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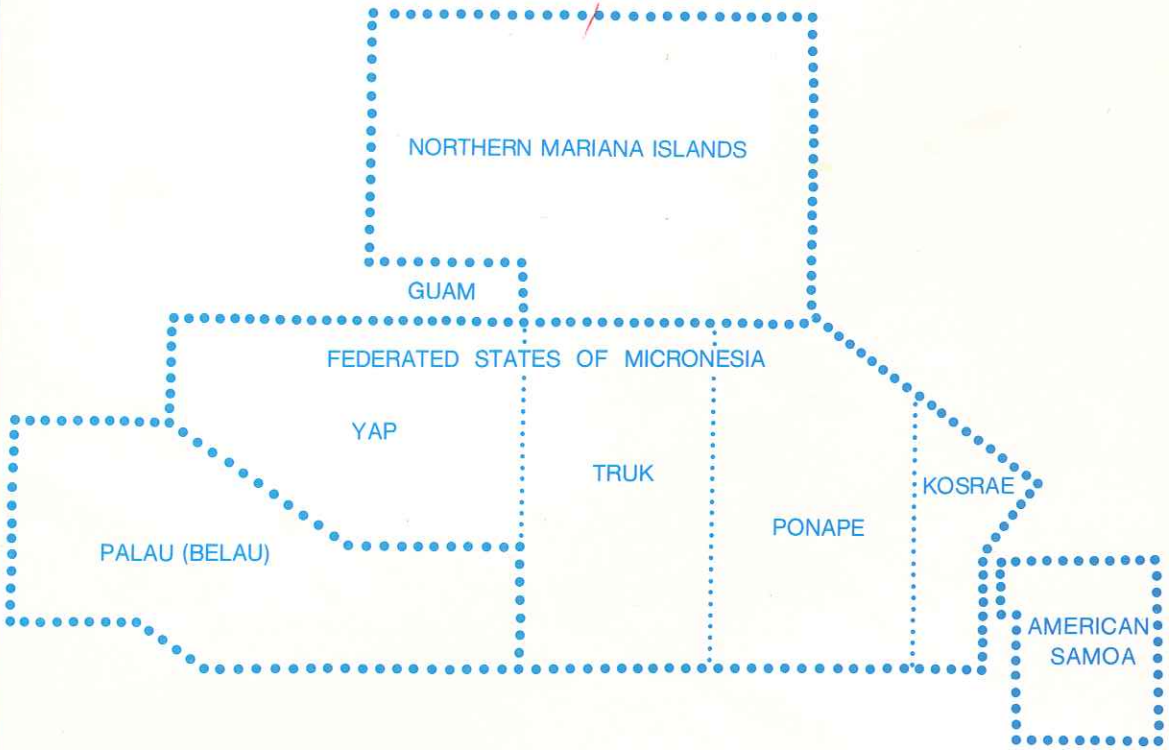
Water Resources Data Hawaii and other Pacific Areas Water Year 1983

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT HI-83-2
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 1983

1982

OCTOBER

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NOVEMBER

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1983

JANUARY

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JUNE

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AUGUST

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SEPTEMBER

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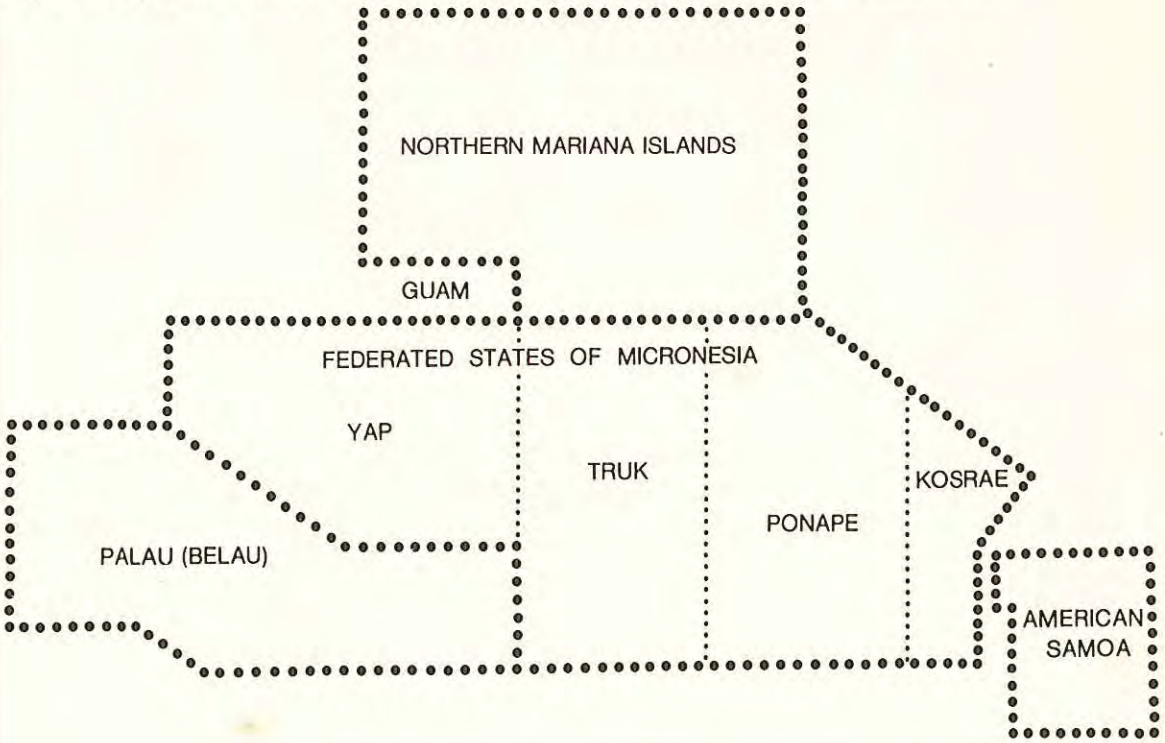
Water Resources Data Hawaii and other Pacific Areas Water Year 1983

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-83-2
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

WILLIAM P. CLARK, 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

1984

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 two volumes:

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

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

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 Stanley F. Kapustka, District Chief, Hawaii.

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15. Supplementary Notes
Prepared in cooperation with the Governments of Guam, Northern Mariana Islands, Federated States of Micronesia, Palau Islands, American Samoa, and with other agencies.

16. Abstract (Limit: 200 words)

Volume 2 of water resources data for the 1983 water year for other Pacific areas consists 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 37 gaging stations; stage only record for 2 gaging stations; water quality for 9 gaging stations; 12 partial-record stations; water temperature for 36 gaging stations; and water levels for 30 observation wells and water quality for 78 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

c. COSATI Field/Group

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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,
(t) temperature

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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 PAGAN			
(12-0745-05)	180800145470570	(ctw)	96
(12-0745-06)	180800145470670	(ctw)	97
(12-0746-04)	180800145470470	(ctw)	98
(12-0845-07)	180800145470770	(ctw)	99
(12-0745-11)	180800145471170	(ct)	100
(12-0745-18)	180800145471870	(ct)	101
(12-0846-15)	180800145471570	(ct)	102
(12-0946-16)	180800145471670	(ct)	103
(12-0946-17)	180800145471770	(ct)	104
ISLAND OF SAIPAN			
(14-1045-09)	151032145460370	(w)	105
(14-1144-07)	151130145445970	(w)	106
(14-0742-06)	150723145431170	(ct)	113
(14-0742-07)	150737145431070	(ct)	113
(14-0742-08)	150744145430370	(ct)	113
(14-0742-09)	150732145431270	(ct)	113
(14-0742-11)	150731145430870	(ct)	113
(14-0743-09)	150732145432070	(ct)	113
(14-0743-10)	150728145431470	(ct)	113
(14-0743-11)	150730145431370	(ct)	107
(14-0743-13)	150736145430070	(ct)	113
(14-0743-17)	150730145435270	(ct)	108
(14-0743-18)	150737145440670	(c)	113
(14-0743-19)	150749145434170	(ct)	113
(14-0743-22)	150731145440370	(c)	113
(14-0743-23)	150738145435870	(c)	113
(14-0743-24)	150743145435470	(ct)	113
(14-0743-25)	150740145435570	(ct)	113
(14-0743-26)	150733145435970	(ct)	113
(14-0743-27)	150722145434570	(ct)	114
(14-0943-01)	150905145435670	(ct)	114
(14-1046-03)	151021145460870	(ct)	114
(14-1046-08)	151026145454970	(ct)	109
(14-1143-02)	151127145434270	(ct)	114
(14-1143-05)	151127145434070	(ct)	114
(14-1144-05)	151133145445770	(ct)	114
(14-1144-10)	151124145445670	(ct)	114
(14-1244-05)	151248145443470	(ct)	114
(14-1244-07)	151239145441870	(ct)	114
(14-1244-08)	151246145443770	(ct)	114
(14-1244-09)	151250145444170	(ct)	109
(14-1244-10)	151250145443370	(ct)	114
(14-1244-12)	151244145442270	(ct)	114
(14-1344-14)	151312145441570	(ct)	114
(14-1344-15)	151314145441570	(ct)	114
(14-1344-16)	151315145441670	(ct)	110
(14-1344-17)	151312145443970	(ct)	110
(14-1344-18)	151309145443870	(ct)	111
(14-1344-19)	151309145443370	(ct)	111
(14-1546-03)	151508145465370	(c)	112
ISLAND OF GUAM			
(18-2645-07)	132624144452771	(w)	115
(18-2648-02)	132644144480871	(w)	116
(18-2846-01)	132824144464271	(w)	117
(18-2847-12)	132813144472771	(w)	118
(18-3049-03)	133032144491871	(w)	119
(18-3049-05)	133047144500171	(w)	120
(18-3148-02)	133115144484971	(w)	121
(18-3149-05)	133119144491771	(ctw)	122
(18-2647-01)	132615144470571	(w)	124
(18-2647-12)	132626144471771	(ctw)	124
(18-2745-03)	132758144450571	(w)	125
(18-2745-07)	132742144452971	(w)	125
(18-2746-06)	132736144461671	(ctw)	126
(18-2848-03)	132806144481871	(ctw)	127
(18-3050-05)	133034144500871	(ctw)	128
(18-3150-10)	133120144505471	(ctw)	129
(18-3249-02)	133224144495271	(ctw)	131
(18-3651-05)	133628144513271	(ctw)	133
(18-3150-14)	133121144504871	(ct)	134

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

			Page
CAROLINE ISLANDS			
YAP ISLANDS			
(25-3209-01)	093204138095970	(w)	135
(25-2904-01)	092919138045670	(w)	136
(25-2904-02)	092918138045470	(w)	136
(25-2905-01)	092915138050270	(w)	137
(25-2905-02)	092920138050270	(w)	137
(25-2905-03)	092616138050670	(w)	138
(25-2905-06)	092926138050470	(w)	138
(25-3105-01)	093144138055170	(w)	139
(25-3109-01)	093159138095870	(w)	139
(25-3109-02)	093159138095870	(w)	140
(25-3109-03)	093157138095670	(w)	140
(25-3109-04)	093154138095370	(w)	141
(25-3210-01)	093217138101270	(w)	141
(25-3210-02)	093210138101270	(w)	142
TRUK ISLANDS			
(30-2550-01)	072517151505770	(ct)	144
(30-2550-02)	072504151503370	(ct)	144
(30-2650-01)	072658151511970	(ct)	144
(30-2650-02)	072654151511870	(ct)	144
(30-2650-03)	072707151512070	(ct)	144
(30-2650-05)	072704151511070	(ct)	143
(30-2651-01)	072702151512570	(ct)	144
(30-2651-02)	072701151512770	(ct)	144
(30-2651-03)	072706151512470	(ct)	144
(30-2651-04)	072705151512670	(ct)	144
(30-2750-03)	072708151512170	(ct)	144
(30-2751-01)	072710151512570	(ct)	144
SAMOA ISLANDS			
ISLAND OF TUTUILA			
(90-1943-24)	141945170435401	(w)	145
(90-1943-28)	141948170435701	(w)	146
(90-2046-02)	142057170461501	(w)	147
(90-2144-12)	142102170445601	(w)	148
(90-1943-06)	141945170435301	(c)	149
(90-1943-20)	141928170435201	(c)	150
(90-1944-11)	141952170440201	(c)	151
(90-1944-12)	141951170440101	(ct)	152
(90-1944-13)	141929170441401	(ct)	153
(90-1944-14)	141924170440401	(c)	155
(90-2044-02)	142100170441701	(ct)	156
(90-2046-03)	142042170463001	(c)	158
(90-2144-05)	142110170444601	(ct)	159
(90-2145-03)	142102170455801	(c)	160

WATER RESOURCES DATA FOR HAWAII AND OTHER PACIFIC AREAS, 1983

Volume 2

INTRODUCTION

Water resources data for the 1983 water year for Hawaii and other Pacific areas consist of records of stage, discharge, and water quality of streams, springs, and reservoir; and water-levels and water quality of wells. This report contains discharge records for 37 gaging stations; stage only records for 2 gaging stations; water quality for 9 gaging stations, 12 partial-record stations, water temperature for 36 stations; and water levels for 30 observation wells and water quality for 78 ground-water sites. Also included are data for 30 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-83-2."

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

The water-data reports are for sale, in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia, 22161. Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (808) 546-8331.

COOPERATION

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

Government of Guam, 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 was given by the Public Works, U.S. Navy, and the Corps of Engineers, U.S. Army.

