10.4
16890700	Ngermeskang River, Babelthuap	Lat 07°31'16" N., long 134°33'16" E., 0.6 mi (0.9 km) upstream from unnamed left-bank tributary, 2.0 mi (3.3 km) east of Imeong village, and 5.8 mi (9.4 km) upstream from mouth.	7.14 (18.49)	1973-82	10-15-81 11-19-81 1-11-82 2- 4-82 4- 8-82 8-11-82	68.9 24.8 18.7 10.5 8.94 15.1
*16890800	Ngetpang River, Babelthuap	Lat 07°27'45" N., long 134°31'38" E., 0.2 mi (0.3 km) upstream from unnamed right-bank tributary, 1.1 mi (1.8 km) east of forestry station, and 2.5 mi (4.1 km) upstream from mouth.	.34 (.88)	1973-82	10-15-81 11-12-81 1-26-82 4- 8-82 6-10-82 7-15-82 8-24-82 9-21-82	2.22 1.35 .95 .58 2.32 3.07 .85 .48

* Also a water-quality partial-record station.

Discharge measurements made at low-flow partial-record stations during water year 1982--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Measurements Date	Measurements Discharge (ft³/s)
		Caroline Islands, Palau Islands--Continued				
*16891430	North Fork Ngerdorch River, Babelthuap	Lat 07°27'51" N., long 134°35'12" E., 500 ft (152 m) upstream from right-bank tributary, 1.4 mi (2.3 km) upstream from confluence with South Fork Ngerdorch River, and 1.5 mi (2.4 km) west of Ngchesar village.	9.70 (25.12)	1975-82	10- 9-81 11-16-81 2- 2-82 4- 9-82 8-12-82 9-22-82	74.9 35.0 14.7 16.9 20.7 15.1
16891440	North Fork Ngerdorch River tributary, Babelthuap	Lat 07°27'51" N., long 134°35'10" E., 50 ft (15 m) upstream from North Fork Ngerdorch River and 1.5 mi (2.4 km) west of Ngchesar village.	1.78 (4.61)	1975-82	10- 9-81 11-16-81 2- 2-82 4- 9-82 8-12-82	15.2 7.86 3.87 3.70 4.91
16891500	Lmetmellasch River, Babelthuap	Lat 07°36'12" N., long 134°37'36" E., 0.5 mi (0.8 km) upstream from mouth and 1.1 mi (1.8 km) northwest of Ngkeklau community center.	.32 (.83)	1971-75, 1977, 1980-82	11-25-81	1.28
*16891700	Unnamed west coast stream, Ngerekebesang	Lat 07°21'17" N., long 134°26'32" E., 50 ft (15 m) downstream from reservoir, 200 ft (60 m) upstream from mouth, and 0.25 mi (0.40 km) northwest of Ngerekesang village community center.	.02 (.05)	1970-79, 1982	9-24-82	.03
*16891750	Unnamed south coast stream, Ngerekebesang	Lat 07°20'42" N., long 134°26'54" E., at Echang village, 200 ft (61 m) upstream from mouth and 0.5 mi (0.8 km) southeast of Ngerekebesang village community center.	.02 (.05)	1970-79, 1981-82	9-24-82	.02
		Caroline Islands, Yap Islands				
16892500	Tamaney Stream, Yap	Lat 09°29'49" N., long 138°05'52" E., at abandoned German dam, 0.2 mi (0.3 km) upstream from mouth, and 1.1 mi (1.8 km) southwest of U.S. Weather Bureau station at airport.	.17 (.44)	1968-82	5- 5-82 6-17-82	.05 .52
16892600	Ripu Stream, Yap	Lat 09°30'10" N., long 138°06'24" E., 300 ft (91 m) upstream from mouth and 0.3 mi (0.5 km) southwest of Gitaem water treatment plant.	.29 (.75)	1968-82	5- 5-82 6-17-82	.03 .73
16892650	Dinaey Stream, Yap	Lat 09°30'32" N., long 138°06'15" E., at upper Gitaem Reservoir, 0.4 mi (0.6 km) northwest of water-treatment plant.	.04 (.10)	1980-82	5- 5-82 6-17-82	e.01 .08
16892680	Tholomar Stream above reservoir, Yap	Lat 09°30'37" N., long 138°06'18" E., about 500 ft (152 m) upstream from upper Gitaem Reservoir and 1.4 mi (2.3 km) southwest of Colonia.	.10 (.26)	1965/, 1968-74/, 1980-82	5- 5-82 6-17-82	e.01 .22
*16893180	Monguch Stream, Gagil-Tamil	Lat 09°31'59" N., long 138°09'57" E., 0.7 mi (1.1 km) northeast of Tamel Elementary School and 1.0 mi (1.6 km) south of Coast Guard LORAN station.	.18 (.47)	1980-82	5- 6-82 6-15-82 9-16-82	.08 .20 1.26
		Caroline Islands, Island of Ponape				
16898500	Nankewi River	Lat 06°56'03" N., long 158°10'46" E., at highway bridge 350 ft (107 m) west of Sekere School.	1.48 (3.83)	1971-73, 1975-77, 1981-82	3- 9-82	6.95
16898550	Kiriedleng River	Lat 06°55'17" N., long 158°09'48" E., at small right-bank tributary, 300 ft (91 m) downstream from road bridge, and 1.4 mi (2.2 km) northwest of Mount Temwetemwensekir.	.73 (1.89)	1972-73, 1975-77, 1981-82	3-10-82	3.02

* Also a water-quality partial-record station.
/ At station 16892700, 800 ft (244 m) downstream.
e Estimated.

Discharge measurements made at low-flow partial-record stations during water year 1982--Continued

Station No.	Station name	Location	Drainage area mi² (km²)	Period of record	Measurements Date	Measurements Discharge (ft³/s)
		Caroline Islands, Island of Ponape--Continued				
16898700	Lehn Mesi River at hanging bridge	Lat 06°49'24" N., long 158°10'11" E., at foot bridge, 0.6 mi (1.0 km) upstream from mouth.	8.32 (21.55)	1971, 1973, 1976-77, 1981-82	1-29-82	146
16898900	Keprohi River	Lat 06°50'40" N., long 158°17'57" E., 150 ft (46 m) upstream from road bridge, and 0.46 mi (0.74 km) northeast of Ponape Agriculture Trade School.	2.05 (5.31)	1981-82	7-14-82	25.2
		Caroline Islands, Island of Kosrae				
16899780	Tafuyat River	Lat 05°18'38" N., long 163°00'47" E., at old Japanese dam, 0.75 mi (1.2 km) upstream from mouth, and 1.5 mi (2.4 km) east of Mount Finkol.	.27 (.70)	1974-75, 1977-82	3- 4-82 3-15-82	.67 9.67
16899830	Innem River	Lat 05°19'49" N., long 163°00'27" E., at concrete road bridge, 0.5 mi (0.8 km) upstream from mouth, and 1.4 mi (2.3 km) southeast of Mount Mutunte.	1.82 (4.71)	1971-74, 1978-82	3-16-82	22.2
16899850	Pukusruk River	Lat 05°21'01" N., long 163°00'37" E., 20 ft (6.1 m) upstream from diversion dam, 0.7 mi (1.1 km) upstream from mouth, and 1.2 mi (1.9 km) east of Mount Mutunte.	.27 (.70)	1974-75, 1980-82	10-31-81	1.01
		Samoa Islands, Island of Tutuila				
16917500	Leele Stream at mouth at Fagasa	Lat 14°17'28" S., long 170°43'09" W., on left bank at Fagasa and 200 ft (61 m) upstream from mouth.	.23 (.60)	1966-76≠, 1977, 1981-82	4-28-82	.27
16932000	Asili Stream near Asili	Lat 14°19'46" S., long 170°47'42" W., 0.4 mi (0.6 km) north of Asili and 0.5 mi (0.8 km) upstream from mouth.	.55 (1.42)	1959-61, 1963-65, 1968, 1970, 1974-77, 1981-82	5- 7-82	.45
16932500	Asili Stream at Asili	Lat 14°20'04" S., long 170°47'40" W., 100 ft (30 m) upstream from highway bridge at Asili and 0.1 mi (0.2 km) upstream from mouth.	.66 (1.71)	1958-59≠, 1960-61, 1963-65, 1967-69, 1974-77, 1981-82	5- 7-82	.59
16934000	Leafu Stream near Leone	Lat 14°19'47" S., long 170°46'55" W., 30 ft (9 m) upstream from reservoir, 0.9 mi (1.4 km) upstream from mouth, and 1.0 mi (1.6 km) north of Leone.	.69 (1.79)	1959-64, 1968-69, 1971-74, 1976-77, 1981-82	4-20-82	1.29
16944000	Papa Stream near Nuuuli	Lat 14°18'31" S., long 170°42'29" W., 0.3 mi (0.5 km) upstream from Tauese Stream and 0.9 mi (1.4 km) northwest of Nuuuli.	.57 (1.48)	1959-61, 1963-64, 1967-68, 1974-78, 1981-82	4-28-82	.40
16960000	Alega Stream at Alega	Lat 14°16'58" S., long 170°38'19" W., on left bank 300 ft (91 m) upstream from left-bank tributary, 0.2 mi (0.3 km) northwest of Alega, and 0.3 mi (0.5 km) upstream from mouth.	.19 (.49)	1958-76≠, 1977-78, 1981-82	4-28-82	.58

≠ Operated as a continuous-record gaging station.

DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1982

Stream	Tributary to	Location	Drainage area mi^2 (km^2)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft^3/s)
		Caroline Islands, Yap Islands				
Taalgum Stream (*16893000)	Peemgoy Stream	Lat 09°31'09" N., long 138°06'32" E., on left bank at Taalgum, 300 ft (91 m) upstream from confluence with Peemgoy Stream, and 1.2 mi (1.9 km) northwest of Protestant Mission Church in Colonia.	0.08 (.21)	1968-79≠, 1982	9-15-82	0.25
Dorfay Stream (*16893190)	Mukong Stream	Lat 09°32'08" N., long 138°10'13" E., 0.2 mi (0.3 km) upstream from mouth and 0.9 mi (1.4 km) northeast of Tamilang Elementary School.	.20 (.52)	1981-82	5- 6-82 6-15-82 9-16-82	.12 .22 .82
		Caroline Islands, Island of Ponape				
Dauen Neu River (*16898300)	Pacific Ocean	Lat 06°56'47" N., long 158°11'55" E., 0.48 mi (0.78 km) southwest of Ponape Island Central School, and 1.7 mi (2.7 km) upstream from bridge at mouth.	.75 (1.94)	1970-75≠, 1975-76, 1981-82	10-21-81	13.8
Luhpwor River	Pacific Ocean	Lat 06°54'15" N., long 158°09'59" E., at old Japanese dam, 1.1 mi (1.8 km) southwest of Mount Temwetemwensekir, and 1.2 mi (1.9 km) upstream from gaging station.	.17 (.44)	1973, 1982	1-31-73 2-28-73 4- 3-73 10-23-81	.41 .65 .38 .86
Seniahdak River (*16898620)	Pacific Ocean	Lat 06°53'46" N., long 158°09'15" E., at road bridge, 0.45 mi (0.72 km) south of Pwakorokot Hill.	.56 (1.45)	1982	10-23-81 3- 9-82	3.80 5.46
Pehleng River (*16898650)	Pacific Ocean	Lat 06°52'27" N., long 158°09'26" E., at road crossing near mouth, 0.25 mi (0.40 km) north of Doletikitik Hill.	2.01 (5.21)	1981-82	10-23-81	8.45
		Caroline Islands, Island of Kosrae				
Finkol River	Pacific Ocean	Lat 05°17'05" N., long 162°58'56" E., about 100 ft (30 m) upstream from confluence with Menka River.	-	-	3-20-82	23.4
		Samoa Islands, Island of Tutuila				
Leafu Stream No. 3	Pacific Ocean	Lat 14°19'34" S., long 170°46'54" W., 1,100 ft (335 m) above village catchment and 1.3 mi (2.1 km) northeast of Leone.	-	1977, 1981-82	4-20-82	1.27

* Also a water-quality partial-record station.
≠ Operated as a continuous-record gaging station.

DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1982

ISLAND OF KOSRAE

Innem River seepage investigation

Discharge measurements were made on Mar. 16, 1982 on the Innem River and tributaries to determine channel gains and losses. The reach was 1.0 mi (1.6 km) in length and ending at low-flow partial-record site 16899830. The measurements were made during a period of constant base flow.

Innem River mile	Stream	Location	Meas. disch. (ft^3/s)
0.0	Innem River	Lat 05°19'42" N., long 163°59'41" E., 1.0 mi (1.6 km) upstream from station 16899830.	10.0
.20	Innem River	Lat 05°19'39" N., long 163°59'57" E., 50 ft (15 m) upstream from right-bank tributary.	11.3
.20	Right-branch tribuary	Lat 05°19'39" N., long 163°59'57" E., 50 ft (15 m) upstream from Innem River.	2.45
.45	Innem River	Lat 05°19'44" N., long 163°00'03" E., 50 ft (15 m) upstream from left-branch tributary.	14.8
.45	Left-branch tributary	Lat 05°19'44" N., long 163°00'03" E., 50 ft (15 m) upstream from Innem River.	4.85
.65	Innem River	Lat 05°19'45" N., long 163°00'12" E., 0.35 mi (0.56 km) upstream from station 16899830.	19.2
1.0	Innem River	Lat 05°19'49" N., long 163°00'28" E., at station 16899800.	22.2

Water-quality partial-record stations are particular sites where chemical-quality, biological and or sediment data are collected systematically over a period of years for use in hydrologic analyses. The data are collected usually less than quarterly.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

CAROLINE ISLANDS, PALAU ISLANDS

16890620 NGECHUTRONG RIVER, BABELTHUAP

LOCATION.--Lat 07°36'11" N., long 134°34'50" E., Hydrologic Unit 20100006, 300 ft (91 m) upstream from Diongradid River and 0.9 mi (1.4 km) northwest of Mount Megilon.

DRAINAGE AREA.--0.25 mi² (0.65 km²).

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP											
23...	1230	.76	30	6.6	26.5	0	.00	2.1	1.1	2.4	34

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP										
23...	.3	.2	10	<5.0	3.8	<.1	10	<.10	110	16

16890800 NGETPANG RIVER, BABELTHUAP

LOCATION..--Lat 07°27'45" N., long 134°31'38" E., Hydrologic Unit 20100006, 0.2 mi (0.3 km) upstream from unnamed tributary and 0.4 mi (0.6 km) southeast of Ngatpang village.

DRAINAGE AREA.--0.34 mi² (0.88 km²).

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP											
21...	1300	.48	71	6.9	25.5	27	.00	5.6	3.1	5.5	31

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP										
21...	.5	.4	36	<5.0	4.6	<.1	27	<.10	230	13

< Actual value is known to be less than the value shown.

CAROLINE ISLANDS, PALAU ISLANDS--Continued

16891430 NORTH FORK NGERDORCH RIVER, BABELTHUAP

LOCATION.--Lat 07°27'51" N., long 134°35'12" E., Hydrologic Unit 20100006, 500 ft (152 m) upstream from right-bank tributary, 1.4 mi (2.3 km) upstream from confluence with South Fork Ngerdorch River, and 2.5 mi (4.0 km) upstream from mouth.

DRAINAGE AREA.--9.70 mi² (25.12 km²).

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP 22...	1400	15	58	7.1	26.0	27	.00	6.0	3.0	4.0	24

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 22...	.3	.2	32	<5.0	3.7	<.1	17	<.10	230	15

16891700 UNNAMED WEST COAST STREAM, NGEREKEBBESANG

LOCATION.--Lat 07°21'17" N., long 134°26'32" E., 50 ft (15 m) downstream from reservoir, 200 ft (60 m) upstream from mouth, and 0.25 mi (0.40 km) northwest of Ngerekesang village community center.

DRAINAGE AREA.--0.02 mi² (0.05 km²).

PERIOD OF RECORD.--Water years 1980, current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP 24...	1100	.03	78	6.5	27.5	24	.00	5.3	2.7	6.7	37

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 24...	.6	.2	30	<5.0	9.3	<.1	28	.14	96	1

< Actual value is known to be less than the value shown.

CAROLINE ISLANDS, PALAU ISLANDS--Continued

16891750 UNNAMED SOUTH COAST STREAM, NGEREKEBESANG

LOCATION.--Lat 07°20'42" N., long 134°26'54" E., at Echang village, 200 ft (61 m) upstream from mouth and 0.5 mi (0.8 km) southeast of Ngerekebesang village community center.