SUMMARY OF HYDROLOGIC CONDITIONS

Based on the records at six index streams in the area covered by this volume, as shown in figure 1; the annual mean runoff for 1983 water year was in the deficient range (flow in the lower 25 percent of record) at all six index stations. Streamflow was below average from January to May in the Western Pacific.

Streamflow at the Ylig River near Yona, Guam (fig. 2) was normal for October, November, December, and September; and deficient for January through August. Annual mean runoff was in the deficient range at 51 percent of the median.

At the Diongradid River (fig. 2) on the island of Babelthuap, Palau Islands, monthly mean was excessive (flow in the upper 25 percent of record) for August; normal for July and September; and deficient from October through June. Annual mean runoff was in the deficient range at 70 percent of the annual median.

On the island of Yap, Caroline Islands, streamflow at the Qaringeel Stream (fig. 3) was excessive for August; normal for February, March, April, and July; and deficient for October through January, May, June, and September. Annual mean runoff was in the deficient range at 60 percent of the annual median.

Streamflow at the Nanpil River in Ponape (fig. 3) was excessive for July; normal for December and September; and deficient for October, November, January through June, and August. Annual mean discharge was in the deficient range at 53 percent of the annual median.

On the island of Kosrae, streamflow at the Melo River (fig. 4) was excessive for September; normal for July and August; and deficient for October through June. Annual mean discharge was in the deficient range at 46 percent of the annual median.

At Tutuila, American Samoa, streamflow at Aasu (fig. 4) was normal for October, November, January, March, and April; and deficient for December, February, and May through September. Annual mean runoff was in the deficient range at 56 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, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

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

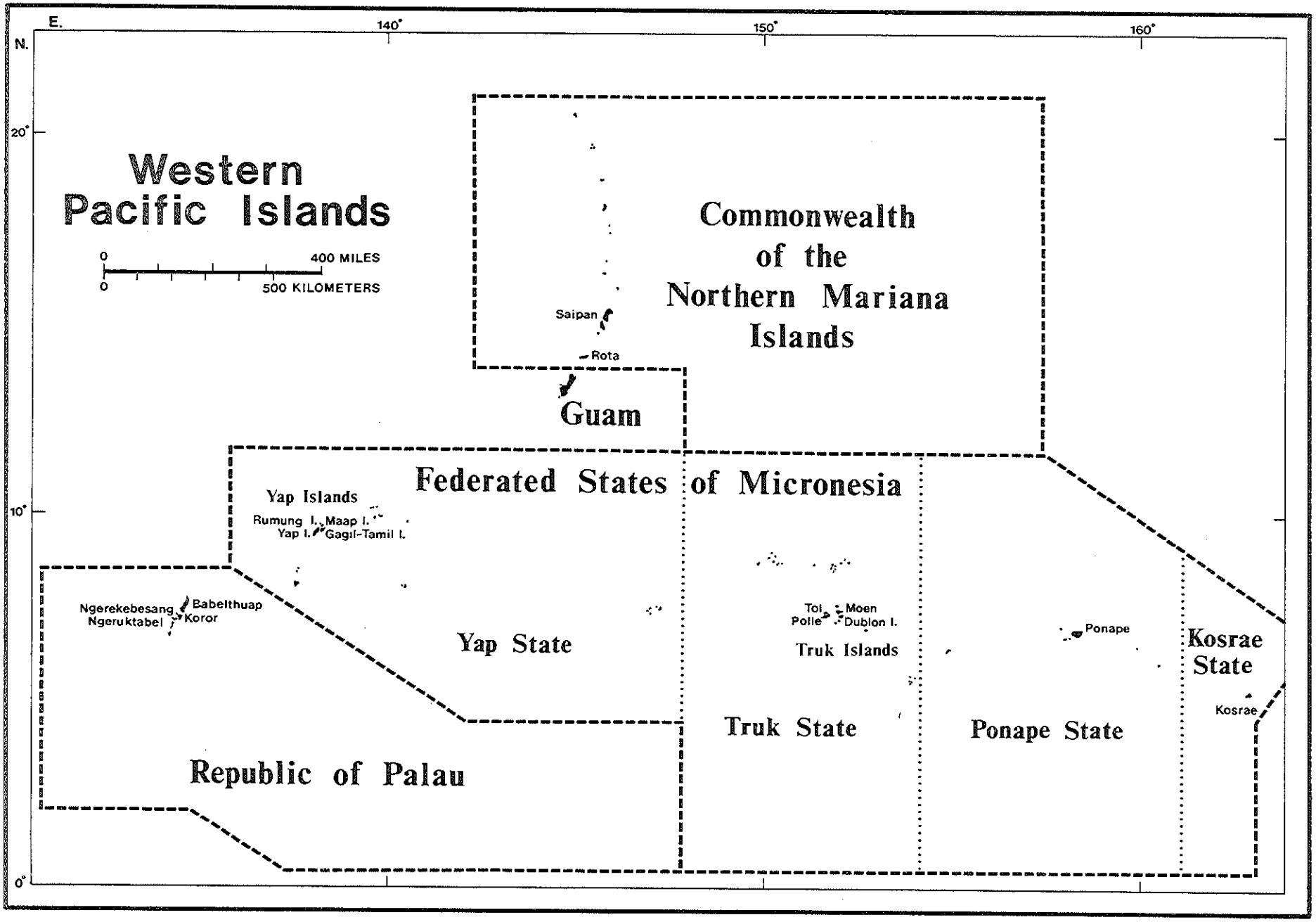
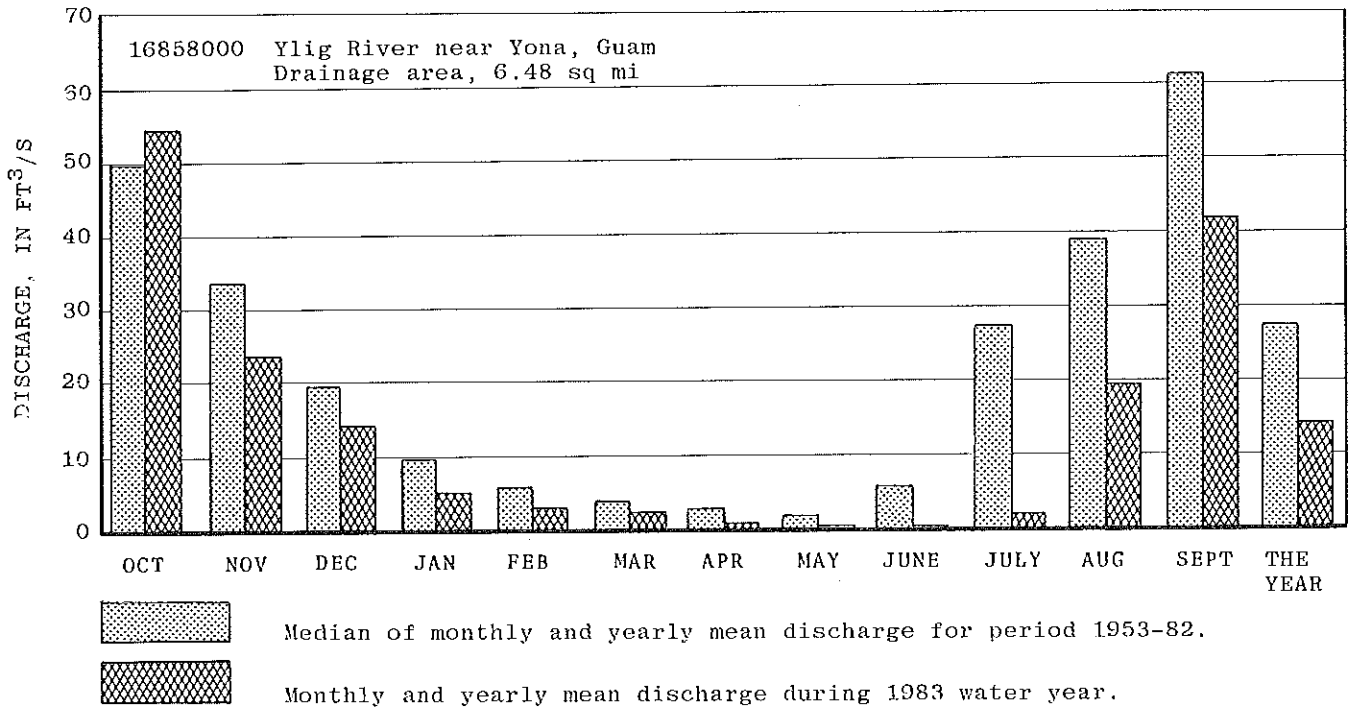


FIGURE 1.--LOCATIONS OF WESTERN PACIFIC ISLANDS.



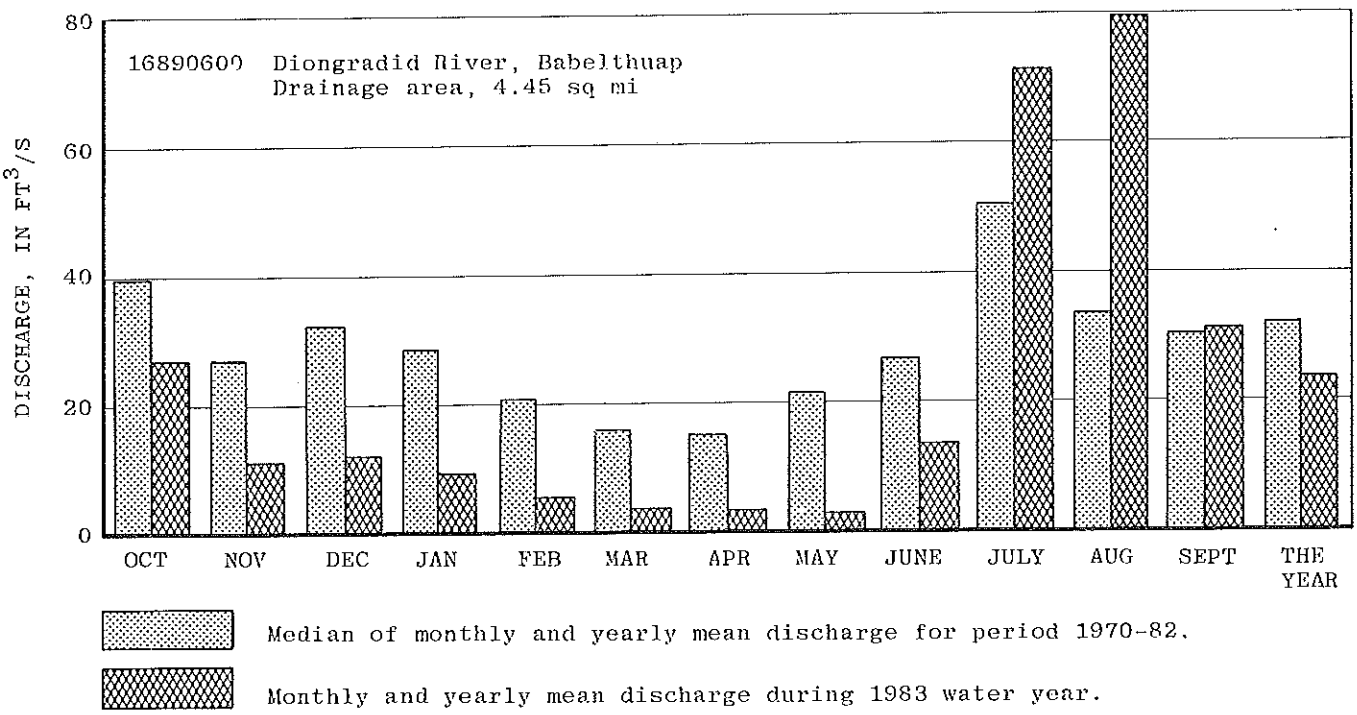
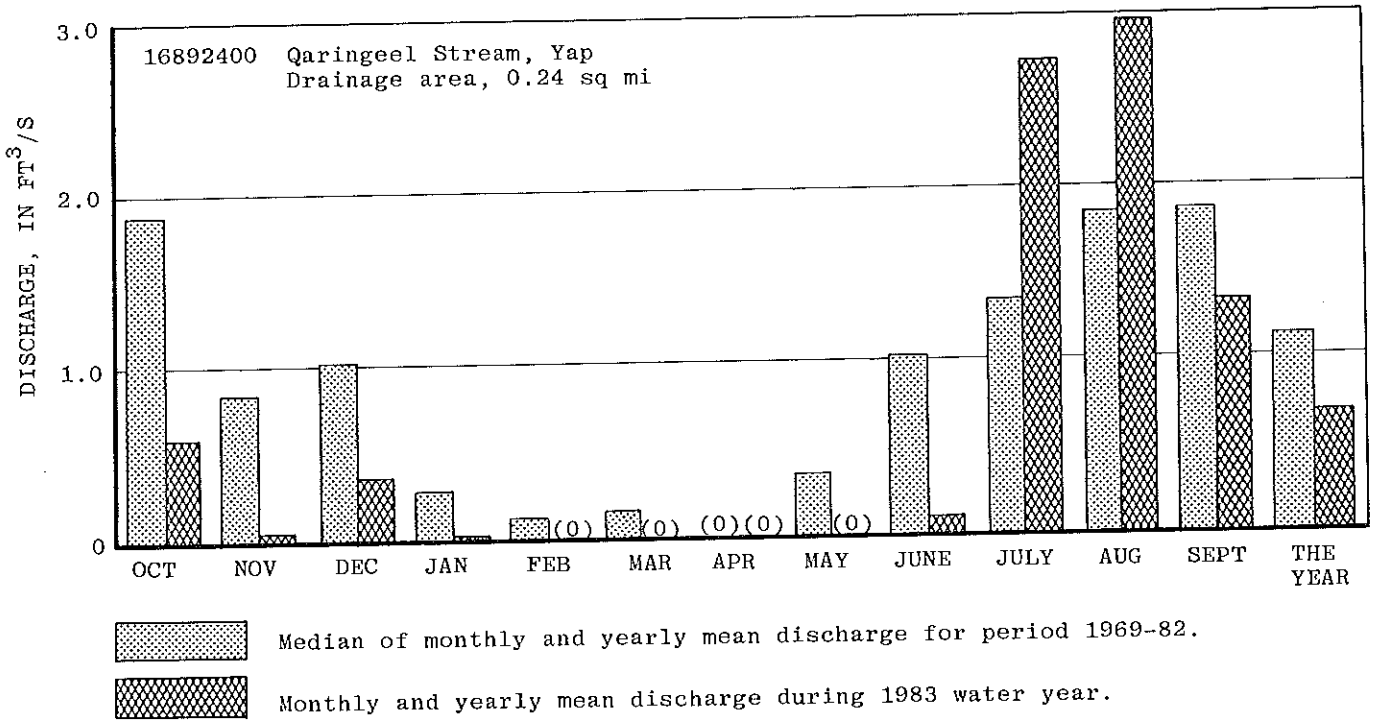


FIGURE 2.--DISCHARGE DURING 1983 WATER YEAR COMPARED WITH MEDIAN DISCHARGE FOR REPRESENTATIVE STREAMS ON GUAM AND BABELTHUAP.



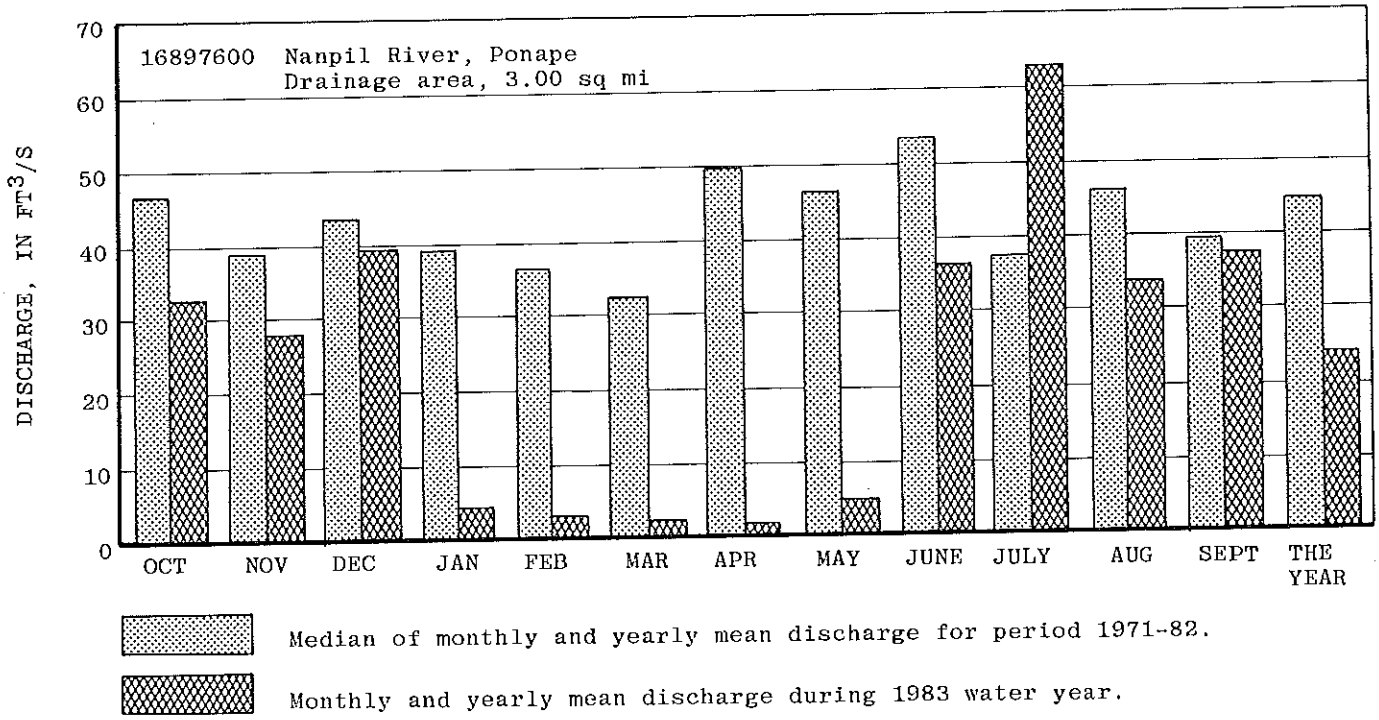


FIGURE 3.--DISCHARGE DURING 1983 WATER YEAR COMPARED WITH MEDIAN DISCHARGE FOR REPRESENTATIVE STREAMS ON YAP AND PONAPE.

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 respresentative 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 constituents.

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 5-13.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit 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 (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 14.

The local well-numbering system for Pacific Areas was restructured to contain eight digits based on a non-arbitrary, unique one-minute grid system. One-minute parallel lines for both latitude and longitude are drawn on the 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.

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

Since it is possible to have a same 6-digit number for wells on different islands, a 2-digit number distinguishing each of the islands or geographic areas is added in front of the 6-digit number with a dash separator. For example, in the number 18-2647-01, the first two digits designate an island of geographic area, then the 4-digit minute-grid numbers followed by a 2-digit sequential number. See figure 15.

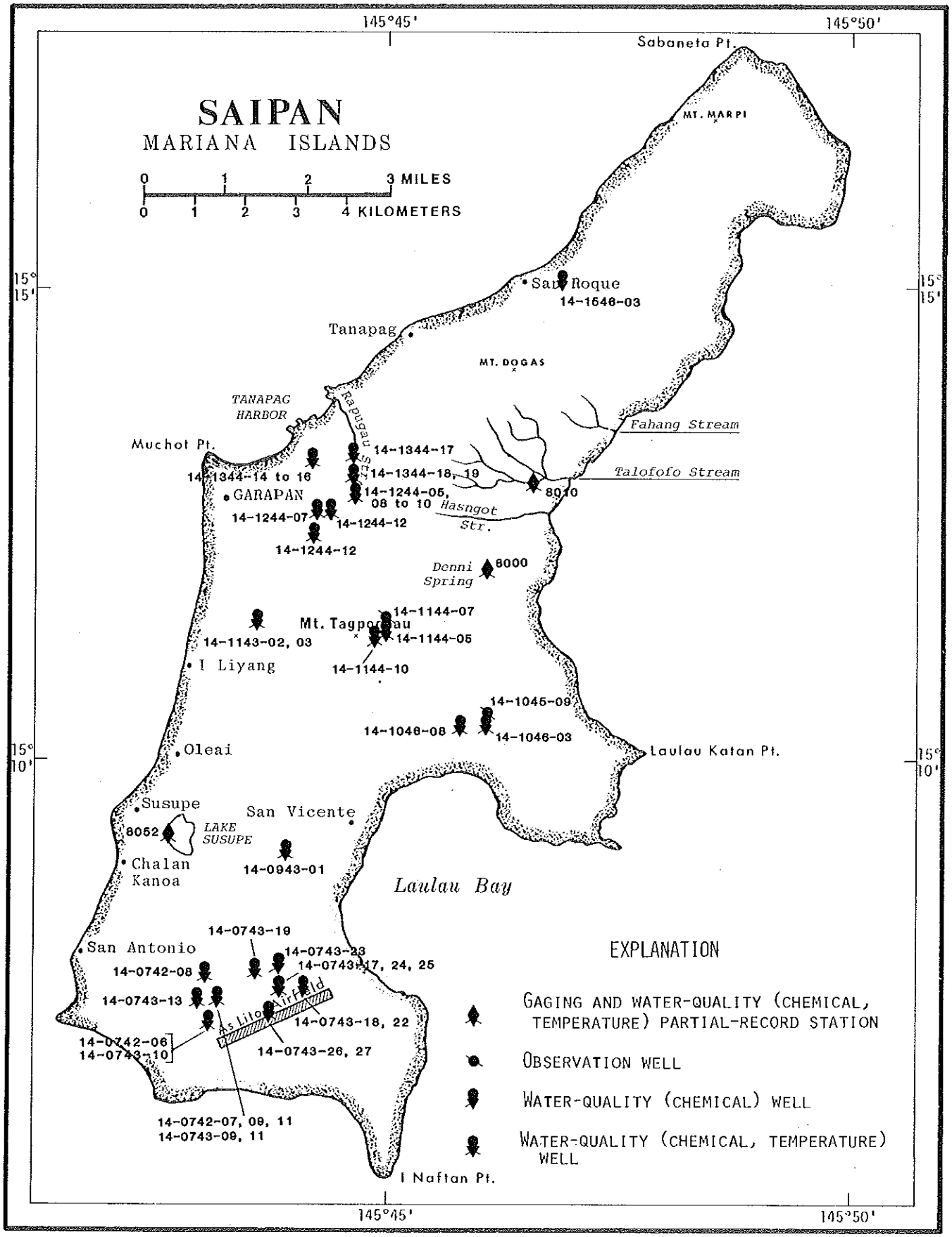


FIGURE 5. LOCATIONS OF GAGING STATIONS, OBSERVATION WELLS, AND WATER-QUALITY SITES ON SAIPAN, MARIANA ISLANDS.

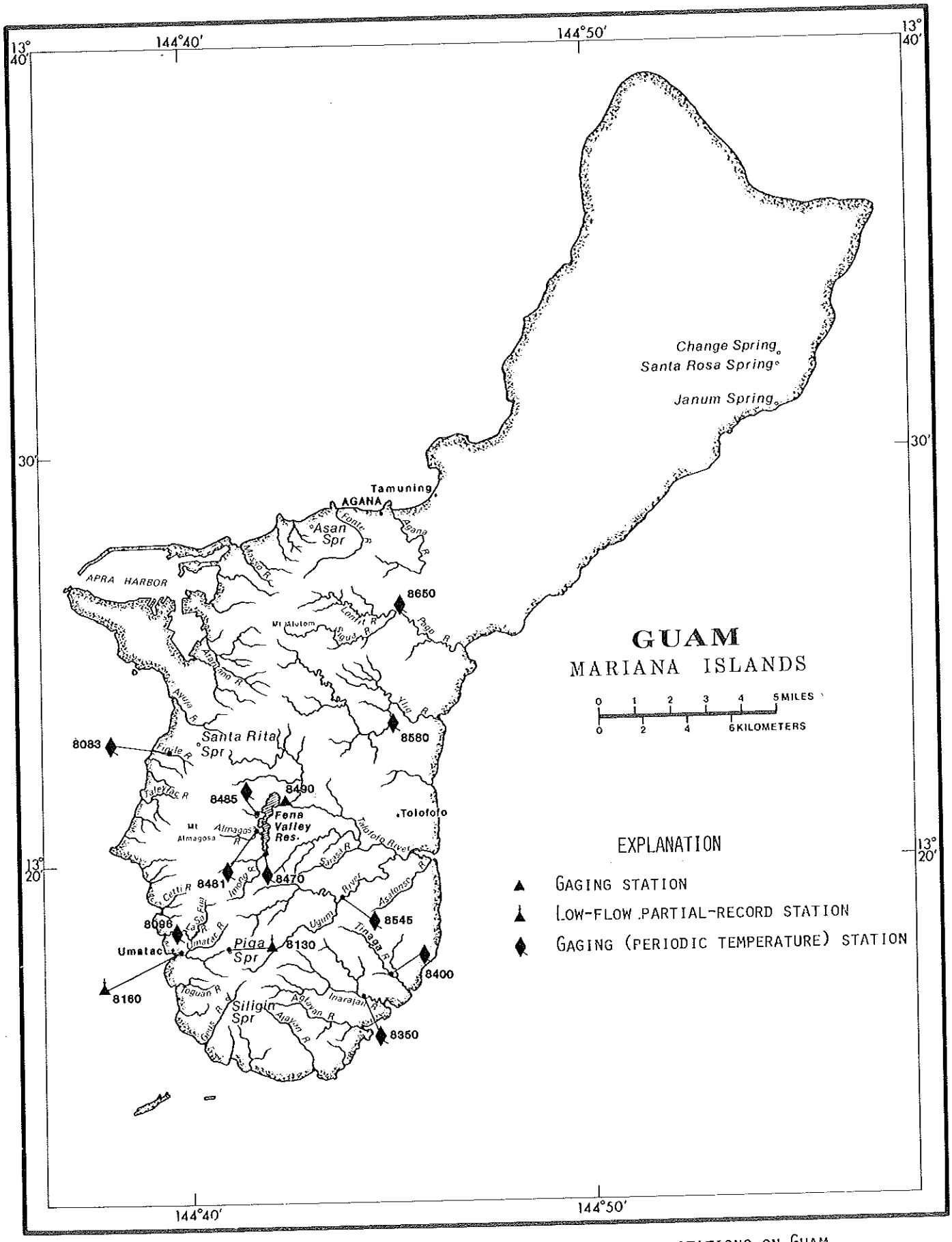


FIGURE 6.--LOCATIONS OF GAGING AND LOW-FLOW PARTIAL-RECORD STATIONS ON GUAM.