DRAINAGE.--0.02 mi² (0.05 km²).

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP 24...	1200	.02	45	7.0	27.5	14	.00	3.0	1.5	4.2	40

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 24...	.5	.1	20	<5.0	5.1	<.1	20	<.10	100	5

CAROLINE ISLANDS, YAP ISLANDS

16893180 MONGUCH STREAM, GAGIL-TAMIL

LOCATION.--Lat 09°31'59" N., long 138°09'57" E., Hydrologic Unit 20100006, 1.0 mi (1.6 km) southwest of the Coast Guard LORAN Station, 0.62 mi (1.0 km) northwest of Ma village.

DRAINAGE AREA.--0.18 mi² (0.47 km²).

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP 16...	1500	1.3	29	5.8	27.5	7	.00	1.5	.7	3.4	51

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 16...	.6	.2	9.0	<5.0	5.7	<.1	4.4	<.10	580	44

< Actual value is known to be less than the value shown.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

CAROLINE ISLANDS, TRUK ISLANDS

16894100 FAICHIA STREAM, MOEN

LOCATION.--Lat 07°25'36" N., long 151°50'52" E., Hydrologic Unit 20100006, 100 ft (30 m) upstream from road and 0.4 mi (0.6 km) west of Mount Chukuwon.

DRAINAGE AREA.--0.05 mi² (0.13 km²).

PERIOD OF RECORD.--Water years 1980, current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP 16...	1105	.08	60	7.0	26.5	18	.00	4.1	2.0	4.7	35

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 16...	.5	.1	18	<5.0	5.7	.2	16	<.10	44	3

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899850 PUKUSRUK RIVER

LOCATION.--Lat 05°21'01" N., long 163°00'37" E., Hydrologic Unit 20100006, 80 ft (24 m) downstream from new diversion dam, 0.5 mi (0.8 km) upstream from mouth, 0.9 mi (1.4 km) east of Mount Buache.

DRAINAGE AREA.--0.27 mi² (0.70 km²).

PERIOD OF RECORD.--Water years 1980 to current year.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT 31...	1150	1.0	53	2.0	8.6	7.7	5.9	19	.4	.5

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 31...	51	<5.0	5.1	.1	23	87	.12	.18	90	<10

< Actual value is known to be less than the value shown.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

Samples are collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin. Such sites are referred to as miscellaneous sites.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

CAROLINE ISLANDS--PALAU ISLANDS

16891190 NGERIMEL RESERVOIR, BABELTHUAP (LAT 07°22'00" N., LONG 134°32'08" E.)

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM
SEP 20...	1500	65	7.6	31.5	28	.00	6.4	2.9	4.0	23

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
SEP 20...	.3	.4	34	<5.0	4.5	<.1	20	<.10	220	2

16891800 BLODESACHEL SPRING, KOROR (LAT 07°20'47" N., LONG 134°29'57" E.)

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM
SEP 24...	0830	.02	168	8.0	25.5	80	.00	25	4.3	5.3	13

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
SEP 24...	.3	.3	81	<5.0	5.9	<.1	22	123	.19	130	5

< Actual value is known to be less than the value shown.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

CAROLINE ISLANDS, YAP ISLANDS

16893000 TAALGUM STREAM, YAP (LAT 09°31'09" N., LONG 138°06'34" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
SEP 15...	1000	.25	7.0	26.0	35	6.0	5.3	5.4	5.2	24	.4

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 15...	.1	29	10	8.5	<.1	17	69	.09	<.10	270	6

16893190 DORFAY STREAM, GAGIL-TAMIL (LAT 09°32'08" N., LONG 138°10'13" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP 16...	1300	.82	33	6.5	27.5	6	.00	.2	1.3	4.2	60

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 16...	.8	.2	10	<5.0	5.4	<.1	6.0	<.10	320	34

CAROLINE ISLANDS, TRUK ISLANDS

16893880 POU RESERVOIR (OUTFLOW), MOEN (LAT 07°26'44" N., LONG 151°51'22" E.)

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
MAR 03...	1030	280	28.5	55

< Actual value is known to be less than the value shown.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

CAROLINE ISLANDS, TRUK ISLANDS--Continued

16894200 NACHIPONONG STREAM, MOEN (LAT 07°25'39" N., LONG 151°51'07" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP 16...	1258	.34	75	6.8	27.5	22	4.0	4.5	2.7	6.3	38

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 16...	.6	.2	18	<5.0	14	.4	15	<.10	44	4

CAROLINE ISLANDS, ISLAND OF PONAPE

16898300 DAUBN NEU RIVER (LAT 06°56'47" N., LONG 158°11'55" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
OCT 21...	1455	14	104	7.6	26.0	44	10	12	3.3	3.9	16	.3

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 21...	.2	34	5.0	5.1	<.1	7.0	57	.08	.17	92	10

< Actual value is known to be less than the value shown.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

CAROLINE ISLANDS, PONAPE--Continued

16898620 SENIAHDAK RIVER (LAT 06°53'41" N., LONG 158°09'47" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
OCT 23...	1305	3.8	41	7.2	28.0	16	7.0	3.1	2.0	2.5	25	.3

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 23...	.2	9.0	5.0	3.0	<.1	11	32	.04	.18	34	4

16898650 PEHLENG RIVER (LAT 06°52'27" N., LONG 158°09'47" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	PH (STAND-ARD UNITS)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT 23...	1340	8.5	7.6	24	15	7.0	1.5	2.5	19	.2	.2

DATE	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 23...	9.0	5.0	11	<.1	10	43	.06	.18	58	9

< Actual value is known to be less than the value shown.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

CAROLINE ISLANDS, KOSRAE

16899490 MUTUNTE RIVER ABOVE NEW DAM (LAT 05°21'31" N., LONG 162°59'27" E.)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
OCT 30...	0935	2.7	84	7.9	25.0	32	1.0	5.9	4.2	5.0	25	.4

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 30...	.5	31	6.0	9.5	.1	19	69	.09	.17	32	2

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

MARIANA ISLANDS, ISLAND OF SAIPAN

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
16801000 - SF TALOFOFO STREAM, SAIPAN									
JAN 13...	1245	3.3	29.5	26.0	MAY 14...	1440	.09	32.0	27.0
FEB 12...	1300	.61	28.0	25.0	JUN 30...	1255	.87	--	28.0
16801500 - MF TALOFOFO STREAM, SAIPAN									
OCT 08...	1240	.48	28.5	27.5	MAY 14...	1400	.27	31.0	26.5
JAN 13...	1105	1.0	28.5	26.0	JUN 30...	1100	.69	--	27.0
FEB 12...	1130	.36	28.0	25.0					

MARIANA ISLANDS, ISLAND OF GUAM

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
16808300 - FINILE CREEK AT AGAT, GUAM									
JUL 14...	1630	.82	--	27.5	SEP 08...	1430	2.1	--	27.0
AUG 17...	1535	1.1	31.0	27.0					
16809600 - LA SA FUA RIVER NEAR UMATAC, GUAM									
MAY 20...	1000	.85	--	27.5	AUG 17...	1145	2.0	29.5	28.0
JUL 20...	1130	11	--	27.5	SEP 08...	1230	7.5	--	27.5
16835000 - INARAJAN RIVER NR INARAJAN, GUAM									
MAY 21...	1435	3.0	29.0	27.0	SEP 09...	1100	32	29.0	27.0
AUG 11...	1225	14	--	28.0					
19...	1435	16	28.0	27.5					
16840000 - TINAGA RIVER NR INARAJAN, GUAM									
AUG 11...	0945	4.7	29.5	26.0	SEP 09...	1330	9.0	--	27.5
16847000 - IMONG RIVER NR AGAT, GUAM									
MAY 18...	1000	3.8	--	27.5	AUG 26...	1130	8.3	29.0	26.5
JUL 22...	1330	7.5	32.0	28.0	SEP 29...	1405	9.2	31.0	29.0

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

MARIANA ISLANDS, ISLAND OF GUAM--Continued

16848100 - ALMAGOSA RIVER NEAR AGAT, GUAM

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
FEB					AUG				
04...	1230	1.2	29.5	27.5	26...	1400	5.2	29.0	26.5
MAY					SEP				
18...	1215	1.4	--	28.0	29...	1210	4.9	30.5	28.0

16848500 - MAULAP RIVER NEAR AGAT, GUAM

MAY					AUG				
18...	1430	1.5	--	29.0	26...	1605	4.2	--	26.0
JUL					SEP				
22...	1010	6.0	30.0	26.5	29...	1030	4.3	--	26.5

16854500 - UGUM RIVER AB TALOFOFO FALLS,NR TALOFOFO, GUAM

MAY					AUG				
20...	1310	7.4	--	29.5	03...	1120	28	32.0	27.5
21...	1240	6.7	--	29.5	SEP				
JUL					09...	1400	37	--	29.0
20...	1520	34	--	28.0					

16858000 - YLIG RIVER NR YONA, GUAM

JUN					AUG				
28...	1415	13	--	28.5	07...	1225	345	28.5	27.5
JUL									
27...	1210	61	--	27.0					

CAROLINE ISLANDS, ISLAND OF PONAPE

16897600 - NANPIL RIVER, PONAPE

MAR					AUG				
03...	1115	6.0	28.0	25.0	03...	1210	36	29.0	24.0
09...	1140	33	31.0	24.0	19...	1100	14	29.0	24.0
JUL					SEP				
15...	0950	34	28.0	25.0	17...	1125	10.0	29.0	25.0

16897900 - LEMI RIVER, PONAPE

MAR					AUG				
02...	1030	.67	28.0	25.0	03...	0905	4.0	29.0	24.0
08...	1330	.92	30.0	25.0	18...	1045	1.5	29.0	25.0
JUL					SEP				
15...	1110	5.2	28.0	26.0	17...	0930	1.0	28.0	24.0

16898200 - LEMI RIVER AT MOUTH, PONAPE

MAR					MAR				
04...	1400	4.8	30.0	26.0	09...	1510	9.5	32.0	28.0

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

CAROLINE ISLANDS, ISLAND OF PONAPE--Continued

16890600 - LUHPWOR RIVER, PONAPE

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
MAR				
01...	1230	2.3	29.0	25.0
JUL				
14...	1745	31	28.0	25.0
AUG				
04...	1245	5.8	28.0	24.0
AUG				
17...	1135	5.7	29.0	25.0
SEP				
15...	1330	2.1	32.0	27.0

16898690 - LEHN MESI RIVER, PONAPE

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JAN				
29...	1415	86	28.0	25.0
MAR				
11...	1215	23	28.0	25.5
JUN				
24...	1045	62	28.0	24.0
JUL				
30...	1505	34	28.0	24.0
AUG				
11...	1210	79	30.0	25.0
25...	1215	60	29.0	24.0
SEP				
23...	1330	33	30.0	26.0

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899500 - MUTUNTE RIVER, KOSRAE

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JUN				
10...	1020	1.5	28.5	25.5
JUL				
07...	1350	2.6	32.0	27.0

SAMOA ISLANDS, ISLAND OF TUTUILA

16912000 - PAGO STREAM AT AFONO, TUTUILA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
08...	0730	2.5	24.5	24.0
08...	0800	2.8	24.5	24.0
23...	0930	12	24.5	24.0
27...	0845	2.8	26.0	24.0
DEC				
08...	0750	2.8	26.0	24.5
JAN				
12...	0825	1.5	25.0	24.0
26...	0810	2.3	26.0	25.0
FEB				
23...	0840	2.5	26.0	25.0
MAR				
09...	1040	2.0	27.0	25.5
10...	0815	1.8	26.0	25.0
APR				
29...	1120	.38	28.0	27.0
MAY				
13...	0955	.60	26.0	24.5
JUN				
11...	0840	.69	25.0	24.5
JUL				
15...	0845	.47	25.0	24.0
AUG				
20...	0850	.81	25.5	24.0
SEP				
17...	1210	1.2	26.0	26.0

16920500 - AASU STREAM AT AASU, TUTUILA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
06...	1115	12	24.5	24.0
15...	0900	8.6	24.0	23.5
NOV				
20...	0850	7.5	25.0	24.0
DEC				
16...	0830	8.5	25.0	24.0
JAN				
27...	0900	3.6	26.0	25.0
FEB				
12...	0945	11	25.0	24.0
APR				
13...	1215	2.2	28.0	26.0
JUN				
09...	0845	3.8	26.0	24.5
10...	0945	3.4	26.0	24.5
JUL				
08...	0840	1.0	27.0	25.0
AUG				
17...	0900	7.9	25.5	24.0
SEP				
02...	0830	8.2	25.0	24.0
02...	0900	8.2	25.0	24.0
22...	0835	3.2	26.0	25.0

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

SAMOA ISLANDS, ISLAND OF TUTUILA--Continued

16931000 - ATAULOMA STREAM AT AFAO, TUTUILA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
30...	0810	1.8	25.5	24.0
DEC				
08...	1105	1.4	28.0	26.0
JAN				
13...	0810	.40	26.0	25.0
FEB				
19...	0840	1.4	25.0	24.0
24...	0930	1.1	26.5	25.0
MAR				
23...	1030	.42	27.0	25.5
APR				
26...	1245	.17	28.0	26.0
JUN				
30...	1040	.59	25.0	24.0
JUL				
30...	0840	.42	25.0	24.0
SEP				
08...	0905	2.6	24.5	24.0

16931500 - ASILI STR AT ALT 330 FT (100M) NR ASILI,TUTUILA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
21...	0800	4.1	25.0	24.0
DEC				
10...	0925	2.2	25.0	24.0
JAN				
21...	0845	1.8	25.0	24.0
MAR				
03...	1030	3.9	24.5	24.0
16...	0820	1.2	25.0	24.0
APR				
07...	0925	.67	25.0	25.0
MAY				
07...	0950	.41	25.0	24.0
MAY				
17...	0900	.46	25.0	24.0
JUN				
07...	0930	1.3	24.0	24.0
30...	0900	.51	23.5	22.5
AUG				
04...	0935	.63	24.5	24.0
19...	0845	1.6	23.0	23.0
SEP				
01...	0900	2.6	24.0	24.0
20...	0855	1.2	22.0	22.0

16933500 - LEAFU STR AT ALT 370 FT (113M) NR LEONE, TUTUILA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
01...	1025	1.4	25.0	23.5
20...	0800	2.9	24.0	23.0
NOV				
25...	0820	4.3	24.0	24.0
25...	0845	4.1	24.0	24.0
JAN				
06...	0900	4.7	24.0	24.0
FEB				
17...	1110	3.3	25.0	24.0
MAR				
17...	1010	1.9	25.0	24.0
APR				
20...	1145	1.1	26.0	25.0
MAY				
05...	0845	.75	24.0	23.0
05...	0915	.77	24.0	23.0
25...	1005	2.1	25.0	24.0
JUN				
24...	1110	.95	25.0	24.0
JUL				
27...	0900	1.2	23.0	22.5
AUG				
31...	0935	5.6	24.5	23.5
SEP				
14...	0910	4.2	24.0	24.0

16948000 - AFUELO STREAM AT MATUU, TUTUILA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
20...	1055	.37	24.5	24.0
DEC				
03...	0820	1.4	24.5	24.0
JAN				
07...	0925	.62	25.0	24.0
FEB				
19...	1025	1.0	25.0	24.0
MAR				
25...	0915	.33	25.0	25.0
25...	1045	.42	25.5	25.0
APR				
30...	0945	.05	26.0	25.0
MAY				
13...	0805	.08	24.0	23.5
JUL				
13...	0855	.38	24.5	24.0
AUG				
18...	0855	.38	25.0	24.5

16963900 - LEAFU STREAM NEAR AUASI, TUTUILA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT				
29...	0855	.14	26.0	24.5
DEC				
04...	0730	1.2	24.5	24.0
FEB				
16...	1000	.28	27.0	25.5
MAR				
05...	0845	.37	26.0	25.0
24...	1000	.14	26.5	25.0
APR				
26...	0955	.10	26.0	25.0
JUN				
29...	0930	.07	26.0	25.0
JUL				
29...	0825	.06	25.5	24.5
AUG				
31...	1235	.30	26.0	25.0

MARIANA ISLANDS, ISLAND OF SAIPAN

151032145460370. Local number, 1046300 Hakmang Well 78.

LOCATION.--Lat 15°10'32" N., long 145°46'03" E., Hydrologic Unit 20100006, 2.3 mi (3.7 km) northeast of San Vicente Village and 0.8 mi (1.3 km) west-southwest of the Hakmang Communication station. Owner: Government of the Northern Mariana Islands.