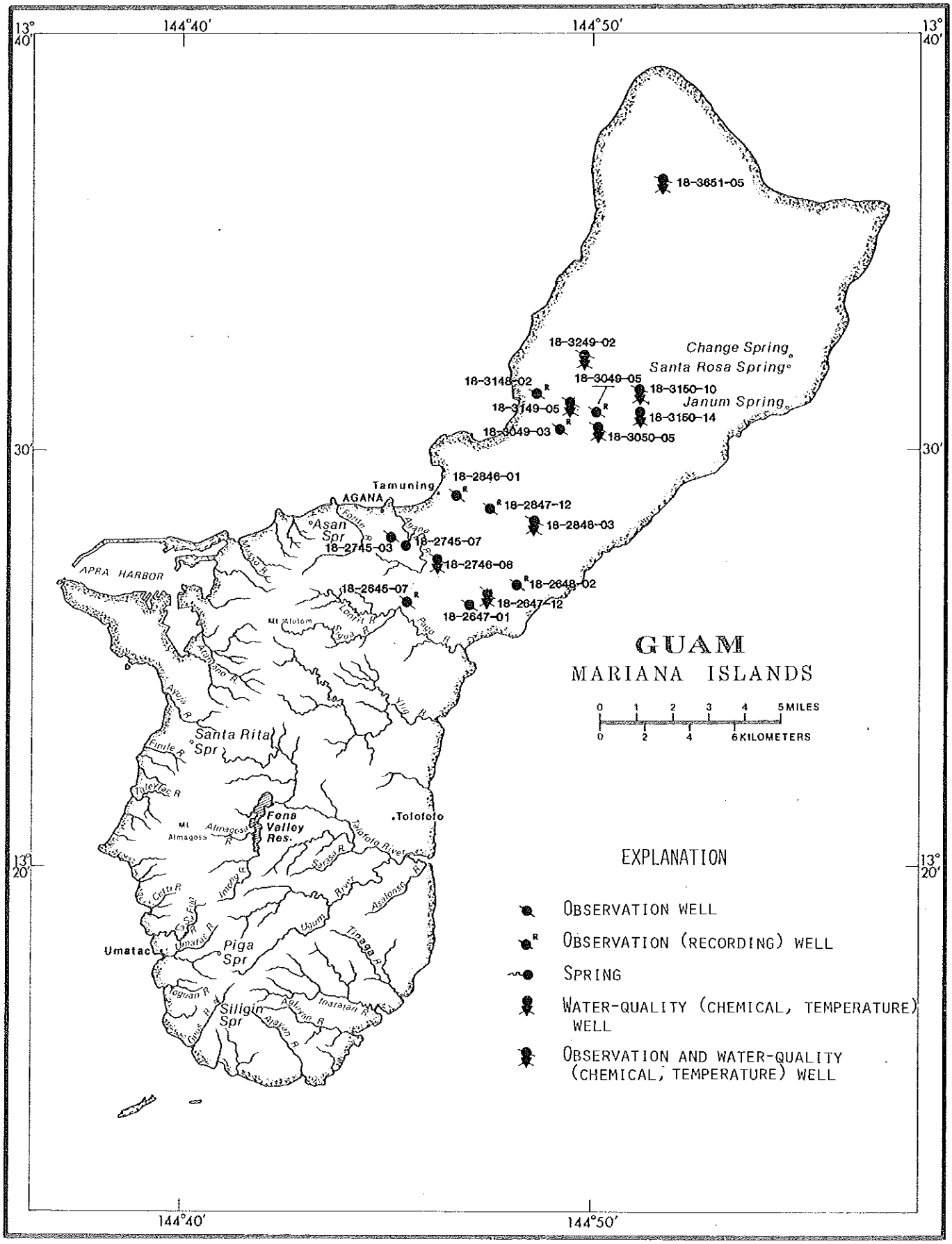


FIGURE 7.--LOCATIONS OF OBSERVATION WELLS AND WATER-QUALITY SITES ON GUAM.

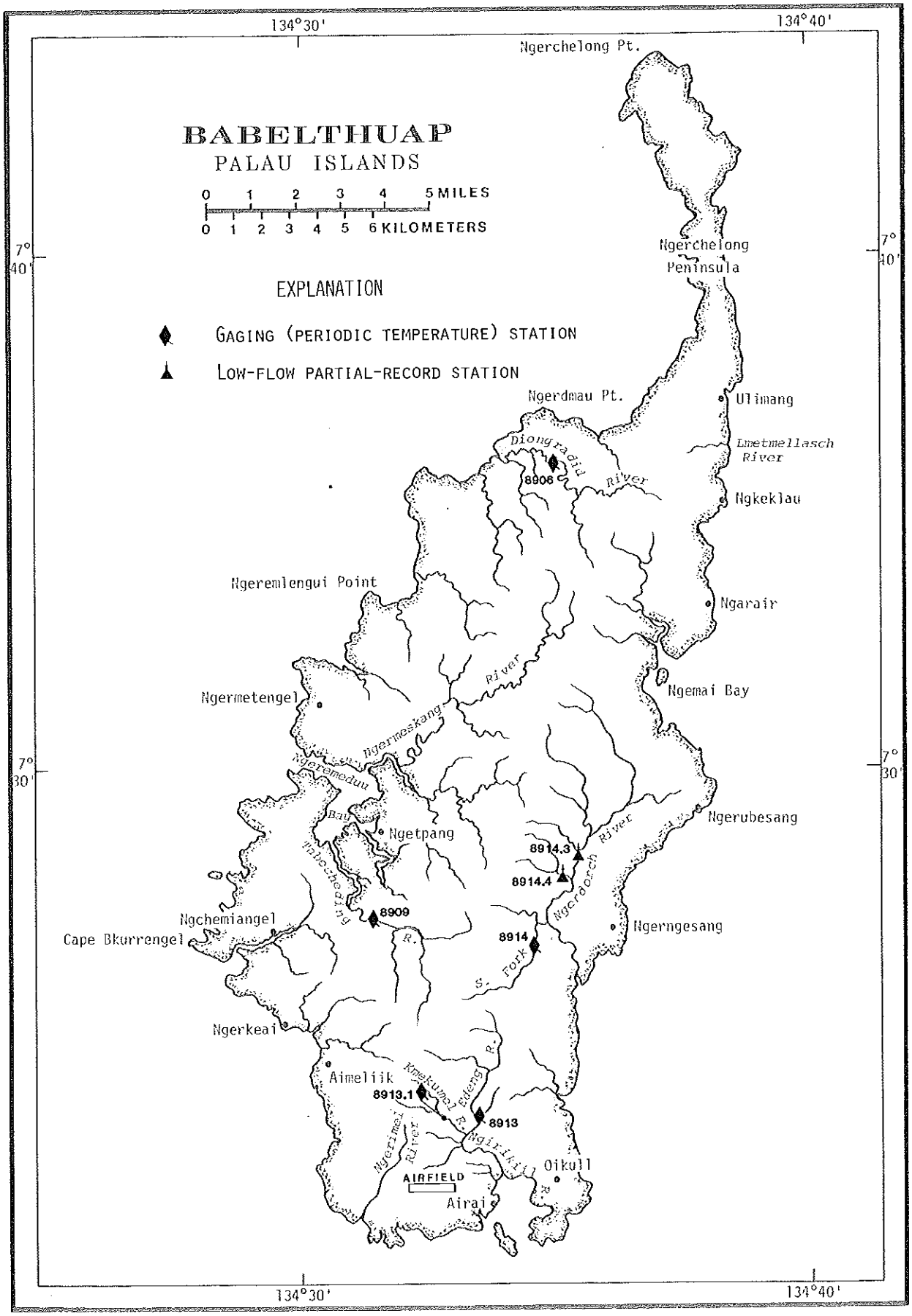


FIGURE 8.--LOCATIONS OF GAGING AND LOW-FLOW PARTIAL-RECORD STATIONS ON BABELTHUAP.

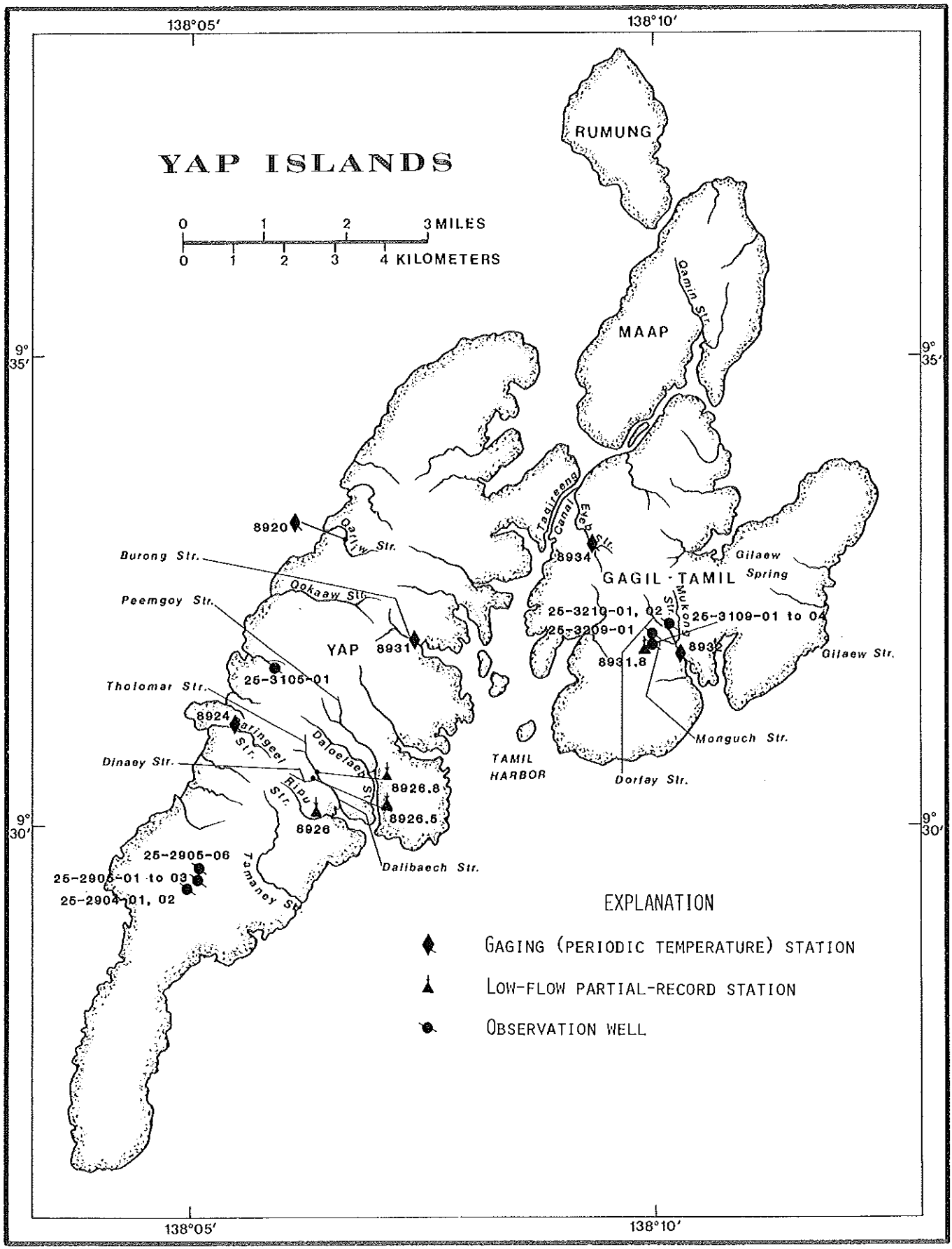


FIGURE 9.--LOCATIONS OF GAGING, LOW-FLOW PARTIAL-RECORD STATIONS, AND OBSERVATION WELLS ON YAP ISLANDS.

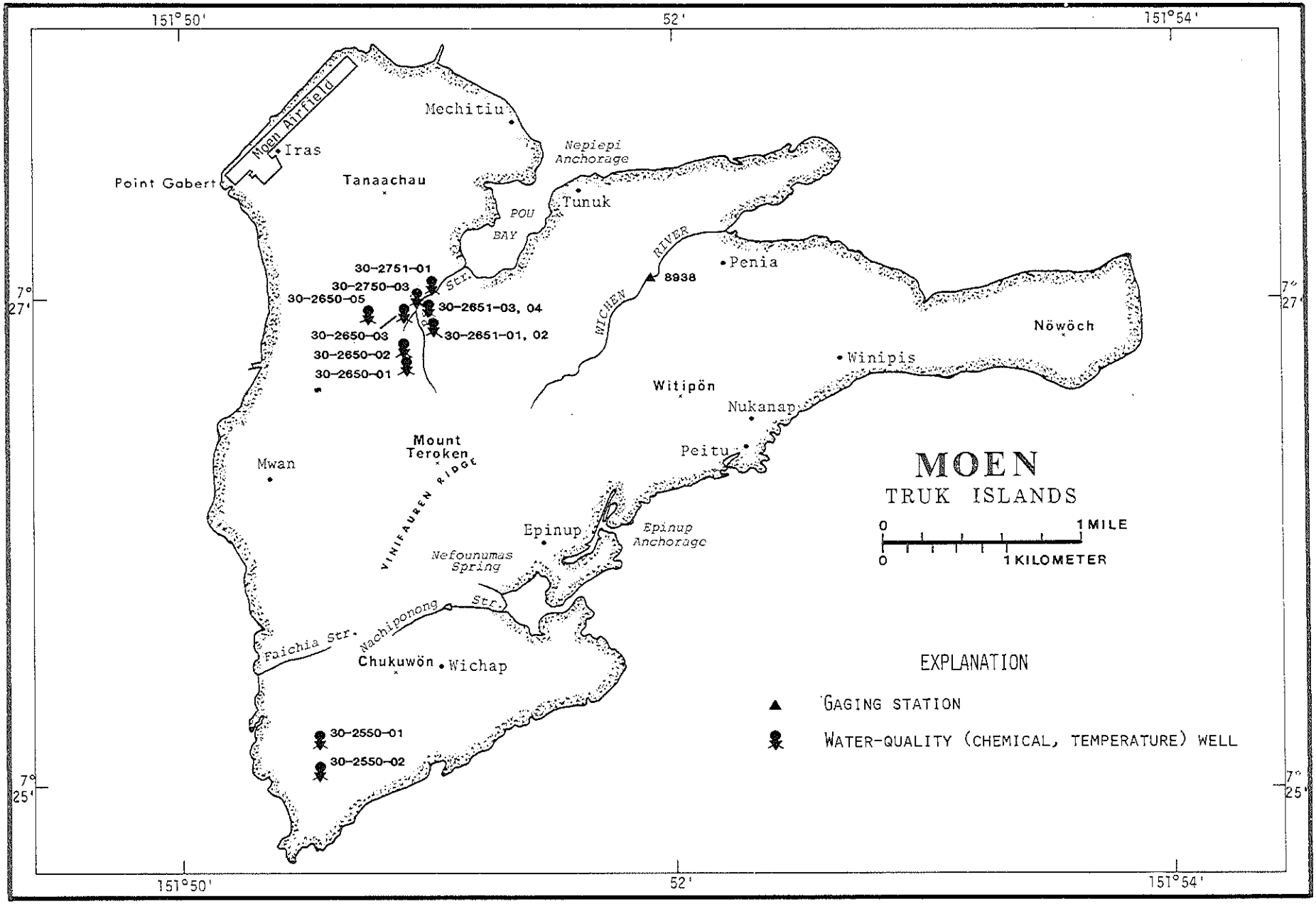


FIGURE 10.--LOCATIONS OF GAGING STATION, WELLS, AND WATER-QUALITY SITES ON MOEN.

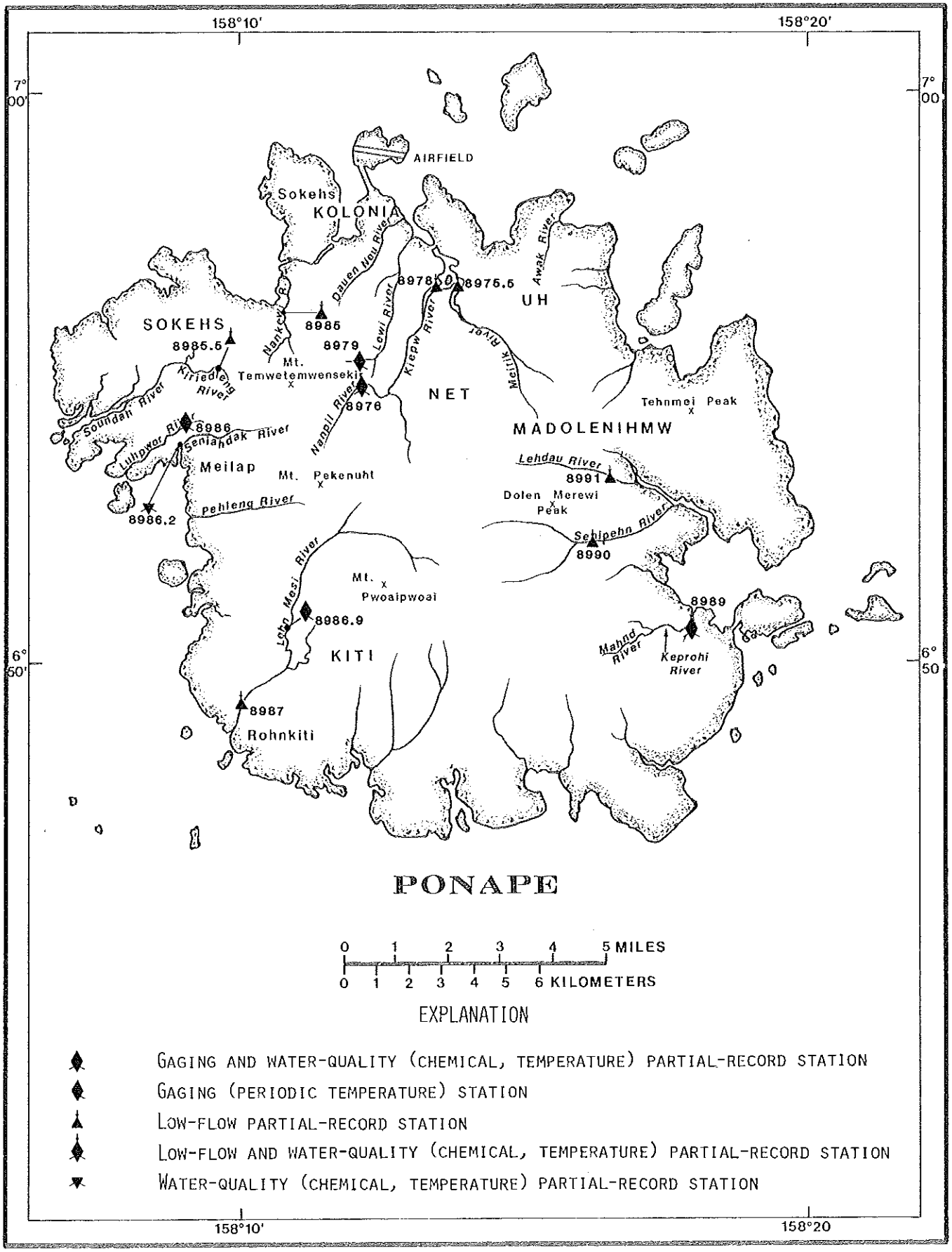


FIGURE 11.--LOCATIONS OF GAGING, LOW-FLOW PARTIAL-RECORD STATIONS, AND WATER-QUALITY SITES ON PONAPE.

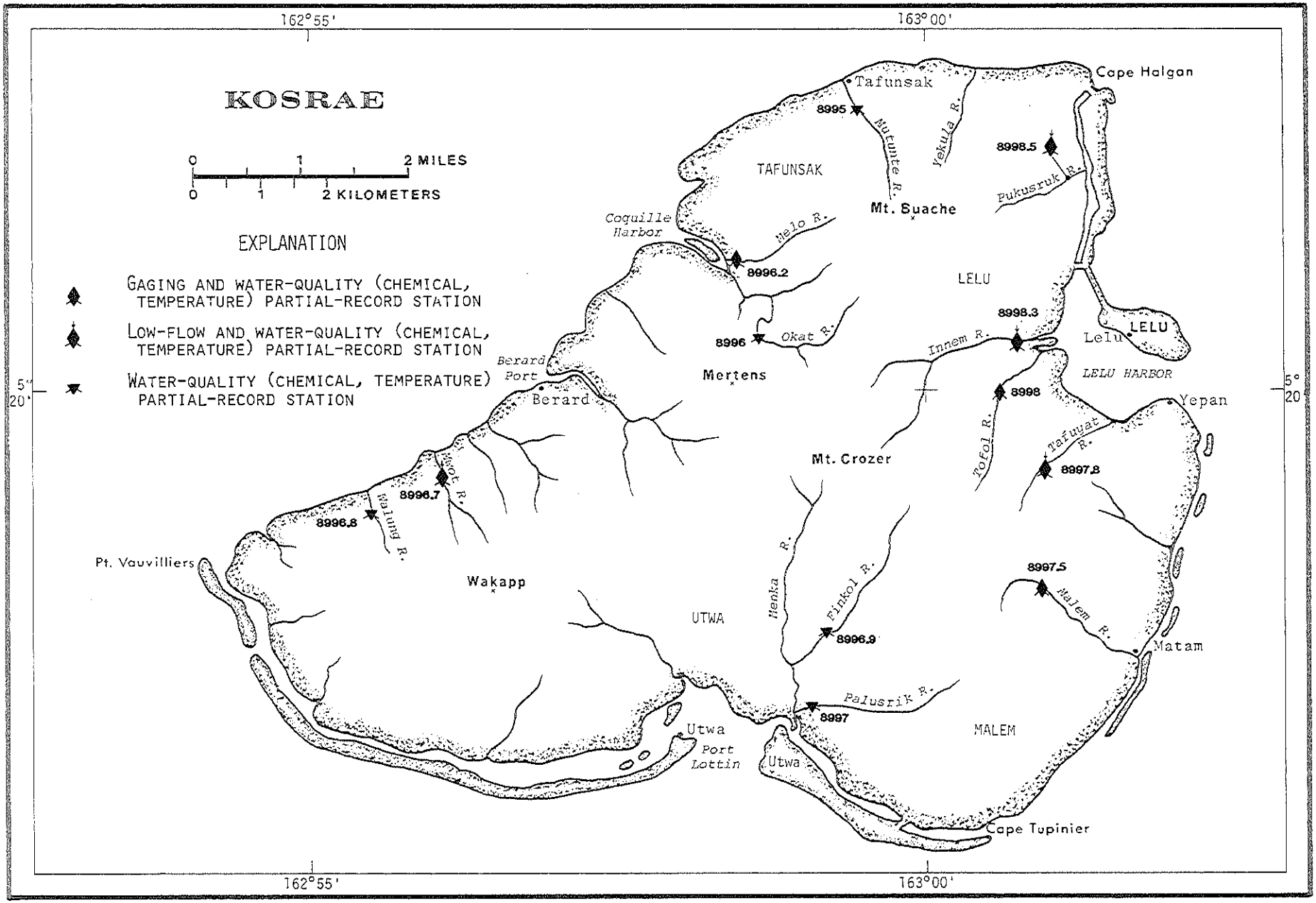


FIGURE 12.--LOCATIONS OF GAGING, LOW-FLOW PARTIAL-RECORD STATIONS, AND WATER-QUALITY SITES ON KOSRAE.

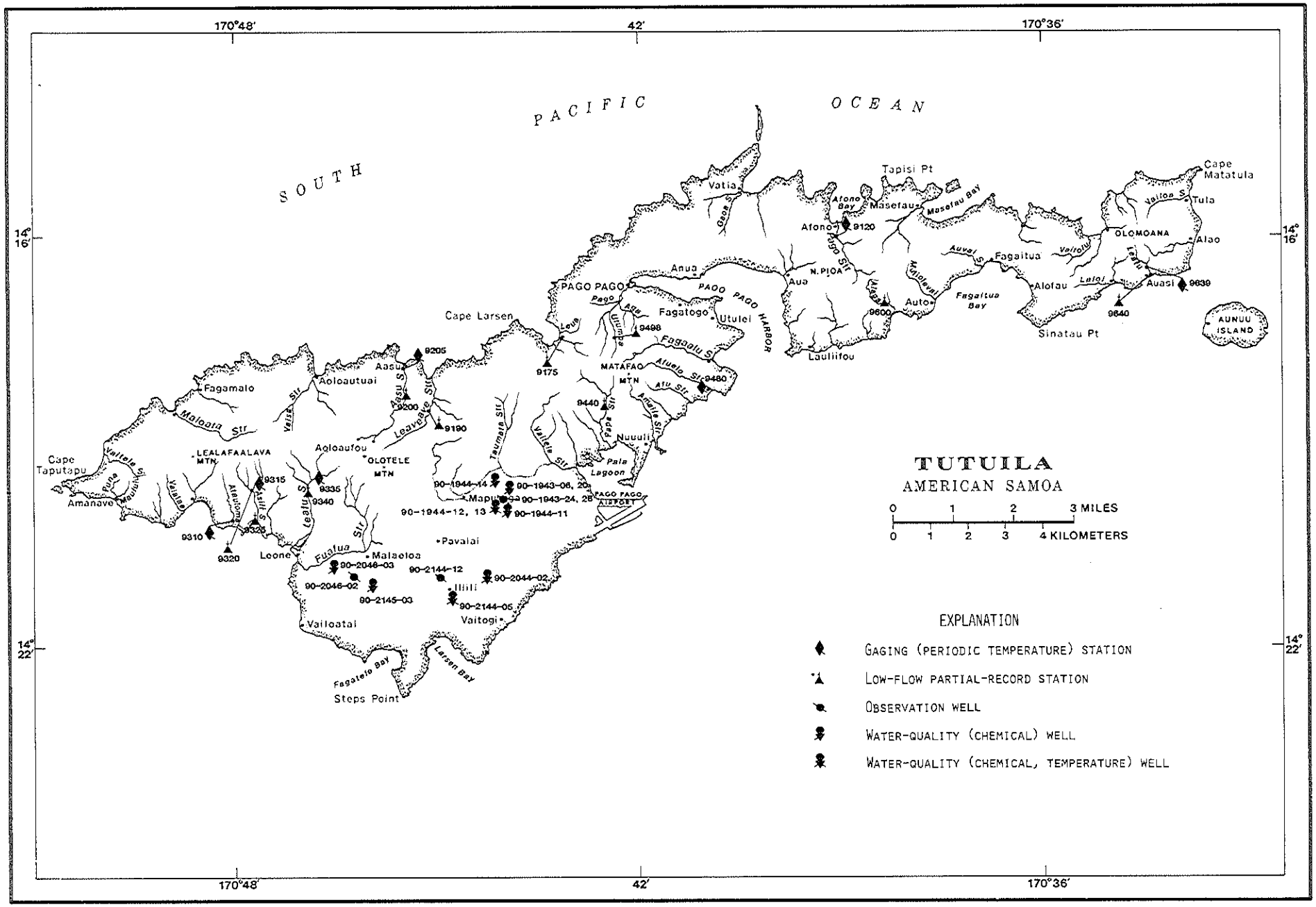


FIGURE 13.--LOCATIONS OF GAGING, LOW-FLOW PARTIAL-RECORD STATIONS, OBSERVATION WELLS, AND WATER-QUALITY SITES ON TUTUILA, SAMOA ISLANDS.