AQUIFER.--Tagpochau limestone.

WELL CHARACTERISTICS.--Drilled artesian basal water-table well, diameter 12 in (0.30 m), depth 369 ft (112.5 m).

DATUM.--Land-surface datum is 229 ft (69.8 m) from topographic map. Measuring point: Top of casing, about 230 ft (70.1 m) above mean sea level.

PERIOD OF RECORD.--March 1973 to May 1976, June 1977, January to August 1978, December 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level 20.58 ft (6.273 m), above mean sea level, Sept. 17, 1975; lowest, 18.40 ft (5.608 m), above mean sea level, Aug. 24, 1982.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	18.92	19.20	19.17	19.24	19.37	19.34
2						---	18.93	19.22	19.17	19.22	19.38	19.36
3						---	18.93	19.20	19.17	19.25	19.36	19.35
4						---	18.95	19.22	19.20	19.25	19.34	19.35
5						---	18.94	19.21	19.23	19.24	19.34	19.37
6						---	18.96	19.20	19.22	19.22	19.35	19.37
7						---	18.96	19.17	19.23	19.20	19.37	19.38
8						---	18.96	19.19	19.23	19.19	19.34	19.38
9						---	18.98	19.20	19.22	19.20	19.35	19.39
10						---	19.00	19.19	19.22	19.20	19.37	19.42
11						---	19.01	19.16	19.22	19.19	19.38	19.41
12						---	19.01	19.15	19.22	19.19	19.38	19.40
13						---	19.01	19.15	19.23	19.16	19.38	19.38
14						---	19.02	19.14	19.22	19.20	19.37	19.39
15						---	19.04	19.16	19.23	19.21	19.38	19.39
16						---	19.03	19.17	19.25	19.21	19.36	19.38
17						---	19.04	19.16	19.24	19.24	19.37	19.36
18						---	19.05	19.16	19.25	19.24	19.37	19.37
19						---	19.06	19.15	19.24	19.24	19.37	19.36
20						---	19.07	19.15	19.22	19.26	19.38	19.33
21						---	19.08	19.15	19.24	19.27	19.37	19.33
22						---	19.11	19.16	19.23	19.29	19.37	19.32
23						18.95	19.11	19.18	19.22	19.28	19.35	19.33
24						18.94	19.10	19.19	19.21	19.27	19.35	19.33
25						18.94	19.11	19.20	19.22	19.25	19.34	19.35
26						18.90	19.13	19.19	19.21	19.27	19.34	19.34
27						18.90	19.16	19.20	19.22	19.28	19.34	19.35
28						18.90	19.16	19.20	19.21	19.28	19.35	19.32
29						18.89	19.18	19.18	19.22	19.30	19.35	19.30
30						18.90	19.19	19.19	19.24	19.32	19.36	19.27
31						18.91	---	19.17	---	19.34	19.38	---
MEAN						---	19.04	19.18	19.22	19.24	19.36	19.36
MAX						---	19.19	19.22	19.25	19.34	19.38	19.42
MIN						---	18.92	19.14	19.17	19.16	19.34	19.27

GROUND-WATER RECORDS

MARIANA ISLANDS, ISLAND OF SAIPAN

151032145460370. LOCAL NUMBER, 1046300 HAKMANG WELL 78--Continued

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.25	19.34	19.19	19.32	19.16	19.31	19.32	19.37	18.89	18.90	18.87	19.03
2	19.25	19.36	19.23	19.33	19.19	19.28	19.35	19.34	18.88	18.88	18.90	19.03
3	19.26	19.36	19.22	19.36	19.19	19.28	19.31	19.42	18.90	18.72	18.90	19.04
4	19.26	19.36	19.23	19.37	19.20	19.28	19.32	19.22	18.89	18.55	18.91	19.01
5	19.25	19.36	19.23	19.36	19.22	19.30	19.33	18.70	18.89	18.56	18.90	19.02
6	19.25	19.33	19.25	19.34	19.26	19.31	19.32	18.79	18.90	18.73	18.92	19.01
7	19.27	19.35	19.27	19.35	19.27	19.31	19.32	18.85	18.93	18.79	18.92	19.01
8	19.28	19.35	19.31	19.32	19.31	19.31	19.31	18.83	18.95	18.84	18.92	19.02
9	19.27	19.31	19.29	19.31	19.32	19.31	19.31	18.86	18.96	18.88	18.94	19.01
10	19.28	19.33	19.26	19.32	19.31	19.31	19.33	18.88	18.98	18.90	18.96	19.00
11	19.33	19.32	19.27	19.34	19.32	19.32	19.35	18.89	18.98	18.91	18.97	19.01
12	19.33	19.31	19.24	19.34	19.29	19.32	19.32	18.89	18.99	18.90	19.00	19.00
13	19.31	19.29	19.24	19.32	19.29	19.31	19.31	18.94	18.97	18.89	19.26	19.00
14	19.31	19.26	19.24	19.28	19.32	19.30	19.31	18.97	18.96	18.94	19.01	19.00
15	19.33	19.26	19.27	19.25	19.29	19.27	19.29	18.99	18.96	18.89	19.11	19.02
16	19.31	19.28	19.31	19.21	19.34	19.27	19.28	19.00	18.95	18.91	19.04	19.03
17	19.35	19.29	19.31	19.19	19.32	19.29	19.28	19.01	18.92	18.87	19.00	19.04
18	19.38	19.29	19.28	19.19	19.34	19.34	19.28	19.01	18.92	18.89	19.04	19.04
19	19.36	19.28	19.30	19.19	19.34	19.30	19.29	19.01	18.92	18.88	19.01	19.06
20	19.40	19.24	19.28	19.19	19.34	19.24	19.29	18.99	18.91	18.89	19.02	19.50
21	19.38	19.24	19.29	19.15	19.34	19.21	19.28	18.98	18.88	18.90	19.05	19.29
22	19.39	19.23	19.28	19.17	19.34	19.21	19.27	18.97	18.87	18.91	19.07	19.25
23	19.40	19.23	19.29	19.18	19.38	19.22	19.28	18.94	18.86	18.91	19.04	19.35
24	19.40	19.23	19.30	19.18	19.37	19.21	19.29	18.90	18.90	18.92	19.02	19.39
25	19.37	19.23	19.28	19.18	19.36	19.21	19.29	18.89	18.93	18.93	19.03	19.39
26	19.39	19.24	19.29	19.18	19.38	19.20	19.35	18.89	18.91	18.91	19.08	19.45
27	19.37	19.24	19.29	19.20	19.35	19.23	19.40	18.89	18.91	18.90	19.42	19.41
28	19.35	19.23	19.30	19.20	19.33	19.25	19.44	18.90	18.95	18.89	18.98	19.43
29	19.33	19.22	19.31	19.19	---	19.28	19.44	18.90	18.90	18.87	19.04	19.43
30	19.34	19.20	19.32	19.19	---	19.29	19.37	18.89	18.88	18.86	19.02	19.45
31	19.37	---	19.33	19.16	---	19.32	---	18.88	---	18.84	19.04	---
MEAN	19.33	19.29	19.27	19.25	19.30	19.28	19.32	18.97	18.92	18.86	19.01	19.16
MAX	19.40	19.36	19.33	19.37	19.38	19.34	19.44	19.42	18.99	18.94	19.42	19.50
MIN	19.25	19.20	19.19	19.15	19.16	19.20	19.27	18.70	18.86	18.55	18.87	19.00

WTR YR 1974 MEAN 19.16 MAX 19.50 MIN 18.55

GROUND-WATER RECORDS

MARIANA ISLANDS, ISLAND OF SAIPAN

151032145460370. LOCAL NUMBER, 1046300 HAKMANG WELL 78--Continued

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.46	19.32	19.14	19.20	19.22	19.35	19.52	19.69	---	19.77	---	19.56
2	19.44	19.30	19.14	19.18	19.23	19.33	19.54	19.69	---	19.77	---	19.58
3	19.42	20.16	19.14	19.18	19.24	19.29	19.55	19.68	---	19.80	---	19.56
4	---	19.53	19.17	19.19	19.25	19.28	19.55	19.67	---	19.81	---	19.59
5	---	19.18	19.17	19.16	19.26	19.29	19.54	19.67	---	19.80	---	19.58
6	---	19.23	19.19	19.15	19.26	19.31	19.53	19.64	---	19.76	---	19.54
7	---	19.24	19.20	19.15	19.22	19.35	19.51	19.63	19.72	19.76	---	19.56
8	---	19.36	19.20	19.14	19.23	19.40	19.53	19.63	19.73	19.74	---	19.56
9	---	19.42	19.19	19.14	19.26	19.42	19.50	19.61	19.70	19.74	---	19.54
10	19.25	19.40	19.19	19.14	19.28	19.43	19.51	19.60	19.71	19.74	---	19.53
11	19.27	19.34	19.22	19.13	19.28	19.46	19.49	19.59	19.72	19.75	---	19.50
12	19.30	19.31	19.22	19.11	19.28	19.45	19.54	19.60	19.71	19.74	---	19.44
13	19.29	19.31	19.21	19.09	19.28	19.48	19.55	19.60	19.74	19.77	---	19.44
14	19.29	19.28	19.18	19.08	19.30	19.48	19.57	19.59	19.74	19.73	---	19.44
15	19.29	19.30	19.18	19.06	19.36	19.47	19.58	19.59	19.75	19.75	19.45	19.44
16	19.29	19.28	19.18	19.06	19.37	19.47	19.58	19.60	19.75	19.74	19.53	19.45
17	19.29	19.28	19.20	19.09	19.35	19.49	19.59	19.62	19.76	19.80	19.55	20.58
18	19.29	19.27	19.22	19.13	19.36	19.48	19.62	19.62	19.77	19.77	19.85	19.75
19	19.27	19.29	19.24	19.12	19.33	19.50	19.63	19.64	19.72	19.77	19.53	19.73
20	19.25	19.30	19.25	19.11	19.32	19.51	19.63	19.63	19.70	19.76	19.56	19.75
21	19.26	19.26	19.25	19.10	19.32	19.52	19.63	19.64	19.71	19.74	19.63	19.75
22	19.30	19.27	19.25	19.11	19.32	19.50	19.63	19.64	19.72	19.75	19.64	19.76
23	19.59	19.28	19.25	19.14	19.33	19.50	19.62	19.65	19.69	---	19.68	19.76
24	19.52	19.27	19.24	19.18	19.35	19.49	19.61	19.66	19.69	---	19.65	19.77
25	19.38	19.24	19.25	19.17	19.36	19.51	19.61	19.66	19.71	---	19.65	19.78
26	19.40	19.22	19.23	19.20	19.31	19.55	19.65	19.67	19.71	---	19.66	19.70
27	19.40	19.19	19.24	19.21	19.37	19.55	19.65	19.68	19.70	---	19.65	19.70
28	19.38	19.19	19.23	19.22	19.38	19.55	19.66	19.70	19.76	---	19.61	19.68
29	19.35	19.17	19.24	19.22	---	19.51	19.68	19.72	19.73	---	19.59	19.69
30	19.33	19.16	19.22	19.24	---	19.54	19.70	---	19.76	---	19.57	19.91
31	19.33	---	19.21	19.23	---	19.54	---	---	---	---	19.55	---
MEAN	---	19.31	19.21	19.15	19.30	19.45	19.58	---	---	---	---	19.65
MAX	---	20.16	19.25	19.24	19.38	19.55	19.70	---	---	---	---	20.58
MIN	---	19.16	19.14	19.06	19.22	19.28	19.49	---	---	---	---	19.44

MARIANA ISLANDS, ISLAND OF SAIPAN

151032145460370. LOCAL NUMBER, 1046300 HAKMANG WELL 78--Continued

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.80	19.66	19.62	19.64		---	19.72	19.68				
2	19.79	19.66	19.60	19.62		19.66	19.71	19.66				
3	19.79	19.67	19.62	19.57		19.67	19.70	19.65				
4	19.79	19.65	19.60	19.57		19.65	19.70	19.65				
5	19.80	19.63	19.61	19.61		19.64	19.70	19.65				
6	19.76	19.65	19.54	19.60		19.63	19.67	19.66				
7	19.76	19.67	19.56	19.59		19.65	19.67	19.63				
8	19.75	19.70	19.61	19.59		19.66	19.68	19.64				
9	19.72	19.74	19.64	19.60		19.65	---	19.65				
10	19.66	19.73	19.66	19.60		19.65	---	19.65				
11	19.67	19.66	19.65	19.59		19.67	---	19.63				
12	19.66	19.63	19.63	19.59		19.69	---	19.62				
13	19.70	19.60	19.60	19.59		19.71	---	19.62				
14	19.69	19.61	19.61	19.60		19.70	---	19.64				
15	19.71	19.61	19.60	19.58		19.69	---	19.64				
16	19.72	19.62	19.63	19.62		19.70	---	---				
17	19.70	19.60	19.59	19.60		19.72	---	---				
18	19.69	19.61	19.60	19.61		19.73	---	---				
19	19.70	19.60	19.59	19.63		19.73	---	---				
20	19.69	19.65	19.57	19.66		19.72	---	---				
21	19.69	19.65	19.58	19.65		19.71	---	---				
22	19.66	19.60	19.61	19.63		19.68	---	---				
23	19.61	19.66	19.63	19.62		19.70	---	---				
24	19.59	19.61	19.64	19.60		19.73	19.68	---				
25	19.58	19.61	19.69	19.59		19.72	19.68	---				
26	19.57	19.59	19.67	19.62		19.71	19.68	---				
27	19.60	19.63	19.66	19.64		19.72	19.66	---				
28	19.61	19.64	19.68	19.65		19.76	19.67	---				
29	19.61	19.64	19.69	19.67		19.74	19.70	---				
30	19.65	19.63	19.67	19.65		19.73	19.69	---				
31	19.65	---	19.67	---		19.72	---	---				
MEAN	19.69	19.64	19.62	---		---	---	---				
MAX	19.80	19.74	19.69	---		---	---	---				
MIN	19.57	19.59	19.54	---		---	---	---				

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 5	19.79	JUN 10	19.81	JUN 15	19.72	JUN 20	19.81	JUN 25	19.79	JUN 30	19.76

GROUND-WATER RECORDS

MARIANA ISLANDS, ISLAND OF SAIPAN

151032145460370. LOCAL NUMBER, 1046300 HAKMANG WELL 78--Continued

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	19.11	19.15	19.16	19.30	19.41	19.40	19.09	
2				19.03	19.10	19.14	19.16	19.29	19.39	19.41	19.15	
3				19.03	19.10	19.13	19.17	19.31	19.41	19.42	19.08	
4				19.02	19.10	19.15	19.17	19.30	19.41	19.43	19.10	
5				18.98	19.13	19.14	19.18	19.31	19.37	19.42	19.08	
6				18.98	19.11	19.15	19.20	19.31	19.38	19.43	19.12	
7				18.97	19.11	19.16	19.21	19.33	19.40	19.39	19.14	
8				18.96	19.09	19.16	19.26	19.33	19.42	19.39	19.37	
9				18.96	19.11	19.17	19.26	19.33	19.42	19.36	19.58	
10				18.93	19.11	19.20	19.28	19.33	19.41	19.38	---	
11				18.95	19.11	19.21	19.32	19.35	19.40	19.34	---	
12				18.93	19.11	19.23	19.33	19.38	19.42	19.35	---	
13				18.92	19.12	19.23	19.34	19.37	19.44	19.34	---	
14				18.95	19.13	19.25	19.34	19.37	19.43	19.33	---	
15				18.97	19.12	19.24	19.35	19.37	19.42	19.34	---	
16				18.98	19.12	19.23	19.33	19.37	19.41	19.32	---	
17				19.00	19.13	19.22	19.33	19.37	19.40	19.31	---	
18				19.01	19.14	19.22	19.34	19.39	19.40	19.30	---	
19				19.03	19.15	19.22	19.32	19.38	19.37	19.28	---	
20				19.03	19.16	19.20	19.31	19.38	19.37	19.30	---	
21				19.05	19.18	19.16	19.29	19.36	19.37	19.11	---	
22				19.02	19.18	19.13	19.28	19.37	19.42	19.08	---	
23				19.06	19.20	19.14	19.28	19.39	19.41	19.11	---	
24				19.07	19.21	19.10	19.25	19.40	19.41	19.14	---	
25				19.11	19.20	19.10	19.24	19.42	19.40	19.15	---	
26				19.12	19.21	19.11	19.27	19.41	19.44	19.18	---	
27				19.12	19.17	19.13	19.28	19.43	19.42	19.12	---	
28				19.11	19.16	19.15	19.29	19.45	19.42	19.12	---	
29				19.11	---	19.15	19.32	19.46	19.41	19.12	---	
30				19.10	---	19.16	19.30	19.45	19.41	19.13	---	
31				19.11	---	19.16	---	19.44	---	19.08	---	
MEAN				---	19.14	19.17	19.27	19.37	19.41	19.28	---	
MAX				---	19.21	19.25	19.35	19.46	19.44	19.43	---	
MIN				---	19.09	19.10	19.16	19.29	19.37	19.08	---	