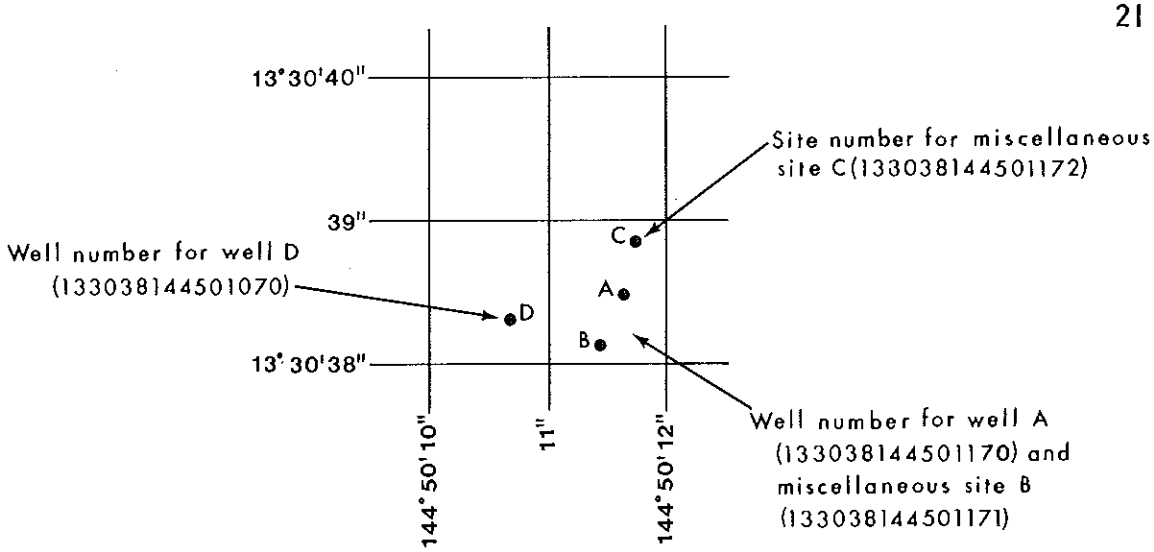


Figure 14. Sketch showing system for numbering wells and miscellaneous sites.

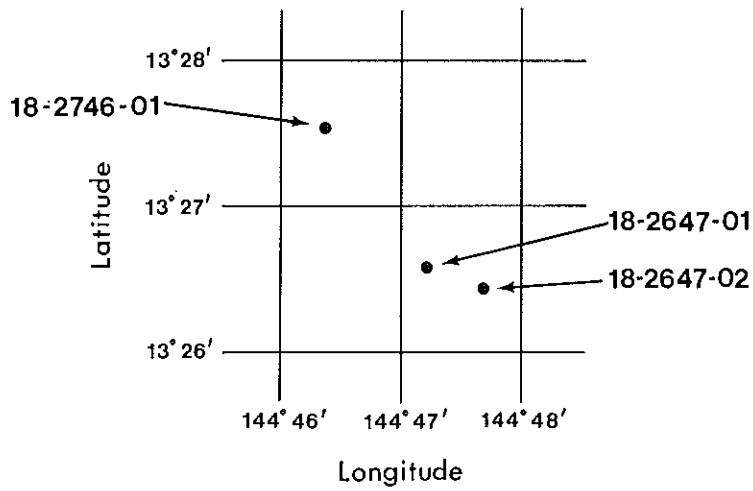


Figure 15. Sketch showing local well numbering system.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard text books, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

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

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to computed daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations, in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

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

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

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

The type of gage currently in 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 station 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 or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

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

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

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

Publications

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

Water year	WSP No.	Water year	WSP No.	Water year	WSP No.
1964	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 figures 14 and 15.

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

Water-level measurements in this report are given in feet with reference to either mean sea level (msl) or land-surface datum (lsd). Mean sea level is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum above mean sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom). To show the intraday variation in the ground-water levels caused by local pumping and tidal fluctuations, instantaneous maximum and minimum water levels are given with the mean water levels for the day.

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

ACCESS TO WATSTORE DATA

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

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

General inquiries about WATSTORE may be directed to:

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

Thirty-seven 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, 604 South Pickett St., Alexandria, VA 22304 (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-A9. *Measurement of time of travel and dispersion in streams by dye tracing,* by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.

3-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 programmed text for self-instruction,* by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

8-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.--Lat 15°11'48" N., long 145°45'52" E., Hydrologic Unit 20100006, 2.8 mi southeast of Tanapag, 3.1 mi east of Garapan, and 5.6 mi 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 (from U.S. Navy).

REMARKS.--Records poor.

AVERAGE DISCHARGE.--15 years (water years 1953, 1970-83), 0.643 ft^3/s (466 acre-ft/yr).

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

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 7.0 ft^3/s Oct. 19-22; minimum daily, 0.08 ft^3/s July 26-Aug. 6.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.53	1.5	.65	.53	.33	.26	.23	.26	.12	.12	.08	.23
2	.57	1.4	.65	.53	.33	.29	.23	.23	.12	.12	.08	.23
3	.81	1.3	.61	.49	.29	.29	.23	.23	.12	.10	.08	.20
4	1.1	1.2	.61	.49	.29	.29	.23	.20	.12	.10	.08	.20
5	1.2	1.1	.57	.49	.29	.29	.23	.20	.12	.10	.08	.20
6	1.2	1.1	.57	.49	.29	.29	.23	.20	.12	.10	.08	.20
7	1.3	.96	.57	.45	.29	.29	.23	.20	.12	.10	.10	.20
8	1.4	.96	.57	.45	.29	.26	.20	.20	.12	.10	.12	.26
9	1.4	.90	.57	.45	.29	.26	.20	.20	.12	.10	.14	.26
10	1.4	.90	.53	.45	.29	.26	.20	.20	.12	.10	.17	.26
11	1.5	.85	.53	.45	.29	.26	.20	.17	.12	.10	.20	.29
12	1.4	.81	.53	.41	.29	.26	.20	.17	.12	.10	.23	.29
13	1.5	.81	.53	.41	.29	.23	.20	.17	.12	.10	.23	.29
14	1.5	.81	.53	.41	.29	.23	.20	.17	.12	.10	.20	.26
15	1.5	.81	.53	.45	.29	.23	.20	.14	.12	.10	.20	.26
16	1.5	.81	.57	.49	.29	.23	.20	.14	.12	.10	.23	.26
17	1.8	.77	.57	.49	.29	.23	.20	.14	.12	.10	.26	.26
18	4.5	.77	.57	.45	.29	.23	.20	.14	.12	.10	.23	.26
19	7.0	.77	.57	.45	.29	.23	.20	.12	.12	.10	.23	.23
20	7.0	.77	.57	.45	.29	.23	.20	.12	.12	.10	.29	.23
21	7.0	.77	.57	.45	.29	.23	.20	.12	.12	.10	.29	.23
22	7.0	.73	.57	.45	.29	.23	.20	.12	.12	.10	.29	.33
23	5.5	.73	.53	.41	.29	.23	.20	.12	.12	.10	.33	.37
24	5.5	.73	.53	.41	.26	.23	.23	.12	.12	.10	.33	.37
25	4.5	.73	.53	.37	.26	.23	.26	.12	.12	.10	.33	.37
26	4.5	.69	.53	.37	.26	.23	.26	.12	.12	.08	.26	.33
27	3.5	.69	.53	.37	.26	.23	.26	.12	.12	.08	.26	.33
28	2.0	.65	.53	.37	.26	.23	.26	.12	.12	.08	.26	.29
29	1.8	.65	.53	.37	---	.23	.26	.12	.12	.08	.26	.29
30	1.8	.65	.53	.37	---	.23	.26	.12	.12	.08	.23	.26
31	1.6	---	.53	.33	---	.23	---	.12	---	.08	.23	---
TOTAL	84.81	26.32	17.31	13.55	8.05	7.67	6.60	4.92	3.60	3.02	6.38	8.04
MEAN	2.74	.88	.56	.44	.29	.25	.22	.16	.12	.097	.21	.27
MAX	7.0	1.5	.65	.53	.33	.29	.26	.26	.12	.12	.33	.37
MIN	.53	.65	.53	.33	.26	.23	.20	.12	.12	.08	.08	.20
AC-FT	168	52	34	27	16	15	13	9.8	7.1	6.0	13	16

CAL YR 1982	TOTAL	326.93	MEAN	.90	MAX	7.0	MIN	.35	AC-FT	648
WTR YR 1983	TOTAL	190.27	MEAN	.52	MAX	7.0	MIN	.08	AC-FT	377

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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 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 19...	1415	--	630	6.7	--	290	6	110	4.3	21	13	.6
JUL 02...	1100	.12	735	--	27.5	320	--	120	4.3	23	14	.6
SEP 07...	1050	.16	--	--	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)	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 19...	.80	287	7.0	36	<.10	7.2	358	.49	2.3	10	<1
JUL 02...	.70	--	--	--	<.10	7.3	--	--	2.4	4	<1
SEP 09...	--	--	--	35	--	--	--	--	--	--	--

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

MARIANA ISLANDS, ISLAND OF SAIPAN

16805200 LAKE SUSUPE

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

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

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

REMARKS.--Water-level records good.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.61 ft Oct. 19, 1982; lowest, 0.70 ft, June 13, 1983.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 4.61 ft, Oct. 19; lowest, 0.70 ft June 13.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.18	2.75	2.09	1.73	1.32	1.04	.90	.87	.74	.80	1.10	2.16
2	2.22	2.70	2.11	1.71	1.30	1.05	.90	.86	.74	.81	1.09	2.16
3	2.48	2.68	2.10	1.69	1.29	1.04	.89	.87	.73	.82	1.08	2.16
4	2.51	2.66	2.09	1.68	1.28	1.03	.89	.85	.72	.82	1.08	2.14
5	2.50	2.67	2.08	1.65	1.26	1.02	.88	.85	.72	.83	1.07	2.13
6	2.58	2.62	2.07	1.63	1.25	1.01	.88	.85	.72	.84	1.07	2.12
7	2.60	2.60	2.05	1.60	1.24	1.07	.88	.84	.73	.85	1.09	2.12
8	2.72	2.57	2.04	1.59	1.22	1.15	.88	.84	.73	.85	1.27	2.13
9	2.72	2.55	2.02	1.57	1.21	1.14	.89	.83	.73	.86	1.59	2.13
10	2.77	2.52	2.00	1.55	1.20	1.12	.89	.82	.72	.87	1.80	2.13
11	2.95	2.48	1.97	1.54	1.18	1.10	.88	.81	.72	.89	1.93	2.12
12	3.00	2.46	1.95	1.54	1.16	1.09	.88	.80	.72	.91	2.07	2.13
13	2.98	2.42	1.94	1.52	1.15	1.08	.89	.79	.71	.92	2.21	2.13
14	2.91	2.40	1.93	1.51	1.14	1.08	.89	.80	.72	.95	2.25	2.12
15	2.84	2.37	1.93	1.49	1.12	1.06	.88	.80	.72	.99	2.25	2.15
16	2.78	2.35	1.92	1.48	1.11	1.06	.86	.79	.72	.99	2.31	2.18
17	3.11	2.32	1.90	1.46	1.09	1.04	.86	.78	.72	.99	2.35	2.18
18	4.32	2.30	1.90	1.44	1.08	1.02	.91	.78	.72	.99	2.35	2.18
19	4.55	2.28	1.89	1.42	1.07	1.00	.94	.78	.72	1.00	2.33	2.18
20	4.46	2.26	1.88	1.39	1.07	.99	.94	.78	.73	1.02	2.31	2.17
21	4.30	2.24	1.87	1.40	1.06	.98	.93	.78	.75	1.06	2.29	2.22
22	4.12	2.25	1.85	1.39	1.05	.96	.93	.77	.76	1.07	2.26	2.23
23	3.93	2.24	1.84	1.41	1.04	.95	.92	.77	.77	1.08	2.24	2.23
24	3.75	2.22	1.83	1.44	1.03	.95	.91	.76	.77	1.10	2.21	2.27
25	3.59	2.19	1.81	1.42	1.02	.96	.90	.75	.78	1.11	2.20	2.25
26	3.42	2.17	1.80	1.41	1.03	.95	.90	.75	.78	1.10	2.20	2.24
27	3.28	2.14	1.79	1.40	1.04	.94	.89	.75	.78	1.09	2.19	2.28
28	3.14	2.13	1.78	1.38	1.04	.93	.89	.75	.79	1.09	2.18	2.27
29	3.01	2.11	1.77	1.36	---	.92	.88	.75	.79	1.10	2.18	2.27
30	2.92	2.08	1.76	1.34	---	.91	.87	.75	.79	1.12	2.18	2.25
31	2.83	---	1.74	1.33	---	.90	---	.75	---	1.11	2.17	---
MEAN	3.14	2.39	1.93	1.50	1.14	1.02	.89	.80	.74	.97	1.90	2.18
MAX	4.55	2.75	2.11	1.73	1.32	1.15	.94	.87	.79	1.12	2.35	2.28
MIN	2.18	2.08	1.74	1.33	1.02	.90	.86	.75	.71	.80	1.07	2.12

CAL YR 1982	MEAN	2.31	MAX	4.55	MIN	1.50
WTR YR 1983	MEAN	1.55	MAX	4.55	MIN	.71

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L 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											
19...	1000	2600	7.8	28.0	350	230	55	51	410	71	10
JUL											
01...	1545	14000	--	32.0	--	--	--	--	--	--	--
SEP											
09...	1250	--	--	31.0	--	--	--	--	--	--	--

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)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
NOV											
19...	14	116	85	760	<.10	4.7	1400	2.0	<.100	20	<10
JUL											
01...	--	--	--	4600	--	--	--	--	--	--	--
SEP											
09...	--	--	--	4800	--	--	--	--	--	--	--

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

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 upstream from estuary and 0.4 mi south of Agat School.