MARIANA ISLANDS, ISLAND OF SAIPAN

151032145460370. LOCAL NUMBER, 1046300 HAKMANG WELL 78--Continued

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	18.92	18.97	18.96	18.90	18.95	19.00	19.00	19.05	18.95
2			---	18.92	18.97	18.97	18.90	18.97	19.00	18.97	18.61	18.96
3			---	18.92	18.97	18.97	18.89	18.99	19.00	18.96	18.61	18.97
4			---	18.92	18.99	18.97	18.89	18.99	19.00	18.96	18.87	18.98
5			---	18.92	18.98	18.97	18.89	19.00	19.00	18.99	18.98	18.97
6			---	18.95	18.98	18.97	18.93	19.00	19.00	18.98	18.98	18.96
7			---	18.95	18.99	18.97	18.92	19.00	19.02	18.98	18.97	18.95
8			---	18.95	18.99	18.98	18.92	19.00	19.01	18.98	18.96	18.93
9			---	18.95	18.98	18.98	18.92	18.99	19.02	18.99	18.94	18.94
10			---	18.95	18.99	18.98	18.92	19.00	19.02	18.99	18.94	18.93
11			---	18.95	18.99	18.98	18.92	19.00	19.03	19.00	18.93	18.94
12			---	18.95	18.99	18.97	18.93	18.98	19.04	19.01	18.93	18.96
13			---	19.00	18.96	18.96	18.92	18.97	19.03	19.03	18.94	18.97
14			---	19.00	18.96	18.97	18.90	18.98	19.04	19.05	19.20	18.96
15			---	19.00	18.97	18.97	18.90	18.97	19.03	19.06	18.95	18.96
16			---	19.00	18.95	18.96	18.91	18.96	19.05	19.07	19.20	18.97
17			---	19.00	18.95	18.94	18.95	18.95	19.03	19.09	19.00	18.97
18			---	19.00	18.96	18.93	18.95	18.96	19.06	19.10	18.82	18.96
19			---	19.00	18.96	18.92	19.01	18.96	19.09	19.11	18.82	18.97
20			18.95	18.95	18.98	18.92	19.02	18.95	19.07	19.13	18.83	18.96
21			18.95	18.95	18.98	18.92	18.96	18.94	19.05	19.14	18.98	18.95
22			19.00	18.95	18.97	18.92	18.93	18.96	19.05	19.14	18.98	18.96
23			18.80	18.95	18.96	18.93	18.92	18.95	19.05	19.15	18.98	18.95
24			18.80	18.95	18.96	18.92	18.91	18.95	19.03	19.15	18.99	18.95
25			18.90	18.95	18.97	18.92	18.92	18.95	19.02	19.16	19.00	18.95
26			18.85	18.95	18.99	18.92	18.93	18.95	19.01	19.18	19.20	18.95
27			18.90	18.96	18.99	18.92	18.92	18.95	19.01	19.18	18.70	18.96
28			18.87	18.95	18.97	18.90	18.93	18.96	19.00	19.18	18.71	18.97
29			18.97	18.96	---	18.90	18.94	18.97	19.00	19.15	18.75	18.97
30			18.90	18.95	---	18.91	18.94	18.97	19.01	19.15	18.85	18.96
31			18.90	18.97	---	18.90	---	18.99	---	19.20	18.91	---
MEAN			---	18.96	18.97	18.95	18.93	18.97	19.03	19.07	18.92	18.96
MAX			---	19.00	18.99	18.98	19.02	19.00	19.09	19.20	19.20	18.98
MIN			---	18.92	18.95	18.90	18.89	18.94	19.00	18.96	18.61	18.93

GROUND-WATER RECORDS

MARIANA ISLANDS, ISLAND OF SAIPAN

151032145460370. LOCAL NUMBER, 1046300 HAKMANG WELL 78--Continued

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.97	19.00	19.04	19.03	19.19	19.17	19.17	19.17	19.16	19.13	19.15	18.83
2	18.96	19.00	19.07	19.04	19.20	19.17	19.13	19.17	19.16	19.13	19.13	18.81
3	18.96	18.98	19.08	19.04	19.18	19.18	19.13	19.17	19.15	19.12	19.06	18.79
4	18.95	18.98	19.08	19.06	19.19	19.16	19.13	19.16	19.15	19.11	19.05	18.80
5	18.85	18.98	19.07	19.07	19.17	19.15	19.13	19.15	19.15	19.10	19.05	18.76
6	18.96	19.02	19.07	19.08	19.18	19.15	19.11	19.15	19.14	19.09	19.04	18.73
7	18.95	19.02	19.06	19.07	19.17	19.17	19.10	19.16	19.14	19.10	19.04	18.70
8	18.95	19.01	19.04	19.07	19.17	19.18	19.09	19.16	19.14	19.12	19.05	18.71
9	18.99	19.01	19.03	19.08	19.16	19.18	19.10	19.15	19.14	19.13	19.08	18.69
10	18.99	19.01	19.01	19.08	19.17	19.18	19.09	19.16	19.14	19.14	19.08	18.71
11	19.02	19.01	19.01	19.12	19.16	19.18	19.08	19.16	19.14	19.14	19.09	18.75
12	19.03	19.01	19.00	19.27	19.15	19.18	19.08	19.15	19.13	19.16	19.08	18.78
13	19.06	19.01	19.02	19.14	19.16	19.18	19.09	19.14	19.15	19.17	19.10	18.78
14	19.07	19.02	19.01	19.23	19.17	19.19	19.09	19.15	19.16	19.18	19.10	18.80
15	19.13	19.15	19.01	19.23	19.17	19.20	19.10	19.16	19.17	19.17	19.10	18.87
16	19.12	19.04	18.99	19.22	19.16	19.19	19.10	19.15	19.17	19.17	19.10	18.84
17	19.13	19.05	19.07	19.21	19.15	19.20	19.11	19.15	19.16	19.16	19.12	18.84
18	19.08	19.03	18.99	19.19	19.15	19.19	19.12	19.16	19.15	19.14	19.15	18.85
19	19.07	19.07	19.02	19.17	19.14	19.18	19.13	19.15	19.14	19.16	19.17	18.89
20	19.04	19.11	19.03	19.16	19.16	19.18	19.13	19.16	19.14	19.16	19.17	18.91
21	19.04	19.09	19.03	19.15	19.17	19.18	19.14	19.16	19.15	19.17	19.17	18.90
22	19.01	19.08	19.05	19.13	19.18	19.18	19.15	19.14	19.16	19.17	19.16	18.88
23	18.99	19.20	19.07	19.12	19.17	19.19	19.16	19.13	19.19	19.19	19.49	18.86
24	18.99	19.11	19.08	19.13	19.18	19.18	19.17	19.13	19.19	19.19	18.40	18.86
25	19.01	18.76	19.06	19.13	19.20	19.17	19.17	19.14	19.16	19.18	18.44	18.86
26	19.02	19.01	19.07	19.14	19.19	19.17	19.17	19.14	19.16	19.17	18.49	18.85
27	19.02	19.06	19.06	19.14	19.18	19.17	19.18	19.14	19.13	19.19	18.67	18.84
28	19.02	19.04	19.05	19.17	19.17	19.17	19.20	19.15	19.14	19.23	18.76	18.85
29	19.03	19.05	19.04	19.17	---	19.18	19.18	19.16	19.13	19.29	18.81	18.87
30	19.03	19.04	19.04	19.18	---	19.19	19.18	19.16	19.14	19.16	18.82	18.87
31	19.01	---	19.03	19.18	---	19.18	---	19.17	---	19.16	18.83	---
MEAN	19.01	19.03	19.04	19.14	19.17	19.18	19.13	19.15	19.15	19.16	19.00	18.82
MAX	19.13	19.20	19.08	19.27	19.20	19.20	19.20	19.17	19.19	19.29	19.49	18.91
MIN	18.85	18.76	18.99	19.03	19.14	19.15	19.08	19.13	19.13	19.09	18.40	18.69

WTR YR 1982 MEAN 19.08 MAX 19.49 MIN 18.40

MARIANA ISLANDS, ISLAND OF SAIPAN

151141145451570. Local number, 1145410 Akgak Well 45.

LOCATION.--Lat 15°11'41" N., long 145°45'15" E., Hydrologic Unit 20100006, 1.2 mi (1.9 km) south of Capitol Hill and 2.5 mi (4.0 km) north of San Vicente Village. Owner: Government of the Northern Mariana Islands.

AQUIFER.--Tagpochau limestone.

WELL CHARACTERISTICS.--Drilled perched water-table well, diameter 12 in (0.30 m), depth reported 195 ft (59.4 m).

DATUM.--Land-surface datum is 582 ft (177 m). Measuring point: Top of casing, 582.70 ft (177.607 m) above mean sea level. Prior to Apr. 23, 1981, recording gage at site 25 ft (7.6 m) east at datum 2.25 ft (0.686 m) lower.

PERIOD OF RECORD.--November 1972 to February 1976, January 1981 to May 1982 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 448.40 ft (136.672 m), above mean sea level, Aug. 27, 1981 (1600 hr); lowest, 414.23 ft (126.257 m), above mean sea level, Feb. 12, 1974.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	---		---	430.05	424.84	420.27	417.89	416.82	416.09
2		432.71	---	---		---	429.95	424.80	420.15	417.86	416.76	416.09
3		433.05	---	---		---	429.77	424.71	420.02	417.75	416.72	416.06
4		433.12	---	---		---	429.61	424.62	419.89	417.65	416.67	416.05
5		---	---	h431.80		---	429.40	424.45	419.81	417.67	416.63	416.01
6		---	---	---		---	429.20	424.34	419.70	417.67	416.58	416.00
7		---	h431.92	---		---	429.00	424.18	419.59	417.67	416.52	415.97
8		---	---	---		h432.47	428.86	424.04	419.48	417.59	416.49	415.95
9		---	---	---		---	428.70	423.88	419.38	417.61	416.46	415.93
10		---	---	---		---	428.52	423.73	419.28	417.60	416.44	415.94
11		---	---	---		---	428.35	423.57	419.22	417.59	416.41	415.92
12		---	---	---		---	428.16	423.46	419.15	417.55	416.38	415.90
13		---	---	---		---	427.95	423.35	419.08	417.53	416.35	415.87
14		---	---	---		---	427.75	423.15	419.01	417.54	416.32	415.84
15		---	---	---		---	427.55	423.00	418.94	417.47	416.32	415.92
16		---	---	---		---	427.38	422.82	418.87	417.41	416.32	416.05
17		---	---	---		---	427.21	422.62	418.80	417.40	416.31	415.17
18		---	---	---		---	427.01	422.45	418.72	417.36	416.29	414.97
19		---	---	---		---	426.84	422.23	418.66	417.33	416.27	416.22
20		---	---	---		---	426.66	422.00	418.60	417.29	416.26	416.27
21		---	---	---		---	426.48	421.80	418.59	417.23	416.25	416.23
22		---	---	---		---	426.30	421.60	418.55	417.20	416.24	416.17
23		---	---	---		431.35	426.10	421.40	418.49	417.15	416.23	416.09
24		---	---	---		431.45	425.91	421.30	418.43	417.10	416.21	416.03
25		---	---	---		431.41	425.72	421.17	418.37	417.05	416.20	416.00
26		---	---	---		431.25	425.61	421.08	418.27	417.02	416.17	416.01
27		---	---	---		431.05	425.37	420.92	418.18	417.00	416.15	415.94
28		---	---	---		430.87	425.23	420.80	418.10	416.95	416.13	415.93
29		---	---	---		---	425.10	420.68	418.03	416.90	416.10	415.91
30		---	---	---		430.10	424.97	420.55	417.96	416.85	416.10	415.88
31		---	---	---		430.10	---	420.42	---	416.81	416.10	---
MEAN		---	---	---		---	427.49	422.71	418.99	417.38	416.36	415.95
MAX		---	---	---		---	430.05	424.84	420.27	417.89	416.82	416.27
MIN		---	---	---		---	424.97	420.42	417.96	416.81	416.10	414.97

h Tape measurement.

MARIANA ISLANDS, ISLAND OF SAIPAN

151141145451570. LOCAL NUMBER, 1145410 AKGAK WELL 45--Continued

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	415.85	415.61	415.44	415.02	414.73	414.85	414.46	---	---	414.32	414.83	---
2	415.84	415.76	415.41	415.01	414.74	414.83	414.45	---	---	414.32	414.82	---
3	415.82	415.81	415.27	414.97	414.74	414.75	414.45	---	---	414.58	414.80	---
4	415.79	415.82	415.56	414.93	414.74	414.66	414.46	---	---	419.70	414.78	---
5	415.76	415.82	415.56	414.94	414.74	414.62	414.46	---	---	417.08	414.75	---
6	415.74	415.76	415.47	414.93	414.73	414.79	414.46	---	414.36	416.63	414.75	---
7	415.74	415.71	415.41	414.92	414.72	414.58	414.46	---	414.36	416.92	414.75	---
8	415.72	415.67	415.39	414.92	414.70	414.57	414.46	---	414.37	417.02	414.77	---
9	415.80	415.66	415.37	414.91	414.69	414.57	414.46	---	414.37	416.58	414.87	420.30
10	415.68	415.66	415.32	414.90	414.69	414.65	414.46	h 414.98	414.37	416.15	414.87	420.28
11	415.66	415.64	415.42	414.89	414.59	414.65	414.46	---	414.37	415.93	414.87	420.25
12	415.75	415.63	415.42	414.87	414.23	414.54	414.45	---	414.37	415.73	414.95	418.50
13	415.65	414.55	415.39	414.85	414.65	414.54	414.44	---	414.37	415.61	416.00	417.75
14	415.64	414.45	415.36	414.73	414.81	414.53	414.32	---	414.37	415.50	414.90	416.80
15	415.64	415.67	415.32	414.73	414.85	414.52	414.42	---	414.37	415.53	420.00	416.15
16	415.64	415.81	415.28	414.73	414.69	414.56	414.43	---	414.37	415.53	421.50	416.60
17	416.04	415.81	415.25	414.72	414.82	414.55	414.43	---	414.36	415.49	---	418.50
18	416.02	415.81	415.23	414.73	414.59	414.50	414.43	---	414.36	415.43	---	418.95
19	416.00	415.80	415.22	414.72	414.83	414.48	414.43	---	414.46	415.41	---	419.19
20	415.84	415.78	415.19	414.72	414.82	414.48	414.43	---	414.35	415.33	416.95	423.00
21	415.73	415.75	415.18	414.72	414.92	414.46	414.43	---	414.35	415.29	416.75	424.00
22	415.67	415.74	415.17	414.73	414.88	414.46	414.42	---	414.35	415.23	416.53	424.08
23	415.63	415.74	415.15	414.71	414.82	414.46	414.42	---	414.35	415.22	416.40	424.18
24	415.61	415.74	415.15	414.72	414.77	414.46	414.42	---	414.35	415.17	---	424.20
25	415.59	415.74	415.14	414.72	414.71	414.46	414.41	---	414.34	415.11	---	424.25
26	415.58	415.74	415.12	414.71	414.81	414.46	414.39	---	414.34	415.02	---	424.35
27	415.57	415.56	415.11	414.71	414.79	414.46	414.27	---	414.33	414.97	---	424.60
28	415.55	415.54	415.09	414.71	414.72	414.46	414.39	---	414.33	414.94	---	427.45
29	415.53	415.51	415.07	414.72	---	414.46	414.67	---	414.33	414.89	---	428.00
30	415.53	415.48	415.04	414.73	---	414.46	---	---	414.32	414.83	---	428.42
31	415.56	---	415.03	414.73	---	414.46	---	---	---	414.82	---	---
MEAN	415.72	415.63	415.28	414.81	414.73	414.56	---	---	---	415.62	---	---
MAX	416.04	415.82	415.56	415.02	414.92	414.85	---	---	---	419.70	---	---
MIN	415.53	414.45	415.03	414.71	414.23	414.46	---	---	---	414.32	---	---

h Tape measurement.

GROUND-WATER RECORDS

MARIANA ISLANDS, ISLAND OF SAIPAN

151141145451570. LOCAL NUMBER, 1145410 AKGAK WELL 45--Continued

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	428.42	426.63		---	---	---	---	---	---	---	h418.13	---
2	428.56	426.57		---	---	---	---	---	---	---	---	---
3	428.63	427.45		---	---	---	---	---	---	h416.95	---	---
4	428.70	---		---	---	---	---	---	---	---	---	---
5	428.79	---		---	---	h424.26	---	---	---	---	---	---
6	428.83	---		---	---	---	---	---	h418.08	---	---	---
7	428.89	---		---	h425.85	---	---	---	---	---	---	---
8	429.13	---		---	---	---	---	---	---	---	---	---
9	429.30	---		---	---	---	---	h418.26	---	---	---	---
10	429.40	---		---	---	---	---	---	---	---	---	---
11	429.45	---		---	---	---	h425.66	---	---	---	---	h422.99
12	429.58	h443.96		---	---	---	---	---	---	---	---	---
13	429.83	---		---	---	---	---	---	---	---	---	---
14	430.02	---		---	---	h424.94	---	---	---	---	h427.15	---
15	430.06	---		h428.02	---	---	---	---	---	---	---	---
16	430.06	---		---	---	---	---	---	---	---	---	---
17	430.00	---		---	---	---	---	---	---	h416.63	---	---
18	429.94	---		---	---	---	---	---	---	---	---	---
19	429.79	---		---	---	---	---	---	h417.34	---	---	---
20	429.59	---		---	---	---	---	---	---	---	---	---
21	429.47	---		---	h424.82	---	---	---	---	---	---	---
22	429.35	---		---	---	---	---	---	---	---	---	---
23	429.70	---		---	---	---	---	h417.88	---	---	---	---
24	---	---		---	---	---	---	---	---	---	---	---
25	---	---		---	---	---	h419.21	---	---	---	---	h420.27
26	---	---		---	---	---	---	---	---	---	---	---
27	---	---		---	---	---	---	---	---	---	---	---
28	---	---		---	h424.73	---	---	---	---	---	---	---
29	---	---		---	---	---	---	---	---	---	h421.14	---
30	426.73	---		---	---	---	---	---	---	---	---	---
31	426.67	---		h426.55	---	h421.48	---	---	---	---	---	---
MEAN	---	---		---	---	---	---	---	---	---	---	---
MAX	---	---		---	---	---	---	---	---	---	---	---
MIN	---	---		---	---	---	---	---	---	---	---	---

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 9	h422.22	NOV 7	h422.02	DEC 5	h421.99	JAN 15	h419.92	JAN 30	h431.35	FEB 12	h428.05
OCT 28	h421.85	NOV 24	h421.86	DEC 19	h429.35						

h Tape measurement.

MARIANA ISLANDS, ISLAND OF SAIPAN

151141145451570. LOCAL NUMBER, 1145410 AKGAK WELL 45--Continued

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	417.17	416.49	416.24	415.84	415.55	415.27	---	445.76
2				---	417.14	416.48	416.22	415.83	415.55	415.25	---	444.70
3				---	417.09	416.48	416.22	415.82	415.55	415.24	---	443.55
4				---	417.05	416.47	416.21	415.81	415.54	415.21	---	442.35
5				---	416.99	416.47	416.20	415.80	415.52	415.20	---	441.05
6				---	416.95	416.47	416.20	415.78	415.51	415.28	---	439.73
7				---	416.93	416.47	416.18	415.77	415.51	415.16	---	438.54
8				---	416.90	416.43	416.17	415.76	415.50	415.16	---	437.46
9				---	416.89	416.38	416.15	415.75	415.49	415.16	---	436.51
10				---	416.85	416.34	416.13	415.74	415.48	415.16	---	435.60
11				---	416.83	416.33	416.12	415.73	415.47	415.14	---	434.76
12				---	416.81	416.33	416.11	415.72	415.46	415.13	---	433.97
13				---	416.79	416.33	416.11	415.71	415.44	415.13	---	433.22
14				---	416.76	416.33	416.11	415.70	415.43	415.13	---	432.50
15				---	416.76	416.32	416.10	415.67	415.41	415.12	---	431.80
16				---	416.73	416.32	416.09	415.66	415.40	415.12	---	431.19
17				---	416.71	416.32	416.08	415.65	415.39	415.11	---	430.60
18				---	416.70	416.32	416.07	415.64	415.36	415.10	---	430.15
19				---	416.70	416.32	416.06	415.63	415.35	415.09	---	429.79
20				---	416.68	416.31	416.06	415.62	415.33	415.08	---	429.37
21				---	416.67	416.31	416.01	415.61	415.33	415.07	---	428.91
22				---	416.64	416.31	416.00	415.61	415.33	415.05	---	428.57
23				417.38	416.63	416.30	416.00	415.61	415.33	415.04	---	428.00
24				417.34	416.61	416.29	415.92	415.60	415.33	415.03	---	427.51
25				417.30	416.59	416.29	415.90	415.60	415.33	415.01	---	427.05
26				417.28	416.56	416.28	415.89	415.60	415.34	415.00	---	426.63
27				417.27	416.54	416.28	415.89	415.59	415.33	414.99	---	426.45
28				417.25	416.52	416.28	415.88	415.59	415.32	414.98	447.85	426.19
29				417.24	---	416.27	415.87	415.59	415.30	414.96	447.80	425.94
30				417.22	---	416.26	415.86	415.58	415.29	415.29	447.47	425.67
31				417.20	---	416.25	---	415.56	---	415.83	446.75	---
MEAN				---	416.79	416.35	416.07	415.68	415.42	415.14	---	433.12
MAX				---	417.17	416.49	416.24	415.84	415.55	415.83	---	445.76
MIN				---	416.52	416.25	415.86	415.56	415.29	414.96	---	425.67

MARIANA ISLANDS, ISLAND OF SAIPAN

151141145451570. LOCAL NUMBER, 1145410 AKGAK WELL 45--Continued

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, OCTOBER 1981 TO MAY 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	425.47	422.13	430.39	429.91	430.99	426.90	419.57	---				
2	425.36	422.01	430.43	429.77	430.97	426.65	419.41	---				
3	425.25	421.89	430.45	429.66	430.92	426.37	419.27	h417.00				
4	425.11	421.77	430.43	429.54	430.86	426.08	419.11	h417.00				
5	424.93	421.62	430.39	429.42	430.80	425.82	418.98	h417.10				
6	424.75	421.50	430.34	429.32	430.71	425.60	418.85	h417.10				
7	424.55	421.36	430.27	429.20	430.58	425.37	418.74	---				
8	424.28	421.22	430.15	429.07	430.45	425.14	418.64	---				
9	424.05	421.09	430.06	428.92	430.32	424.88	418.54	---				
10	423.79	420.93	429.97	428.77	430.21	424.63	418.52	h418.40				
11	423.52	420.78	429.90	429.17	430.09	424.35	418.49	h418.00				
12	423.28	420.66	429.81	430.34	429.92	424.20	418.43	---				
13	423.00	420.55	429.74	432.09	429.82	423.90	418.39	---				
14	422.78	420.45	429.63	431.80	429.70	423.60	418.37	---				
15	422.62	421.62	429.49	431.69	429.57	423.30	---	---				
16	422.47	423.67	429.34	431.68	429.39	423.00	---	---				
17	422.96	423.67	430.65	431.68	429.22	422.70	---	---				
18	423.19	423.90	430.88	431.69	429.04	422.40	---	---				
19	423.14	424.19	430.87	431.69	428.89	422.40	---	---				
20	423.07	424.99	430.87	431.67	428.68	422.20	---	---				
21	422.98	425.60	430.87	431.61	428.50	422.00	---	---				
22	422.89	425.90	430.87	431.59	428.32	421.70	---	---				
23	422.79	426.10	430.83	431.53	428.12	421.40	---	---				
24	422.71	431.83	430.77	431.44	427.92	421.12	---	---				
25	422.69	430.41	430.68	431.36	427.75	420.90	---	---				
26	422.63	430.19	430.59	431.30	427.55	420.67	---	---				
27	422.59	430.16	430.49	431.21	427.35	420.44	---	---				
28	422.52	430.21	430.39	431.16	427.13	420.25	---	---				
29	422.44	430.29	430.28	431.11	---	420.07	h417.20	---				
30	422.38	430.33	430.17	431.08	---	419.90	---	---				
31	422.28	---	430.06	431.03	---	419.71	---	---				
MEAN	423.43	424.37	430.32	430.69	429.42	423.15	---	---				
MAX	425.47	431.83	430.88	432.09	430.99	426.90	---	---				
MIN	422.28	420.45	429.34	428.77	427.13	419.71	---	---				

h Tape measurement.

GROUND-WATER RECORDS

MARIANA ISLANDS, ISLAND OF SAIPAN

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

STATION NUMBER	LOCAL WELL NUMBER	LATI-TUDE	LONGI-TUDE	SEQ. NO.	DATE OF SAMPLE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
150728145431470	0743210	15 07 28	145 43 14	70	82-08-18	1455	3370	28.0	900
150723145431170	0743211	15 07 23	145 43 11	70	82-08-18	1505	5200	28.0	1500
150731145430870	0743300	15 07 31	145 43 08	70	82-08-18	1435	3460	28.0	920
150737145431070	0743310	15 07 37	145 43 10	70	82-08-18	1430	1350	28.0	260
150732145431270	0743311	15 07 32	145 43 12	70	82-08-18	1440	4020	28.0	1100
150730145431370	0743312	15 07 30	145 43 13	70	82-08-18	1450	3420	28.0	880
150732145432070	0743320	15 07 32	145 43 20	70	82-08-18	1458	3170	28.0	850
150738145435870	0743350	15 07 38	145 43 58	70	82-08-18	1525	980	--	130
150730145435270	0743351	15 07 30	145 43 52	70	82-08-18	1535	870	--	110
150744145430370	0743400	15 07 44	145 43 03	70	82-08-18	1420	4710	28.0	1400
150749145434170	0743440	15 07 49	145 43 41	70	82-08-18	1545	1580	29.0	310
150743145435470	0743450	15 07 43	145 43 54	70	82-08-18	1515	1540	29.0	300
150740145435570	0743451	15 07 40	145 43 55	70	82-08-18	1520	1120	29.0	170
150731145440370	0744300	15 07 31	145 44 03	70	82-08-18	1530	1160	--	180
150737145440670	0744301	15 07 37	145 44 06	70	82-08-18	1540	1630	--	330
150905145435670	0943050	15 09 05	145 43 56	70	82-08-18	1555	2720	29.0	700
151127145434270	1143240	15 11 27	145 43 42	70	82-08-18	1605	1350	29.0	260
151127145434070	1143241	15 11 27	145 43 40	70	82-08-18	1610	3090	29.0	800
151248145443470	1244430	15 12 48	145 44 34	70	82-08-18	1635	4130	28.5	1100
151246145443770	1244431	15 12 46	145 44 37	70	82-08-18	1645	2840	28.0	650
151250145443370	1244530	15 12 50	145 44 33	70	82-08-18	1625	4730	29.5	1400
151250145444170	1244540	15 12 50	145 44 41	70	82-08-18	1650	2850	28.0	700

MARIANA ISLANDS, ISLAND OF GUAM

132624144452771. Local number, 2645220 Ordot Well A-20.

LOCATION.--Lat 13°26'24" N., long 144°45'27" E., Hydrologic Unit 20100003, at Ordot School, 1.4 mi (2.3 km) west of junction of Routes 4 and 10, Ordot, Guam. Owner: Government of Guam.

AQUIFER.--Mariana Limestone and Alutom formation.

WELL CHARACTERISTICS.--Drilled parabasal water-table well, diameter 6 in (0.2 m), depth reported 120 ft (36.6 m).

DATUM.--Land-surface datum is 137 ft (41.8 m). Measuring point: Top of casing, 141.74 ft (43.202 m) above mean sea level.

REMARKS.--Records prior to October 1976 are available in files of district office.

PERIOD OF RECORD.--January 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 54.03 ft (16.468 m) above mean sea level, Oct. 21, 1980; lowest, 33.03 ft (10.068 m) above mean sea level, June 15-16, 1978.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.25	47.27	48.77	48.99	45.68	43.09	39.91	37.57	36.27	35.65	37.90	39.35
2	46.31	47.33	48.83	48.96	45.56	43.00	39.84	37.50	36.27	35.75	37.98	39.37
3	46.35	47.37	48.88	48.88	45.43	42.89	39.78	37.43	36.23	35.82	38.07	39.38
4	46.38	47.43	48.92	48.83	45.31	42.79	39.70	37.34	36.20	35.89	38.19	39.45
5	46.41	47.49	48.92	48.76	45.22	42.69	39.64	37.27	36.17	35.98	38.34	39.53
6	46.42	47.53	48.92	48.67	45.12	42.59	39.55	37.22	36.14	36.07	38.53	39.59
7	46.39	47.56	48.90	48.60	45.00	42.48	39.44	37.14	36.10	36.12	38.66	39.65
8	46.36	47.58	48.87	48.52	44.87	42.36	39.42	37.10	36.08	36.16	38.78	39.85
9	46.34	47.61	48.83	48.42	44.75	42.25	39.31	37.05	36.05	36.20	38.91	40.15
10	46.30	47.63	48.80	48.32	44.65	42.13	39.24	36.99	36.00	36.26	39.05	40.38
11	46.25	47.66	48.78	48.21	44.56	42.02	39.18	36.91	35.96	36.51	39.12	40.62
12	46.19	47.69	48.77	48.10	44.46	41.90	39.10	36.84	35.93	36.34	39.19	40.91
13	46.14	47.70	48.83	48.00	44.37	41.80	39.00	36.79	35.90	36.40	39.24	41.25
14	46.09	47.70	48.78	47.89	44.28	41.70	38.90	36.74	35.88	36.49	39.30	41.58
15	46.05	47.70	48.78	47.77	44.18	41.60	38.80	36.69	35.85	36.58	39.32	41.85
16	45.95	47.66	48.78	47.65	44.08	41.50	38.70	36.64	35.82	36.65	39.33	42.18
17	45.85	47.61	48.78	47.53	43.99	41.42	38.58	36.60	35.80	36.74	39.33	42.47
18	45.78	47.58	48.79	47.40	43.85	41.31	38.52	36.57	35.78	36.82	39.31	42.78
19	45.79	47.57	48.80	47.28	43.75	41.20	38.43	36.54	35.75	36.88	39.31	43.15
20	45.92	47.60	48.85	47.14	43.67	41.12	38.35	36.52	35.71	36.97	39.26	43.50
21	46.08	47.54	48.92	47.02	43.60	41.00	38.28	36.50	35.67	37.08	39.22	43.78
22	46.19	47.63	48.98	46.89	43.55	40.89	38.22	36.47	35.64	37.20	39.18	44.04
23	46.28	47.77	49.04	46.77	43.52	40.80	38.15	36.41	35.60	37.34	39.15	44.25
24	46.40	47.89	49.08	46.63	43.44	40.71	38.09	36.39	35.54	37.43	39.15	44.43
25	46.52	48.02	49.10	46.52	43.36	40.61	38.01	36.37	35.48	37.52	39.17	44.58
26	46.64	48.20	49.11	46.40	43.30	40.48	37.93	36.37	35.46	37.60	39.15	44.75
27	46.76	48.37	49.12	46.28	43.23	40.40	37.85	36.36	35.48	37.66	39.22	44.90
28	46.89	48.51	49.12	46.17	43.16	40.32	37.78	36.34	35.51	37.72	39.22	45.10
29	47.02	48.61	49.11	46.05	---	40.22	37.69	36.32	35.56	37.76	39.23	45.30
30	47.12	48.69	49.08	45.92	---	40.13	37.64	36.31	35.61	37.81	39.27	45.45
31	47.20	---	49.04	45.80	---	40.01	---	36.29	---	37.85	39.32	---
MEAN	46.34	47.75	48.91	47.56	44.28	41.53	38.77	36.76	35.85	36.74	38.98	42.12
MAX	47.20	48.69	49.12	48.99	45.68	43.09	39.91	37.57	36.27	37.85	39.33	45.45
MIN	45.78	47.27	48.77	45.80	43.16	40.01	37.64	36.29	35.46	35.65	37.90	39.35

WTR YR 1982 MEAN 42.13 MAX 49.12 MIN 35.46

GROUND-WATER RECORDS

MARIANA ISLANDS, ISLAND OF GUAM

132644144480871. Local number, 2648400 BPM Well 1.

LOCATION.--Lat 13°26'44" N., long 144°48'08" E., Hydrologic Unit 20100003, on lot number 2287, 0.2 mi (0.3 km) southeast of junction of Routes 15 and 10, Mangilao, Guam. Owner: Ana P. Diaz.