DRAINAGE AREA.--0.28 mi².

PERIOD OF RECORD.--April 1960 to December 1982 (discontinued).

REVISED RECORDS.--WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 20 ft, 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, 1.41 ft³/s (1,020 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 326 ft³/s May 21, 1976, gage height, 3.88 ft, from rating curve extended above 68 ft³/s on basis of slope-area measurement at gage height 3.66 ft; minimum, 0.04 ft³/s July 2-4, 6, 8, 9, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period October to December, 153 ft³/s Oct. 3, gage height, 2.27 ft, no peak above base of 170 ft³/s; minimum, 0.60 ft³/s Dec. 30, 31.

DISCHARGE (CUBIC FEET/SECOND) OCTOBER TO DECEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.4	1.0									
2	3.2	1.5	2.2									
3	12	1.4	2.6									
4	6.0	1.4	1.3									
5	3.0	2.4	1.1									
6	3.9	1.6	1.1									
7	3.0	1.4	1.0									
8	2.4	2.6	1.0									
9	2.4	3.5	.92									
10	2.2	1.6	1.3									
11	2.0	1.5	.92									
12	1.9	1.4	.92									
13	2.6	1.3	.92									
14	3.2	1.1	.92									
15	2.0	1.1	1.0									
16	2.8	1.1	.92									
17	1.8	1.3	.81									
18	8.1	1.1	.81									
19	2.6	1.0	.92									
20	2.6	1.4	.92									
21	2.2	1.3	.81									
22	1.9	1.4	.81									
23	2.0	1.1	1.6									
24	1.8	2.0	1.0									
25	1.8	1.3	.81									
26	1.6	1.0	.81									
27	1.6	1.0	.70									
28	1.6	1.6	.65									
29	1.5	1.0	.65									
30	1.5	1.0	.60									
31	1.4	---	.60									
TOTAL	88.2	43.8	31.62									
MEAN	2.85	1.46	1.02									
MAX	12	3.5	2.6									
MIN	1.4	1.0	.60									
AC-FT	175	87	63									

CAL YR 1982 TOTAL 472.29 MEAN 1.29 MAX 14 MIN .21 AC-FT 937

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 north of Sanchez School in Umatac and 0.8 mi upstream from mouth.

DRAINAGE AREA.--1.06 mi².

PERIOD OF RECORD.--April 1953 to July 1960, October 1976 to current year. Prior to October 1976, published as Fouha River near Umatac.

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

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

AVERAGE DISCHARGE.--13 years (water years 1954-59, 1977-83), 4.38 ft³/s (3,170 acre-ft/yr).

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 650 ft³/s Oct. 3, gage height, 4.70 ft, no other peak above base of 650 ft³/s; minimum, 0.16 ft³/s July 1.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	2.1	2.1	1.5	.82	.61	.61	.43	.35	.47	.64	2.6
2	16	7.9	3.3	1.4	.79	1.4	.61	.45	.33	.33	.49	2.2
3	72	2.6	8.1	1.4	.85	1.1	.70	.70	.33	.29	.61	1.8
4	26	13	3.0	1.4	.79	.73	.64	.47	.33	.27	5.4	1.5
5	7.4	20	2.4	1.3	.76	.89	.61	.45	.33	.27	2.0	1.5
6	13	7.4	2.1	1.5	.73	.76	.58	.43	.33	.25	1.4	1.3
7	5.6	4.0	1.9	1.2	.70	.73	.58	.43	.33	.25	1.0	1.7
8	4.1	14	1.9	1.2	.67	.67	.58	.45	.41	.61	5.2	1.9
9	3.6	10	1.8	1.1	.64	1.8	.58	.43	.35	.33	22	1.5
10	4.9	3.7	2.4	1.1	.64	2.4	.58	.89	.31	.33	3.0	1.1
11	3.5	3.0	1.6	1.1	.64	1.4	.55	.45	.41	2.8	2.1	1.0
12	3.1	2.6	1.6	1.0	.82	1.0	.55	.43	.39	.52	1.5	.91
13	3.6	2.3	1.4	1.0	.67	.85	.52	.41	.37	.41	1.2	.90
14	17	2.2	1.4	1.0	.73	.79	.58	.55	.39	.31	1.1	.97
15	3.6	2.2	3.6	1.0	.67	.89	.55	.55	.33	.29	1.9	.93
16	16	2.1	2.6	1.1	.64	.85	.58	.41	.31	.27	12	1.8
17	3.6	2.1	1.9	1.1	.61	.79	.55	.45	.31	.35	6.6	6.9
18	40	2.8	2.4	.93	.61	.73	.52	.43	.31	.35	5.4	3.0
19	6.2	2.0	2.2	.89	.64	.73	.55	.39	.29	.37	3.8	3.4
20	4.3	3.2	4.3	.89	.58	.70	.52	.37	.27	.41	5.0	5.8
21	3.3	8.8	4.8	1.0	.73	.67	.52	.37	.27	16	2.8	42
22	7.1	4.4	2.2	.97	.67	.67	.49	.37	.29	1.2	2.1	19
23	3.1	3.2	5.6	.89	.58	.70	.47	.45	.29	1.2	8.1	6.8
24	2.8	32	3.4	.85	.58	.70	.45	.39	.33	.70	15	12
25	2.6	3.6	2.4	.82	.61	.67	.47	.39	.29	.49	6.9	9.8
26	2.5	2.7	2.1	.82	.61	.70	.45	.37	.27	.47	3.4	7.0
27	2.5	2.2	2.0	.82	.55	.67	.45	.39	.25	.37	2.7	6.6
28	2.4	5.1	1.8	.79	.55	.64	.43	.39	.25	.33	2.2	5.1
29	2.3	2.4	1.8	.82	---	.64	.45	.37	.23	.45	8.2	4.4
30	2.2	2.1	1.6	.82	---	.61	.43	.35	.23	1.6	6.2	3.4
31	2.2	---	1.6	.79	---	.61	---	.35	---	.85	3.0	---
TOTAL	290.1	175.7	81.3	32.50	18.88	27.10	16.15	13.76	9.48	33.14	142.94	158.81
MEAN	9.36	5.86	2.62	1.05	.67	.87	.54	.44	.32	1.07	4.61	5.29
MAX	72	32	8.1	1.5	.85	2.4	.70	.89	.41	16	22	42
MIN	2.2	2.0	1.4	.79	.55	.61	.43	.35	.23	.25	.49	.90
AC-FT	575	349	161	64	37	54	32	27	19	66	284	315

CAL YR 1982	TOTAL	1831.49	MEAN	5.02	MAX	72	MIN	.39	AC-FT	3630
WTR YR 1983	TOTAL	999.86	MEAN	2.74	MAX	72	MIN	.23	AC-FT	1980

16847000 IMONG RIVER NEAR AGAT

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

DRAINAGE AREA.--1.95 mi².

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, 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.--22 years (water years 1961-70, 1972-83), 10.1 ft³/s (7,320 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,100 ft³/s Sept. 27, 1978, gage height, 11.3 ft, from outside floodmarks, and from rating curve extended above 58 ft³/s on basis of slope-area measurement of peak flow; minimum, 0.37 ft³/s May 21, 22, 26, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft³/s Oct. 3, gage height, 4.99 ft, no peak above base of 1,400 ft³/s; minimum, 1.2 ft³/s July 16, 17.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	5.7	5.7	4.1	3.2	3.0	2.4	2.0	1.8	2.2	1.8	4.3
2	20	14	9.7	3.8	3.2	5.1	2.4	2.0	1.8	1.8	1.6	3.9
3	82	7.8	8.8	3.8	3.0	4.1	2.6	2.6	1.6	1.6	2.0	3.4
4	37	18	6.3	3.8	3.0	3.5	2.4	2.2	1.6	1.8	4.4	3.1
5	19	38	5.7	3.8	3.0	3.2	2.4	2.0	1.6	1.6	3.8	3.1
6	22	13	5.4	4.1	2.8	3.2	2.2	1.8	1.6	1.4	3.8	3.0
7	14	9.7	5.1	3.8	2.8	3.0	2.2	1.8	1.8	1.4	2.6	21
8	11	13	6.0	3.8	2.8	3.0	2.2	1.8	2.0	2.6	8.3	11
9	10	17	5.1	3.5	3.0	4.4	2.4	1.8	1.8	1.8	17	6.8
10	9.7	9.2	5.7	3.5	3.0	4.4	2.4	2.6	1.6	2.0	5.4	5.1
11	9.2	8.3	4.8	3.5	3.0	3.5	2.2	2.0	2.0	6.5	5.1	4.4
12	8.8	7.3	4.8	3.5	3.2	3.2	2.2	1.8	1.8	1.8	3.5	3.8
13	9.2	6.8	4.4	3.5	3.0	3.0	2.2	1.8	1.8	1.8	2.8	3.8
14	9.2	6.3	4.4	3.8	3.2	2.8	2.4	2.2	1.6	1.4	3.8	3.5
15	8.3	6.3	7.8	3.5	3.2	2.6	2.2	2.2	1.6	1.4	5.4	3.5
16	13	6.8	6.0	4.1	3.2	2.8	2.2	1.8	1.6	1.2	33	5.1
17	9.7	6.3	5.4	4.1	3.0	2.6	2.2	1.8	1.4	1.4	13	4.4
18	52	6.8	8.3	3.5	3.0	2.4	2.0	1.8	1.6	1.4	8.9	4.8
19	15	6.0	6.3	3.5	3.2	2.4	2.2	1.8	1.6	1.4	5.6	5.7
20	11	6.8	9.2	3.5	3.0	2.4	2.0	1.8	1.6	1.4	4.4	8.8
21	9.2	14	8.3	3.8	3.2	2.4	2.2	1.8	1.6	17	3.5	36
22	8.8	10	5.7	3.8	3.2	2.4	2.2	1.8	1.4	3.2	3.0	22
23	7.8	11	6.8	3.5	3.0	2.6	2.2	2.0	1.4	2.8	6.9	11
24	7.3	19	6.0	3.2	2.8	2.4	2.0	1.8	1.4	2.4	21	13
25	6.8	7.8	5.1	3.2	2.8	2.4	2.0	1.8	1.4	2.0	12	15
26	6.3	6.3	4.8	3.2	2.8	2.4	2.0	1.8	1.4	2.0	6.0	12
27	6.3	6.0	4.4	3.2	2.8	2.4	2.0	1.8	1.4	1.8	4.8	12
28	6.3	8.8	4.4	3.2	2.8	2.4	2.0	1.8	1.4	1.6	4.2	9.7
29	6.0	6.0	4.4	3.2	---	2.4	2.0	1.8	1.4	2.0	6.2	8.2
30	6.0	5.7	4.1	3.5	---	2.2	2.0	1.8	1.4	2.2	7.5	6.9
31	6.0	---	4.1	3.2	---	2.2	---	2.0	---	2.0	4.9	---
TOTAL	456.1	307.7	183.0	111.5	84.2	90.8	66.0	59.8	48.0	76.9	216.2	258.3
MEAN	14.7	10.3	5.90	3.60	3.01	2.93	2.20	1.93	1.60	2.48	6.97	8.61
MAX	82	38	9.7	4.1	3.2	5.1	2.6	2.6	2.0	17	33	36
MIN	6.0	5.7	4.1	3.2	2.8	2.2	2.0	1.8	1.4	1.2	1.6	3.0
AC-FT	905	610	363	221	167	180	131	119	95	153	429	512

CAL YR 1982	TOTAL	3214.4	MEAN	8.81	MAX	106	MIN	1.6	AC-FT	6380	
WTR YR 1983	TOTAL	1958.5	MEAN	5.37	MAX	82	MIN	1.2	AC-FT	3880	

16848100 ALMAGOSA RIVER NEAR AGAT

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

DRAINAGE AREA.--1.32 mi².