AQUIFER.--Coralline Limestone, probably Miocene age.

WELL CHARACTERISTICS.--Drilled basal water-table well, diameter 12 in (0.30 m), depth reported 235 ft (71.6 m).

DATUM.--Land-surface datum is 210 ft (64.0 m). Measuring point: Top edge of casing, 209.90 ft (63.978 m) above mean sea level.

REMARKS.--Records prior to October 1977 are available in files of district office.

PERIOD OF RECORD.--February 1972 to September 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.45 ft (1.356 m) above mean sea level, May 22, 1976; lowest recorded, 2.20 ft (0.671 m) above mean sea level, Jan. 12, 1980.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.29	3.16	3.24	2.90	3.13	3.08	3.21	3.03	2.89	2.90	2.63	2.62
2	3.27	3.15	3.23	2.91	3.14	3.08	3.19	3.01	2.87	2.90	2.62	2.65
3	3.28	3.13	3.21	2.93	3.15	3.09	3.16	3.01	2.86	2.89	2.56	2.67
4	3.28	3.11	3.21	2.98	3.16	3.09	3.15	3.03	2.85	2.88	2.51	2.69
5	3.28	3.10	3.20	3.00	3.16	3.09	3.16	3.03	2.84	2.85	2.49	2.71
6	3.27	3.10	3.19	3.04	3.16	3.08	3.16	3.03	2.82	2.82	2.49	2.72
7	3.26	3.09	3.18	3.12	3.17	3.10	3.14	3.03	2.83	2.81	2.50	2.72
8	3.24	3.09	3.15	3.12	3.16	3.11	3.13	3.04	2.79	2.82	2.50	2.73
9	3.26	3.07	3.12	3.15	3.13	3.12	3.12	3.03	2.77	2.83	2.52	2.73
10	3.26	3.08	3.12	3.17	3.10	3.15	3.12	3.03	2.74	2.83	2.57	2.73
11	3.29	3.08	3.14	3.19	3.09	3.18	3.10	3.02	2.74	2.83	2.57	2.83
12	3.31	3.09	3.19	3.19	3.07	3.20	3.09	3.02	2.73	2.83	2.55	2.91
13	3.37	3.10	3.26	3.20	3.07	3.21	3.08	2.99	2.73	2.83	2.55	2.90
14	3.40	3.12	3.35	3.21	3.06	3.20	3.08	2.98	2.74	2.85	2.59	2.86
15	3.45	3.14	3.27	3.22	3.07	3.21	3.07	2.97	2.75	2.87	2.60	2.81
16	3.47	3.15	3.19	3.22	3.06	3.20	3.06	2.96	2.77	2.89	2.61	2.76
17	3.46	3.12	3.09	3.21	3.05	3.21	3.03	2.95	2.81	2.90	2.60	2.72
18	3.43	3.11	3.03	3.19	3.05	3.23	3.03	2.94	2.84	2.91	2.60	2.69
19	3.41	3.09	3.00	3.16	3.05	3.22	3.02	2.93	2.89	2.91	2.61	2.69
20	3.41	3.13	3.00	3.14	3.06	3.23	3.01	2.93	2.95	2.94	2.65	2.69
21	3.39	3.20	2.99	3.11	3.08	3.25	3.00	2.92	2.99	2.95	2.66	2.67
22	3.34	3.26	2.96	3.09	3.09	3.26	3.01	2.91	3.03	2.97	2.64	2.64
23	3.27	3.32	2.97	3.07	3.10	3.27	3.03	2.92	3.09	3.00	2.60	2.60
24	3.26	3.36	2.98	3.06	3.12	3.26	3.04	2.93	3.11	3.07	2.57	2.57
25	3.24	3.36	2.96	3.06	3.13	3.26	3.04	2.94	3.11	3.02	2.56	2.54
26	3.24	3.37	2.96	3.05	3.13	3.25	3.04	2.96	3.08	2.96	2.56	2.49
27	3.23	3.32	2.95	3.06	3.11	3.24	3.05	2.95	3.05	2.89	2.55	2.47
28	3.23	3.28	2.93	3.07	3.09	3.24	3.05	2.94	2.99	2.87	2.57	2.48
29	3.22	3.25	2.91	3.09	---	3.24	3.05	2.93	2.97	2.84	2.59	2.49
30	3.20	3.24	2.91	3.11	---	3.23	3.04	2.91	2.94	2.77	2.61	2.49
31	3.18	---	2.89	3.12	---	3.22	---	2.90	---	2.68	2.62	---
MEAN	3.31	3.17	3.09	3.10	3.11	3.19	3.08	2.97	2.89	2.88	2.58	2.68
MAX	3.47	3.37	3.35	3.22	3.17	3.27	3.21	3.04	3.11	3.07	2.66	2.91
MIN	3.18	3.07	2.89	2.90	3.05	3.08	3.00	2.90	2.73	2.68	2.49	2.47

WTR YR 1982 MEAN 3.00 MAX 3.47 MIN 2.47

MARIANA ISLANDS, ISLAND OF GUAM

132824144464271. Local number, 2846541 ACEORP Tunnel.

LOCATION.--Lat 13°28'24" N., long 144°46'42" E., Hydrologic Unit 20100003, behind Navy Telephone Exchange, 0.35 mi (0.56 km) southwest of junction of Routes 1 and 14, Tamuning, Guam. 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 (45.7 m) each and tunnel 3 is 700 ft (213 m) in length.

DATUM.--Land-surface datum is 180 ft (54.9 m). Measuring point: Top of wooden recorder shelf, 9.28 ft (2.829 m) above mean sea level.

REMARKS.--Records prior to October 1977 are available in files of district office.

PERIOD OF RECORD.--October 1954 to December 1959, September 1960 to May 1965, March 1973 to September 1977, October 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.95 ft (1.509 m) above mean sea level, May 22, 1976; lowest recorded, 1.98 ft (0.604 m) above mean sea level, Feb. 23, 1979.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.00	2.86	2.89	2.49	2.88	2.82	2.92	2.64	2.54	2.78	2.58	2.52
2	3.00	2.82	2.89	2.50	2.92	2.78	2.86	2.62	2.53	2.76	2.56	2.58
3	2.97	2.78	2.85	2.53	2.92	2.77	2.81	2.63	2.52	2.74	2.44	2.59
4	2.96	2.77	2.84	2.60	2.91	2.73	2.81	2.64	2.51	2.68	2.38	2.57
5	2.94	2.76	2.92	2.65	2.92	2.75	2.82	2.64	2.50	2.63	2.37	2.59
6	2.92	2.77	2.93	2.74	2.91	2.79	2.80	2.65	2.49	2.59	2.37	2.61
7	2.89	2.77	2.89	2.76	2.90	2.79	2.78	2.68	2.48	2.60	2.36	2.76
8	2.87	2.75	2.83	2.78	2.88	2.77	2.76	2.69	2.45	2.62	2.35	2.76
9	2.84	2.73	2.78	2.81	2.86	2.74	2.74	2.69	2.44	2.63	2.35	2.66
10	2.80	2.75	2.83	2.84	2.86	2.75	2.71	2.68	2.41	2.62	2.41	2.63
11	2.82	2.78	2.88	2.87	2.84	2.77	2.70	2.68	2.42	2.62	2.41	2.74
12	2.83	2.80	2.93	2.89	2.82	2.78	2.70	2.67	2.40	2.62	2.39	2.68
13	2.87	2.80	3.01	2.87	2.78	2.77	2.73	2.63	2.41	2.62	2.41	2.62
14	2.91	2.84	2.99	2.87	2.77	2.77	2.71	2.63	2.43	2.63	2.45	2.66
15	2.97	2.86	2.96	2.88	2.74	2.78	2.67	2.65	2.45	2.63	2.47	2.69
16	3.04	2.87	2.93	2.87	2.73	2.78	2.66	2.63	2.47	2.62	2.45	2.59
17	3.06	2.81	2.88	2.86	2.74	2.80	2.63	2.65	2.49	2.64	2.44	2.56
18	3.08	2.76	2.79	2.85	2.75	2.80	2.61	2.63	2.54	2.65	2.43	2.56
19	3.20	2.75	2.71	2.83	2.76	2.78	2.62	2.61	2.62	2.69	2.44	2.55
20	3.28	2.85	2.65	2.84	2.77	2.78	2.60	2.58	2.68	2.76	2.46	2.51
21	3.23	2.99	2.59	2.85	2.85	2.83	2.61	2.57	2.72	2.76	2.51	2.45
22	3.08	3.04	2.58	2.87	2.87	2.85	2.61	2.58	2.76	2.76	2.52	2.42
23	3.03	3.03	2.64	2.84	2.85	2.86	2.65	2.62	2.86	2.77	2.55	2.38
24	2.98	3.06	2.63	2.80	2.82	2.85	2.66	2.69	3.00	2.83	2.54	2.37
25	3.00	3.03	2.61	2.76	2.84	2.89	2.67	2.72	3.06	2.98	2.52	2.35
26	3.03	2.99	2.59	2.74	2.84	2.90	2.69	2.70	3.04	2.86	2.51	2.29
27	3.00	2.93	2.58	2.75	2.80	2.84	2.69	2.66	2.96	2.81	2.50	2.26
28	2.98	2.89	2.57	2.76	2.84	2.84	2.70	2.64	2.90	2.81	2.54	2.30
29	2.94	2.86	2.56	2.77	---	2.86	2.72	2.61	2.85	2.81	2.52	2.30
30	2.92	2.86	2.53	2.79	---	2.85	2.69	2.59	2.81	2.69	2.50	2.30
31	2.89	---	2.51	2.81	---	2.89	---	2.57	---	2.60	2.48	---
MEAN	2.98	2.85	2.77	2.78	2.83	2.81	2.71	2.64	2.62	2.70	2.46	2.53
MAX	3.28	3.06	3.01	2.89	2.92	2.90	2.92	2.72	3.06	2.98	2.58	2.76
MIN	2.80	2.73	2.51	2.49	2.73	2.73	2.60	2.57	2.40	2.59	2.35	2.26

WTR YR 1982 MEAN 2.72 MAX 3.28 MIN 2.26

MARIANA ISLANDS, ISLAND OF GUAM

132813144472771. Local number, 2847120 Barrigada Well 2 (A-16).

LOCATION.--Lat 13°28'13" N., long 144°47'27" E., Hydrologic Unit 20100003, at Carbullido School, 0.60 mi (0.97 km) west of junction of Routes 8 and 10, Barrigada, Guam. Owner: Public Utility Agency of Guam.

AQUIFER.--Mariana Limestone, probably Pliocene age.

WELL CHARACTERISTICS.--Drilled basal water-table well, diameter 12 in (0.30 m), depth reported 215 ft (65.5 m).

DATUM.--Land-surface datum is 207 ft (63.1 m) above mean sea level. Measuring point: Top of casing, 208.00 ft (63.398 m) above mean sea level.

REMARKS.--Records prior to October 1977 are available in files of district office.

PERIOD OF RECORD.--June 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 6.71 ft (2.045 m) May 22, 1976; lowest recorded, 3.09 ft (0.942 m) above mean sea level, Dec. 7, 8, 1974.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.28	4.15	4.19	3.81	4.12	4.04	4.08	3.82	3.69	3.85	3.63	3.60
2	4.28	4.11	4.19	3.79	4.14	4.02	4.05	3.79	3.68	3.83	3.62	3.67
3	4.25	4.08	4.16	3.80	4.14	4.00	4.02	3.79	3.66	3.80	3.58	3.68
4	4.24	4.07	4.15	3.84	4.14	3.97	3.98	3.80	3.65	3.74	3.49	3.67
5	4.22	4.07	4.19	3.89	4.14	3.98	3.99	3.81	3.63	3.70	3.46	3.68
6	4.19	4.06	4.21	3.97	4.13	3.99	3.99	3.81	3.62	3.68	3.44	3.72
7	4.17	4.06	4.19	4.01	4.12	4.00	3.96	3.82	3.61	3.68	3.44	3.85
8	4.16	4.00	4.14	4.02	4.12	4.00	3.95	3.83	3.61	3.70	3.43	3.85
9	4.12	3.94	4.10	4.05	4.12	3.99	3.91	3.83	3.58	3.71	3.43	3.77
10	4.09	3.94	4.13	4.08	4.09	3.99	3.90	3.82	3.55	3.69	3.45	3.75
11	4.09	3.94	4.19	4.12	4.08	4.02	3.88	3.83	3.55	3.69	3.47	3.83
12	4.10	3.95	4.23	4.13	4.06	4.02	3.88	3.81	3.54	3.69	3.46	3.77
13	4.14	3.97	4.30	4.12	4.04	4.02	3.90	3.79	3.54	3.69	3.47	3.71
14	4.18	3.98	4.31	4.12	4.04	4.01	3.88	3.78	3.55	3.70	3.51	3.76
15	4.21	4.00	4.27	4.12	4.02	4.02	3.86	3.77	3.57	3.71	3.53	3.79
16	4.30	4.00	4.24	4.11	4.02	4.02	3.83	3.79	3.59	3.71	3.53	3.72
17	4.34	3.99	4.18	4.10	4.01	4.03	3.79	3.80	3.61	3.71	3.52	3.66
18	4.35	3.95	4.12	4.08	4.02	4.04	3.78	3.78	3.63	3.72	3.52	3.65
19	4.43	3.93	4.07	4.07	4.01	4.03	3.76	3.76	3.68	3.76	3.52	3.64
20	4.55	3.99	4.06	4.08	4.04	4.02	3.75	3.75	3.74	3.81	3.52	3.60
21	4.53	4.18	4.00	4.09	4.07	4.04	3.75	3.74	3.78	3.83	3.53	3.56
22	4.41	4.34	3.95	4.10	4.07	4.05	3.76	3.74	3.83	3.84	3.55	3.51
23	4.32	4.32	3.96	4.07	4.07	4.06	3.78	3.75	3.90	3.85	3.57	3.48
24	4.26	4.40	3.96	4.03	4.05	4.05	3.80	3.78	4.05	3.88	3.57	3.46
25	4.26	4.37	3.92	4.00	4.06	4.06	3.82	3.82	4.12	3.95	3.57	3.44
26	4.31	4.35	3.90	3.98	4.06	4.07	3.83	3.82	4.11	3.92	3.56	3.38
27	4.29	4.29	3.89	4.00	4.03	4.05	3.84	3.80	4.03	3.87	3.54	3.35
28	4.27	4.24	3.87	4.00	4.05	4.04	3.85	3.78	3.96	3.85	3.64	3.40
29	4.22	4.20	3.86	4.02	---	4.06	3.87	3.76	3.91	3.85	3.63	3.40
30	4.20	4.19	3.84	4.03	---	4.04	3.85	3.74	3.88	3.77	3.61	3.40
31	4.19	---	3.82	4.06	---	4.06	---	3.72	---	3.68	3.59	---
MEAN	4.26	4.10	4.08	4.02	4.07	4.03	3.88	3.79	3.73	3.77	3.53	3.62
MAX	4.55	4.40	4.31	4.13	4.14	4.07	4.08	3.83	4.12	3.95	3.64	3.85
MIN	4.09	3.93	3.82	3.79	4.01	3.97	3.75	3.72	3.54	3.68	3.43	3.35

WTR YR 1982 MEAN 3.91 MAX 4.55 MIN 3.35

MARIANA ISLANDS, ISLAND OF GUAM

133032144491871. Local number, 3049311 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, Guam. Owner: Public Utility Agency of Guam.

AQUIFER.--Barrigada Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, diameter 8 in (0.20 m), depth reported 288 ft (87.8 m).

DATUM.--Land-surface datum is 227 ft (69.2 m) above mean sea level. Measuring point: Top edge of shelter floor, 228.70 ft (69.708 m) above mean sea level.

REMARKS.--Well was abandoned in 1973 because of oil taste and high iron content. Records prior to October 1977 are available in files of district office.

PERIOD OF RECORD.--January 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.61 ft (1.405 m) above mean sea level, May 23, 1976; lowest recorded, 2.27 ft (0.692 m) above mean sea level, Feb. 23, 24, 1979.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.45	3.11	3.12	2.76	3.21	3.19	3.28	3.04	2.92	3.08	2.90	2.73
2	3.41	3.09	3.13	2.77	3.23	3.17	3.25	3.02	2.91	3.04	2.87	2.74
3	3.36	3.05	3.11	2.80	3.23	3.15	3.21	3.02	2.91	3.01	2.82	2.75
4	3.35	3.02	3.11	2.85	3.23	3.11	3.18	3.03	2.90	2.99	2.72	2.74
5	3.33	3.00	3.16	2.91	3.23	3.10	3.18	3.04	2.89	2.95	2.65	2.76
6	3.27	3.00	3.17	2.98	3.22	3.12	3.18	3.04	2.88	2.94	2.63	2.76
7	3.23	2.99	3.16	3.01	3.21	3.14	3.17	3.05	2.86	2.95	2.62	2.85
8	3.20	2.98	3.12	3.03	3.20	3.14	3.17	3.06	2.84	2.96	2.61	2.95
9	3.18	2.96	3.06	3.06	3.18	3.13	3.16	3.05	2.83	2.96	2.61	2.92
10	3.17	2.97	3.04	3.10	3.17	3.12	3.13	3.05	2.81	2.96	2.63	2.85
11	3.17	2.98	3.09	3.13	3.18	3.15	3.10	3.05	2.82	2.95	2.64	2.88
12	3.20	3.00	3.13	3.14	3.16	3.16	3.08	3.03	2.81	2.94	2.64	2.87
13	3.23	3.00	3.18	3.15	3.13	3.16	3.10	3.01	2.82	2.95	2.64	2.82
14	3.26	3.03	3.20	3.16	3.12	3.14	3.12	3.00	2.82	2.96	2.72	2.83
15	3.33	3.06	3.21	3.15	3.11	3.13	3.08	3.00	2.83	2.97	2.73	2.86
16	3.37	3.08	3.23	3.16	3.09	3.15	3.05	3.00	2.84	2.96	2.72	2.82
17	3.40	3.05	3.21	3.15	3.08	3.17	3.02	3.00	2.87	2.97	2.71	2.78
18	3.43	3.00	3.13	3.13	3.09	3.18	3.00	2.99	2.89	2.98	2.70	2.83
19	3.44	2.98	3.03	3.15	3.09	3.18	3.00	2.99	2.94	3.01	2.69	2.84
20	3.45	3.03	2.95	3.15	3.10	3.16	3.00	2.97	3.00	3.06	2.70	2.81
21	3.42	3.10	2.89	3.16	3.14	3.17	2.99	2.96	3.04	3.07	2.73	2.78
22	3.37	3.18	2.85	3.18	3.18	3.20	2.99	2.96	3.11	3.07	2.82	2.75
23	3.33	3.22	2.90	3.15	3.18	3.21	3.00	3.00	3.19	3.09	2.85	2.73
24	3.28	3.25	2.89	3.10	3.16	3.20	3.02	3.10	3.36	3.20	2.85	2.70
25	3.28	3.24	2.86	3.04	3.17	3.21	3.04	3.14	3.42	3.42	2.83	2.67
26	3.28	3.23	2.84	3.04	3.19	3.23	3.05	3.08	3.38	3.36	2.80	2.64
27	3.24	3.18	2.83	3.05	3.17	3.23	3.07	3.03	3.30	3.28	2.75	2.59
28	3.20	3.15	2.82	3.04	3.18	3.22	3.08	3.00	3.20	3.22	2.71	2.56
29	3.16	3.12	2.81	3.08	---	3.22	3.09	2.99	3.14	3.18	2.70	2.55
30	3.15	3.12	2.80	3.10	---	3.23	3.08	2.96	3.12	3.08	2.70	2.53
31	3.14	---	2.78	3.13	---	3.25	---	2.94	---	2.98	2.70	---
MEAN	3.29	3.07	3.03	3.06	3.17	3.17	3.10	3.02	2.99	3.05	2.72	2.76
MAX	3.45	3.25	3.23	3.18	3.23	3.25	3.28	3.14	3.42	3.42	2.90	2.95
MIN	3.14	2.96	2.78	2.76	3.08	3.10	2.99	2.94	2.81	2.94	2.61	2.53

WTR YR 1982 MEAN 3.03 MAX 3.45 MIN 2.53

MARIANA ISLANDS, ISLAND OF GUAM

133047144500171. Local number, 3050400 Well M-11.

LOCATION.--Lat 13°30'47" N., long 144°50'01" E., Hydrologic Unit 20100003, at intersection of Harmon Loop School Road and Route 1 at Dededo, Guam. Owner: Public Utility Agency of Guam.

AQUIFER.--Barrigada Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, diameter 8 in (0.20 m), depth reported 325 ft (99.1 m).

DATUM.--Land-surface datum is 294 ft (89.6 m) above mean sea level. Measuring point: Top of casing, 295.82 ft (90.166 m) above mean sea level.

REMARKS.--Records prior to October 1977 are available in files of district office.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.76 ft (1.451 m) above mean sea level, Oct. 2, 1980; lowest recorded, 2.78 ft (0.847 m) above mean sea level, Feb. 19, 1979.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.96	3.68	3.64	3.29	3.72	3.69	3.76	3.59	3.46	3.71	3.58	3.30
2	3.95	3.67	3.66	3.30	3.73	3.65	3.74	3.57	3.45	3.67	3.52	3.31
3	3.90	3.63	3.63	3.32	3.71	3.61	3.71	3.58	3.43	3.64	3.46	3.31
4	3.87	3.60	3.66	3.36	3.73	3.59	3.70	3.58	3.42	3.59	3.35	3.32
5	3.86	3.58	3.75	3.42	3.73	3.59	3.70	3.58	3.41	3.55	3.29	3.33
6	3.81	3.58	3.75	3.50	3.72	3.61	3.69	3.59	3.40	3.52	3.36	3.33
7	3.76	3.57	3.70	3.53	3.72	3.62	3.68	3.60	3.38	3.50	3.40	3.44
8	3.75	3.55	3.64	3.56	3.70	3.62	3.68	3.61	3.36	3.50	3.38	3.76
9	3.74	3.55	3.59	3.58	3.68	3.60	3.66	3.62	3.34	3.50	3.37	3.90
10	3.71	3.54	3.59	3.61	3.67	3.61	3.65	3.60	3.33	3.49	3.36	3.86
11	3.71	3.56	3.63	3.64	3.66	3.63	3.63	3.60	3.32	3.49	3.36	4.04
12	3.73	3.58	3.68	3.65	3.65	3.64	3.63	3.60	3.31	3.50	3.36	4.44
13	3.76	3.58	3.72	3.66	3.62	3.65	3.64	3.58	3.31	3.55	3.36	4.23
14	3.77	3.62	3.70	3.67	3.61	3.64	3.64	3.57	3.31	3.59	3.41	4.05
15	3.83	3.63	3.73	3.67	3.60	3.64	3.62	3.57	3.32	3.60	3.42	4.08
16	3.88	3.65	3.77	3.67	3.57	3.63	3.55	3.56	3.33	3.58	3.40	4.50
17	3.92	3.62	3.74	3.66	3.57	3.65	3.57	3.56	3.34	3.57	3.37	4.35
18	3.94	3.55	3.67	3.64	3.58	3.66	3.56	3.54	3.44	3.57	3.35	4.82
19	3.95	3.55	3.58	3.65	3.58	3.65	3.55	3.53	3.50	3.58	3.35	4.93
20	3.96	3.63	3.49	3.65	3.59	3.66	3.55	3.52	3.54	3.61	3.38	4.56
21	3.94	3.70	3.42	3.68	3.64	3.67	3.54	3.51	3.59	3.66	3.44	4.20
22	3.89	3.74	3.37	3.70	3.68	3.69	3.55	3.51	3.64	3.73	3.52	3.98
23	3.90	3.78	3.43	3.67	3.67	3.70	3.57	3.53	3.71	3.76	3.56	3.83
24	3.87	3.81	3.41	3.62	3.64	3.71	3.58	3.58	3.84	3.77	3.50	3.70
25	3.87	3.77	3.39	3.57	3.66	3.73	3.59	3.62	3.96	3.93	3.46	3.61
26	3.84	3.74	3.36	3.55	3.68	3.73	3.61	3.60	4.01	3.97	3.40	3.53
27	3.80	3.69	3.35	3.57	3.66	3.73	3.61	3.57	3.97	3.93	3.32	3.44
28	3.76	3.66	3.34	3.57	3.68	3.73	3.61	3.55	3.89	3.87	3.29	3.38
29	3.74	3.64	3.33	3.60	---	3.74	3.63	3.53	3.84	3.84	3.29	3.35
30	3.73	3.62	3.32	3.61	---	3.74	3.62	3.51	3.76	3.78	3.29	3.31
31	3.72	---	3.31	3.63	---	3.75	---	3.50	---	3.66	3.28	---
MEAN	3.83	3.64	3.56	3.57	3.66	3.66	3.63	3.57	3.53	3.65	3.39	3.84
MAX	3.96	3.81	3.77	3.70	3.73	3.75	3.76	3.62	4.01	3.97	3.58	4.93
MIN	3.71	3.54	3.31	3.29	3.57	3.59	3.54	3.50	3.31	3.49	3.28	3.30

WTR YR 1982 MEAN 3.63 MAX 4.93 MIN 3.28

MARIANA ISLANDS, ISLAND OF GUAM

133115144484971. Local number, 3148140 Harmon Well 1 (107).

LOCATION.--Lat 13°31'15" N., long 144°48'49" E., Hydrologic Unit 20100003, 500 ft (150 m) north of junction of Routes 1 and 16, Dededo, Guam. Owner: Government of Guam.

AQUIFER.--Mariana Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, diameter 10 in (0.25 m), depth measured 289 ft (88.1 m).

DATUM.--Land-surface datum is 268 ft (81.7 m) above mean sea level. Measuring point: Top of casing, 267.96 ft (81.674 m) above mean sea level.

REMARKS.--Records prior to October 1977 are in files of district office.

PERIOD OF RECORD.--March 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.34 ft (1.323 m) above mean sea level, May 22, 1976; lowest recorded, 2.17 ft (0.661 m) above mean sea level, Feb. 23, 24, 26, 27, 1979.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.41	3.01	2.99	2.64	3.17	3.07	3.18	2.95	2.84	2.99	2.82	2.67
2	3.32	2.96	3.00	2.66	3.16	3.00	3.09	2.94	2.83	2.96	2.74	2.68
3	3.24	2.90	2.97	2.68	3.13	2.99	3.05	2.94	2.83	2.93	2.68	2.74
4	3.24	2.88	2.99	2.77	3.12	2.97	3.05	2.96	2.82	2.90	2.62	2.72
5	3.18	2.88	3.09	2.78	3.11	3.00	3.07	2.96	2.81	2.86	2.60	2.76
6	3.12	2.89	3.09	2.86	3.10	3.03	3.04	2.96	2.79	2.86	2.56	2.75
7	3.11	2.89	3.04	2.89	3.08	3.03	3.03	2.98	2.78	2.87	2.54	2.94
8	3.09	2.88	2.98	2.92	3.07	3.02	3.02	2.99	2.76	2.88	2.53	2.96
9	3.06	2.87	2.93	2.94	3.05	3.00	3.01	2.98	2.75	2.88	2.53	2.90
10	3.06	2.88	2.93	2.98	3.05	3.02	2.98	2.98	2.73	2.88	2.58	2.84
11	3.08	2.91	2.97	3.00	3.05	3.04	2.98	2.97	2.74	2.87	2.61	2.88
12	3.11	2.93	3.01	3.02	3.02	3.05	3.01	2.95	2.73	2.86	2.61	2.86
13	3.16	2.92	3.06	3.03	3.00	3.06	3.03	2.92	2.74	2.87	2.65	2.81
14	3.19	2.95	3.04	3.04	3.00	3.05	2.99	2.93	2.75	2.88	2.73	2.84
15	3.29	2.97	3.07	3.04	2.99	3.06	2.95	2.93	2.78	2.89	2.71	2.86
16	3.32	2.99	3.11	3.03	2.97	3.04	2.94	2.92	2.81	2.88	2.68	2.81
17	3.34	2.95	3.08	3.03	2.97	3.05	2.91	2.92	2.82	2.89	2.67	2.77
18	3.39	2.89	3.02	3.01	2.99	3.05	2.91	2.90	2.87	2.91	2.66	2.82
19	3.39	2.89	2.92	3.06	2.98	3.02	2.91	2.89	2.93	2.94	2.67	2.85
20	3.36	2.97	2.83	3.05	3.00	3.03	2.89	2.87	2.98	2.99	2.67	2.81
21	3.31	3.02	2.77	3.08	3.08	3.06	2.90	2.87	3.03	2.99	2.78	2.78
22	3.26	3.08	2.73	3.10	3.11	3.08	2.91	2.88	3.10	2.99	2.90	2.75
23	3.21	3.12	2.79	3.02	3.02	3.09	2.94	2.93	3.19	3.01	2.92	2.72
24	3.18	3.14	2.77	2.96	3.02	3.09	2.96	3.06	3.44	3.13	2.89	2.70
25	3.20	3.11	2.75	2.92	3.06	3.13	2.97	3.05	3.43	3.45	2.85	2.68
26	3.18	3.08	2.72	2.92	3.06	3.13	2.99	2.99	3.34	3.28	2.80	2.63
27	3.13	3.03	2.71	2.94	3.05	3.11	3.00	2.95	3.19	3.20	2.71	2.59
28	3.09	2.99	2.70	2.96	3.10	3.12	3.01	2.92	3.12	3.14	2.67	2.56
29	3.06	2.98	2.69	2.99	---	3.12	3.03	2.91	3.06	3.10	2.67	2.55
30	3.04	2.97	2.68	3.00	---	3.12	2.99	2.88	3.04	3.00	2.67	2.53
31	3.04	---	2.66	3.08	---	3.17	---	2.86	---	2.90	2.66	---
MEAN	3.20	2.96	2.91	2.95	3.05	3.06	2.99	2.94	2.93	2.97	2.69	2.76
MAX	3.41	3.14	3.11	3.10	3.17	3.17	3.18	3.06	3.44	3.45	2.92	2.96
MIN	3.04	2.87	2.66	2.64	2.97	2.97	2.89	2.86	2.73	2.86	2.53	2.53

WTR YR 1982 MEAN 2.95 MAX 3.45 MIN 2.53

MARIANA ISLANDS, ISLAND OF GUAM

132615144470571. Local number, 2647100 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, Guam.

AQUIFER.--Mariana Limestone.

WELL CHARACTERISTICS.--Drilled parabasal water-table well, diameter 8 in (0.20 m).

DATUM.--Land-surface datum is 179 ft (54.6 m). Measuring point: Top of casing, 179.86 ft (54.821 m) above mean sea level.

REMARKS.--Records prior to June 1976 are available in files of district office.

PERIOD OF RECORD.--March 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.37 ft (3.161 m) above mean sea level, Oct. 24, 1980; lowest measured, 6.08 ft (1.853 m) above mean sea level, Aug. 5, 1980.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 4	8.87	JUL 6	7.15	SEP 1	7.12

132626144471771. Local number, 2647211 Exploratory well Bx-4.

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

AQUIFER.--Argillaceous member of the Marianas Limestone.

WELL CHARACTERISTICS.--Drilled basal ground-water exploratory well. Borehole diameter 8 in (0.20 m). Sounded depth 400 ft (121.9 m) casing diameter 6 in (0.15 m) to 400 ft (121.9 m) depth.

DATUM.--Land surface datum is 152 ft (46.3 m) above mean sea level. Measuring point: Top of 6 in (0.15 m) PVC casing set in hole 153.71 ft (46.851 m) above mean sea level.

REMARKS.--Continuous water-level recorder installed April 30, 1982.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured 8.08 ft (2.463 m) above mean sea level, Aug. 17, 1981; lowest 5.17 ft (1.576 m) above mean sea level, June 13-15, 1982.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 17	5.51	MAR 18	5.52	MAR 20	5.55	JUN 23	5.44	AUG 17	8.08	SEP 24	6.65

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	7.42	FEB 12	6.21	APR 23	5.61	APR 29	5.69

MEAN VALUES

DAY	MAY	JUN	JUL	AUG	SEP
5	5.58	5.30	5.40	5.42	5.77
10	5.54	5.21	5.39	5.46	6.37
15	5.49	5.17	5.47	5.47	6.95
20	5.43	5.29	5.55	5.45	6.98
25	5.41	5.45	5.67	5.45	6.78
EOM	5.35	5.47	5.50	5.57	6.72

MARIANA ISLANDS, ISLAND OF GUAM

132742144452971. Local number, 2745420 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.--Land-surface datum is 10 ft (3.0 m) above mean sea level. Measuring point: Edge of concrete spillway, 8.80 ft (2.682 m) above mean sea level.

REMARKS.--Records prior to October 1976 are available in files of district office.

PERIOD OF RECORD.--April 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Lowest water level measured, 6.95 ft (2.118 m) above mean sea level, July 2, 1975.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	j	DEC 4	j	SEP 1	8.72

j Water overflowing spillway.

132758144450571. Local number, 2745500 Agana 147 Well.

LOCATION.--Lat 13°27'58" N., long 144°45'05" E., Hydrologic Unit 20100003, on Route 4, 0.65 mi (1.0 km) south of junction of Routes 1 and 4 in Agana, Guam.

AQUIFER.--Mariana Limestone.

WELL CHARACTERISTICS.--Drilled basal ground-water, test well, casing diameter 6 in (0.15 m), depth when drilled, 186 ft (56.7 m), when measured in May 1973, 29 ft (8.8 m).

DATUM.--Land-surface datum is 33 ft (10.1 m). Measuring point: Top rim of casing, 33.22 ft (10.125 m) above mean sea level.

REMARKS.--Records prior to October 1976 are available in files of district office.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.42 ft (9.577 m) above mean sea level, Oct. 14, 1955; lowest measured, 6.83 ft (2.082 m) above mean sea level, June 20, 1978.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 4	12.82	SEP 1	10.31

MARIANA ISLANDS, ISLAND OF GUAM

133034144500871. Local number, 3050300 Well M-11A.

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 ground-water test well. Uncased hole diameter 12 in (0.30 m). Sounded depth 407 ft (124 m). Well deepened to 462 ft (141 m) as exploratory well Ex-6, Aug. 7, 1981.

DATUM.--Land-surface datum is 309 ft (94.2 m) above mean sea level. Measuring point: Top of 4 ft (1 m), revised, long metal casing set in hole 309.41 ft (94.308 m), revised, above mean sea level.

PERIOD OF RECORD.--February 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.09 ft (1.247 m) above mean sea level, Aug. 16, 1978; lowest measured 3.13 ft (0.954 m) above mean sea level, Feb. 26, 1979.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 2	3.65	JAN 22	3.70	APR 24	3.58	AUG 4	3.29	AUG 5	3.29	AUG 31	3.30

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

133034144500871 - 3050300 MACHECHE RD EXP WELL EX-6 GUAM

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
AUG										
04...	1200	326	398	26.5	116	6.0	20	.4	<1.2	.62
04...	1445	444	412	26.0	112	5.0	19	.4	<1.2	.59
04...	1530	457	44100	26.5	153	2400	17000	.5	7.5	<.10

< Actual value is known to be less than the value shown.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

132736144461671 - 2746310 CHOCHOGO EX-1 WELL NR AGANA SWAMP GUAM

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	DENSITY (GM/ML AT 20 C)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
SEP											
28...	1400	150	--	27.0	.997	282	10	57	.1	6.2	.58
28...	1430	200	672	27.0	--	--	--	42	--	--	--
28...	1500	250	682	27.0	--	--	--	42	--	--	--
28...	1530	270	557	27.0	--	--	--	40	--	--	--
29...	0915	287	640	26.5	.997	297	8.0	39	<.1	6.1	.58
29...	1000	300	691	27.0	.990	269	8.0	43	<.1	6.1	.57
29...	1030	350	18400	26.5	--	--	--	6600	--	--	--
29...	1130	400	28500	27.0	--	--	--	10000	--	--	--
29...	1200	500	37900	27.0	--	--	--	14000	--	--	--
29...	1230	550	42000	27.0	1.018	143	2400	19000	.4	3.6	<.10

132606144481871 - 2848010 BARRIGADA EXP WELL EX-9, GUAM

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	DENSITY (GM/ML AT 20 C)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
DEC											
28...	1130	260	4350	28.0	--	220	140	1300	.1	2.2	.89
28...	1245	320	2900	28.0	--	190	93	780	.1	3.0	2.2
28...	1330	350	4080	28.0	--	250	160	1200	.1	3.5	3.0
28...	1415	365	19700	28.0	--	270	870	7000	.1	3.7	.11
JUL											
12...	1545	400	42300	28.0	--	286	2400	19000	<.1	4.0	<.10
SEP											
27...	1030	240	2960	28.0	--	--	--	700	--	--	--
27...	1100	260	2460	28.0	.995	161	84	670	<.1	2.0	1.1
27...	1130	290	2170	28.0	--	--	--	550	--	--	--
27...	1200	320	1870	28.5	.992	136	60	450	<.1	2.5	2.1
27...	1230	345	2380	28.5	--	--	--	600	--	--	--
27...	1300	350	6390	28.0	--	--	--	1900	--	--	--
27...	1330	365	19800	28.0	--	--	--	7000	--	--	--
27...	1400	380	37800	28.0	--	--	--	14000	--	--	--
27...	1500	400	40200	27.5	1.017	229	2200	17000	<.1	3.3	.32
27...	1530	500	43700	27.5	1.022	120	2700	21000	.4	5.2	<.10

< Actual value is known to be less than the value shown.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

132955144502871 - 2950520 MARBO WELL M-15 PLT HLE PUAG DEDEDO GUAM

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
MAY											
18...	1430	450	37400	26.5	--	--	--	--	--	--	--
19...	1030	315	795	26.5	--	--	--	--	--	--	--
19...	1100	375	1550	26.5	--	--	--	--	--	--	--
19...	1145	435	12900	26.5	1700	1400	230	270	2200	73	24

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
MAY										
18...	--	177	1900	14000	.4	3.9	--	.13	--	--
19...	--	243	11	96	<.1	<1.1	--	.67	--	--
19...	--	253	41	310	<.1	<1.1	--	<.10	--	--
19...	83	247	600	4200	.5	2.5	7730	.18	70	50

132926144524371 - 2952240 PAGAT CAVE, GUAM

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
AUG								
07...	1000	2990	173	120	900	.1	<1.2	.67

< Actual value is known to be less than the value shown.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

133119144491771 - 3149110 WITTENGEL EXP WELL EX-7, GUAM

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	DENSITY (GM/ML AT 20 C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
JUL												
09...	1545	450	44700	27.0	--	--	--	--	--	--	--	--
12...	1130	300	--	27.5	--	--	--	--	--	--	--	--
12...	1200	390	--	28.0	--	--	--	--	--	--	--	--
12...	1245	415	30900	27.0	--	3700	3400	360	680	5900	76	43
SEP												
23...	1115	290	3240	28.0	.994	--	--	--	--	--	--	--
23...	1145	340	3280	27.0	--	--	--	--	--	--	--	--
23...	1215	390	3320	26.5	.992	--	--	--	--	--	--	--
23...	1245	400	3300	26.5	--	--	--	--	--	--	--	--
23...	1315	415	3380	25.5	.992	--	--	--	--	--	--	--
23...	1400	420	30000	26.5	--	--	--	--	--	--	--	--
23...	1430	450	42600	26.5	1.019	--	--	--	--	--	--	--
23...	1500	500	51800	26.5	--	--	--	--	--	--	--	--

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JUL										
09...	--	236	2400	19000	.2	7.6	--	.10	--	--
12...	--	309	76	780	<.1	<1.2	--	.62	--	--
12...	--	316	80	780	<.1	<1.2	--	.60	--	--
12...	210	273	1500	11000	.2	5.1	19800	<.10	110	130
SEP										
23...	--	267	88	1100	<.1	<1.2	--	2.3	--	--
23...	--	--	--	880	--	--	--	--	--	--
23...	--	274	77	970	<.1	<1.2	--	2.2	--	--
23...	--	--	--	880	--	--	--	--	--	--
23...	--	227	77	950	<.1	<1.2	--	2.3	--	--
23...	--	--	--	12000	--	--	--	--	--	--
23...	--	207	2300	18000	.2	7.5	--	<.10	--	--
23...	--	--	--	19000	--	--	--	--	--	--

133120144505471 - 3150250 GHURA-DEDEDO DEEP MONITORING WELL GUAM

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	DENSITY (GM/ML AT 20 C)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
SEP											
30...	1030	400	931	26.5	--	--	--	140	--	--	--
30...	1100	450	611	26.5	--	--	--	74	--	--	--
30...	1140	475	730	27.0	.990	207	18	120	<.1	<1.2	.79
30...	1215	500	624	27.0	--	--	--	88	--	--	--
30...	1300	510	768	27.0	--	--	--	110	--	--	--
30...	1330	525	1050	26.5	.990	210	28	190	<.1	<1.2	.70
30...	1415	530	5820	26.5	--	--	--	1700	--	--	--
30...	1450	540	22100	26.0	--	--	--	7800	--	--	--

< Actual value is known to be less than the value shown.

GROUND-WATER RECORDS

MARIANA ISLANDS, ISLAND OF GUAM--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

133224144495271 - 3249250 FINEGAYAN EXP WELL EX-10, GUAM

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
JUL											
15...	1215	365	4320	28.0	--	--	--	--	--	--	--
15...	1300	400	2430	28.0	--	--	--	--	--	--	--
15...	1345	470	23600	27.0	3000	2800	280	550	4500	76	36
15...	1415	500	45600	26.5	--	--	--	--	--	--	--

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JUL										
15...	--	261	120	1400	<.1	<1.2	--	.50	--	--
15...	--	259	83	620	<.1	<1.2	--	.58	--	--
15...	160	175	1300	8700	<.1	6.2	15600	.24	100	40
15...	--	125	2700	20000	.3	6.3	--	.12	--	--

133202144533571 - 3253030 YIGO WELL Y-7 PILOT HOLE PUAG YIGO GUAM

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
JUL									
08...	1130	550	28.0	120	7.0	48	<.1	2.2	1.2

133628144513271 - 3651230 NORTHWEST FIELD EXP WELL EX-8, GUAM

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
MAR											
03...	1230	480	680	26.5	--	--	--	--	--	--	--
03...	1330	550	550	26.0	--	--	--	--	--	--	--
03...	1445	600	13700	26.0	1810	1600	230	300	2400	73	25
03...	1530	620	42100	26.0	--	--	--	--	--	--	--

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
MAR										
03...	--	220	7.0	71	<.1	<1.9	--	1.9	--	--
03...	--	220	<5.0	43	.1	<1.9	--	3.1	--	--
03...	88	250	650	4800	.2	2.3	8620	<.10	150	40
03...	--	140	2600	18000	.3	7.0	--	<.10	--	--

< Actual value is known to be less than the value shown.

GROUND-WATER RECORDS

CAROLINE ISLANDS, PALAU ISLANDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

071947134275070 - 1927450 VAN CAMP WELL MALAKAL, PALAU

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM
SEP 24...	1400	176	6.2	29.0	75	.00	21	5.4	12	26

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
SEP 24...	.6	.3	80	<5.0	9.9	<.1	29	<.10	130	190

CAROLINE ISLANDS, YAP ISLANDS

092913138050970 - 2905100 AIRPORT SWAMP, YAP

DATE	TIME	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
SEP 15...	1520	7.6	30.0	41	1.0	13	2.0	3.9	17	.3

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
SEP 15...	.5	40	6.0	6.7	<.1	1.9	58	<.10	49	11

< Actual value is known to be less than the value shown.

GROUND-WATER RECORDS

CAROLINE ISLANDS, YAP ISLANDS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

092616138050670 - 2905101 TIMLANG-3 WELL, YAP

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
SEP 15...	1510	62	16	.00	4.5	1.2	7.0	48	.8

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
SEP 15...	.2	20	<5.0	9.4	<.1	5.1	.69	340	22

092926138050470 - 2905202 WELL 2 COMMUNICATION BLDG, YAP

DATE	TIME	PH (STANDARD UNITS)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
SEP 15...	1600	7.0	40	.00	7.2	5.3	7.8	30	.6

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
SEP 15...	.6	50	<5.0	8.0	<.1	57	.25	23	11

< Actual value is known to be less than the value shown.

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

092927138050270 - 2905203 MITSUI WELL, YAP

DATE	TIME	PH (STAND-ARD UNITS)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO
SEP 15...	1630	7.5	45	.00	11	4.3	7.8	27	.5

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 15...	.5	49	<5.0	8.4	<.1	41	.12	4	3

093158138095770 - 3109550 NONGUCH-1 WELL GAGIL-TAMIL, YAP

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCAR-BONATE (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
SEP 16...	1530	75	7.1	29.0	24	.00	4.3	3.1	8.1	41

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 16...	.7	1.8	30	<5.0	6.9	<.1	70	.31	8	2

< Actual value is known to be less than the value shown.

GROUND-WATER RECORDS

CAROLINE ISLANDS, TRUK ISLANDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

072658151511970 - WELL 1 MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV					
11...	1510	173	--	--	9.5
MAR					
02...	1030	140	--	28.5	10
SEP					
15...	1013	160	5.9	27.5	14

072654151511070 - WELL 2 MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV					
11...	1505	153	--	--	10
SEP					
15...	1047	180	5.5	28.0	13

072707151512070 - WELL 4 MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
SEP					
15...	1424	225	5.6	28.5	28

072702151512570 - WELL 7 MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV					
11...	1425	350	--	--	31
MAR					
02...	1300	240	--	28.5	28
SEP					
15...	1243	350	6.0	27.5	30

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

072701151512770 - WELL 9 MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV					
11...	1435	2090	--	--	550
MAR					
02...	1350	950	--	29.0	140
JUN					
04...	1545	1060	--	--	240
SEP					
15...	1152	1370	6.3	28.0	340

072704151511070 - WELL 10 MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV					
11...	1525	197	--	--	20
MAR					
03...	1010	145	--	28.5	28
SEP					
15...	0940	195	5.9	28.0	20

072706151512470 - WELL 12 MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
MAR					
02...	1315	250	--	29.0	49
SEP					
15...	1303	340	5.8	28.0	40

072708151512170 - WELL 13 MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV					
11...	1500	224	--	--	17
MAR					
02...	1215	150	--	28.5	14
SEP					
15...	1405	230	5.7	27.5	18

GROUND-WATER RECORDS

CAROLINE ISLANDS, TRUK ISLANDS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

072705151512670 - WELL 14 MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV					
11...	1405	405	--	--	60
MAR					
02...	1330	800	--	28.5	210
SEP					
15...	1222	440	5.6	28.0	81

072710151512570 - WELL 15 MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV					
11...	1400	201	--	--	15
MAR					
02...	1250	140	--	29.0	14
SEP					
15...	1320	225	5.7	28.0	15

072517151505770 - WELL 17 MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV					
12...	1445	159	--	--	7.5
SEP					
16...	1138	160	6.3	28.0	10

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

072504151503370 - WELL 18 MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
NOV											
12...	1430	--	--	28.0	78	2.0	13	11	8.5	19	.4
JUN											
04...	1520	183	--	--	--	--	--	--	--	--	--
SEP											
16...	1212	200	6.2	28.0	--	--	--	--	--	--	--

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
NOV										
12...	.7	76	<5.0	7.8	.1	35	127	.26	10	40
JUN										
04...	--	--	--	7.0	--	--	--	--	--	--
SEP										
16...	--	--	--	9.5	--	--	--	--	--	--

072705151503670 - 2750030 POWER PLANT WELL MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
MAR				
03...	1120	250	29.5	20

072705151505170 - 2750050 MILLION GAL RES MOEN, TRUK IS.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV				
13...	1445	530	--	96
MAR				
03...	1100	310	30.5	71

< Actual value is known to be less than the value shown.

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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). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

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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