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, from topographic map.

REMARKS.--Records fair. Up to 3.9 ft³/s diverted upstream for domestic use. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years, 6.05 ft³/s (4,380 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,650 ft³/s Sept. 27, 1978, gage height, 7.78 ft, from rating curve extended above 46 ft³/s on basis of slope-area measurement at gage height 7.32 ft; minimum, 0.13 ft³/s June 27, July 11, 12, 14, 16, 17, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 454 ft³/s Oct. 18, gage height, 4.41 ft, no peak above base of 700 ft³/s; minimum, 0.15 ft³/s on several days.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	2.9	3.2	1.0	.58	.43	.35	.21	.21	.43	.31	1.5
2	14	7.0	7.1	.89	.58	.89	.31	.21	.21	.24	.27	1.2
3	61	5.1	7.2	.84	.63	.74	.35	.39	.18	.21	.31	.90
4	43	11	4.7	.79	.63	.52	.39	.27	.18	.24	.84	.91
5	25	32	4.1	.79	.58	.47	.35	.24	.18	.21	1.4	1.1
6	21	11	3.6	.89	.52	.47	.31	.24	.18	.21	1.0	1.7
7	13	7.3	3.1	.89	.52	.47	.31	.21	.18	.18	.63	15
8	10	7.3	3.6	1.0	.52	.47	.31	.21	.31	.47	2.9	6.0
9	8.6	10	2.6	1.0	.52	1.0	.39	.21	.21	.27	5.6	3.7
10	7.5	6.6	3.0	1.0	.47	1.2	.35	.58	.18	.27	2.8	1.9
11	6.5	5.6	2.2	1.0	.58	.74	.31	.31	.24	1.6	2.7	1.2
12	5.5	5.0	2.0	1.0	.58	.58	.31	.27	.21	.39	1.4	1.1
13	6.0	4.2	1.8	1.0	.52	.52	.31	.24	.24	.68	.79	1.2
14	7.0	3.8	1.7	.95	.52	.47	.35	.31	.21	.27	1.3	1.1
15	5.1	3.7	3.2	.95	.58	.47	.35	.39	.18	.24	2.0	1.0
16	12	3.6	2.1	.95	.52	.52	.31	.27	.21	.24	15	1.2
17	6.7	3.0	2.1	1.0	.47	.47	.35	.24	.21	.24	10	.99
18	39	4.1	3.1	1.1	.43	.43	.31	.31	.24	.27	8.8	1.1
19	23	2.8	2.5	.79	.58	.39	.43	.27	.21	.27	4.7	1.2
20	13	3.8	4.0	.79	.47	.39	.31	.24	.21	.31	2.9	1.3
21	9.8	7.7	3.8	1.0	.52	.39	.27	.24	.21	4.8	1.9	17
22	7.7	6.3	2.9	.89	.52	.39	.27	.24	.21	.89	1.1	21
23	6.3	5.6	4.7	.79	.47	.43	.24	.31	.21	.79	1.7	10
24	5.5	9.2	3.3	.68	.43	.39	.24	.24	.21	.43	14	7.5
25	4.9	5.1	2.6	.63	.43	.39	.24	.24	.21	.35	12	8.2
26	4.4	4.2	2.2	.63	.43	.39	.24	.24	.18	.43	5.3	5.8
27	4.0	3.5	1.9	.63	.43	.39	.24	.24	.18	.27	3.3	6.0
28	3.7	6.1	1.7	.58	.39	.39	.24	.24	.18	.24	2.2	5.2
29	3.4	3.6	1.6	.58	---	.35	.24	.21	.18	.58	2.1	4.1
30	3.3	3.0	1.4	.58	---	.35	.24	.21	.18	.35	2.6	3.2
31	3.1	---	1.2	.58	---	.35	---	.24	---	.43	1.8	---
TOTAL	391.1	194.1	94.2	26.19	14.42	15.85	9.22	8.27	6.13	16.80	113.65	133.30
MEAN	12.6	6.47	3.04	.84	.51	.51	.31	.27	.20	.54	3.67	4.44
MAX	61	32	7.2	1.1	.63	1.2	.43	.58	.31	4.8	15	21
MIN	3.1	2.8	1.2	.58	.39	.35	.24	.21	.18	.18	.27	.90
AC-FT	776	385	187	52	29	31	18	16	12	33	225	264

CAL YR 1982	TOTAL	2054.21	MEAN	5.63	MAX	80	MIN	.39	AC-FT	4070	
WTR YR 1983	TOTAL	1023.23	MEAN	2.80	MAX	61	MIN	.18	AC-FT	2030	

16848500 MAULAP RIVER NEAR AGAT

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

DRAINAGE AREA.--1.15 mi².

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, from topographic map.

REMARKS.--Records good 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.--11 years, 5.13 ft³/s (3,720 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,420 ft³/s Sept. 27, 1978, gage height, 9.2 ft, from rating curve extended above 23 ft³/s, on basis of slope-area measurements at gage heights 8.21 ft and 9.2 ft; minimum, 0.31 ft³/s June 28 to July 1, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 702 ft³/s Oct. 18, gage height, 5.64 ft, no other peak above base of 600 ft³/s; minimum, 0.31 ft³/s June 28 to July 10.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	3.3	3.3	2.1	1.5	.95	.82	.47	.54	.61	.89	2.8
2	22	8.3	7.6	2.1	1.6	1.8	.82	.47	.47	.40	.75	2.4
3	69	4.9	12	1.9	1.6	1.6	.89	.75	.40	.37	.82	2.1
4	29	6.3	4.6	1.9	1.6	1.2	.89	.61	.40	.40	2.2	1.8
5	11	27	3.9	1.9	1.3	1.1	.82	.54	.40	.37	6.0	1.6
6	15	6.0	3.5	2.1	1.2	1.0	.82	.54	.47	.34	3.7	3.7
7	8.0	4.3	2.9	1.7	1.2	1.0	.89	.54	.40	.34	1.7	19
8	6.6	6.3	3.3	1.7	1.2	.95	.82	.47	.61	.61	6.3	6.5
9	6.3	11	2.9	1.6	1.2	2.0	.82	.47	.47	.37	4.9	3.9
10	6.0	4.3	3.5	1.6	1.1	2.2	.82	.89	.40	.40	2.9	2.9
11	5.5	4.1	2.7	1.6	1.3	1.5	.75	.61	.61	1.9	4.3	2.7
12	4.9	3.9	2.5	1.6	1.3	1.3	.75	.54	.47	.54	2.3	2.3
13	5.8	3.5	2.3	1.6	1.2	1.1	.75	.54	.47	1.3	1.7	2.1
14	8.0	3.3	2.3	1.7	1.2	1.0	.82	.61	.47	.54	2.3	2.2
15	4.6	3.3	3.5	1.6	1.3	.95	.75	.68	.47	.40	3.7	2.1
16	12	3.3	3.1	1.7	1.2	1.2	.68	.54	.37	.40	14	3.4
17	4.9	3.1	3.1	1.7	1.1	1.0	.68	.47	.37	.40	8.9	4.9
18	50	4.1	2.7	1.6	1.0	.95	.61	.61	.37	.40	6.1	3.4
19	8.0	3.1	2.5	1.6	1.3	.89	.82	.54	.37	.40	4.0	4.8
20	9.5	5.5	4.3	1.6	1.0	.96	.61	.47	.34	.61	4.2	4.1
21	6.6	9.9	3.3	1.6	1.2	.89	.61	.47	.37	6.0	2.8	24
22	6.6	6.3	2.7	1.6	1.2	.96	.61	.47	.34	1.2	2.3	14
23	4.9	3.9	8.7	1.5	1.0	.96	.54	.61	.34	1.6	5.1	8.0
24	4.6	7.6	3.7	1.5	1.0	.89	.54	.47	.37	.89	14	6.3
25	4.1	3.9	2.9	1.5	.95	.89	.54	.47	.34	.68	6.3	5.5
26	3.9	3.5	2.5	1.3	.95	.89	.54	.47	.34	.89	4.4	7.0
27	3.9	3.3	2.3	1.3	.95	.89	.54	.47	.37	.68	4.0	6.7
28	3.7	11	2.3	1.5	.90	.89	.54	.47	.34	.61	3.2	5.0
29	3.5	3.7	2.2	1.5	---	.82	.54	.47	.34	1.6	4.1	4.4
30	3.5	3.1	2.2	1.3	---	.82	.54	.47	.31	.89	3.7	3.6
31	3.5	---	2.2	1.5	---	.82	---	.54	---	.96	2.7	---
TOTAL	355.9	175.1	111.5	51.0	33.55	34.37	21.17	16.74	12.33	27.10	134.26	163.2
MEAN	11.5	5.84	3.60	1.65	1.20	1.11	.71	.54	.41	.87	4.33	5.44
MAX	69	27	12	2.1	1.6	2.2	.89	.89	.61	6.0	14	24
MIN	3.5	3.1	2.2	1.3	.90	.82	.54	.47	.31	.34	.75	1.6
AC-FT	706	347	221	101	67	68	42	33	24	54	266	324

CAL YR 1982	TOTAL	1954.83	MEAN	5.36	MAX	77	MIN	.83	AC-FT	3880	
WTR YR 1983	TOTAL	1136.22	MEAN	3.11	MAX	69	MIN	.31	AC-FT	2250	

NOTE.--No gage-height record Feb. 7 to Mar. 18.

16849000 FENA DAM SPILLWAY NEAR AGAT

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

DRAINAGE AREA.--5.88 mi².

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

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

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

REMARKS.--Gage-height records fair. About 10 ft³/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 ft³/s (12,970 acre-ft/yr).

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 1.18 ft, Oct. 18; minimum, -21.86 ft Aug. 4.

GAGE HEIGHT (FEET AT DATUM), WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	.14	.17	-0.05	-2.18	-4.79	-7.82	-11.33	-15.01	-18.93	-21.56	-17.94
2	.30	.22	.27	-0.09	-2.27	-4.80	-7.93	-11.46	-15.15	-19.04	-21.69	-17.95
3	.78	.30	.30	-0.12	-2.36	-4.83	-8.04	-11.57	-15.26	-19.18	-21.82	-17.98
4	.55	.35	.27	-0.17	-2.45	-4.91	-8.15	-11.68	-15.40	-19.31	-21.83	-18.07
5	.37	.56	.21	-0.23	-2.56	-5.03	-8.27	-11.79	-15.53	-19.44	-21.79	-18.16
6	.35	.35	.18	-0.27	-2.65	-5.14	-8.37	-11.92	-15.67	-19.59	-21.66	-18.12
7	.29	.28	.15	-0.34	-2.74	-5.24	-8.49	-12.04	-15.80	-19.71	-21.70	-17.77
8	.25	.29	.16	-0.41	-2.85	-5.33	-8.60	-12.18	-15.92	-19.80	-21.58	-17.05
9	.23	.35	.15	-0.48	-2.93	-5.38	-8.71	-12.30	-16.04	-19.90	-21.35	-16.86
10	.22	.26	.16	-0.53	-3.02	-5.40	-8.78	-12.37	-16.18	-20.03	-21.22	-16.83
11	.20	.23	.14	-0.58	-3.10	-5.44	-8.92	-12.49	-16.30	-19.97	-21.13	-16.83
12	.19	.21	.13	-0.63	-3.18	-5.55	-9.03	-12.62	-16.42	-20.00	-21.13	-16.86
13	.20	.18	.10	-0.69	-3.28	-5.65	-9.15	-12.73	-16.53	-20.07	-21.17	-16.89
14	.25	.17	.08	-0.76	-3.34	-5.77	-9.26	-12.85	-16.66	-20.20	-21.21	-16.94
15	.25	.16	.13	-0.83	-3.42	-5.87	-9.36	-12.94	-16.80	-20.35	-21.21	-16.98
16	.28	.16	.17	-0.88	-3.52	-5.96	-9.45	-13.06	-16.92	-20.51	-20.62	-16.96
17	.29	.15	.16	-0.92	-3.62	-6.11	-9.58	-13.18	-17.05	-20.65	-19.98	-16.94
18	.55	.18	.15	-0.98	-3.75	-6.18	-9.72	-13.28	-17.17	-20.79	-19.62	-16.87
19	.45	.16	.17	-1.07	-3.85	-6.29	-9.80	-13.39	-17.30	-20.91	-19.46	-16.82
20	.34	.19	.18	-1.13	-3.95	-6.42	-9.93	-13.52	-17.44	-21.05	-19.42	-16.73
21	.31	.23	.21	-1.20	-4.03	-6.59	-10.06	-13.64	-17.59	-20.78	-19.42	-16.26
22	.27	.33	.18	-1.25	-4.11	-6.71	-10.17	-13.78	-17.73	-20.57	-19.45	-15.08
23	.24	.26	.21	-1.31	-4.21	-6.78	-10.30	-13.88	-17.85	-20.60	-19.47	-14.63
24	.21	.37	.23	-1.38	-4.32	-6.88	-10.43	-14.00	-17.98	-20.69	-19.10	-14.38
25	.20	.27	.17	-1.48	-4.41	-6.99	-10.57	-14.13	-18.15	-20.80	-18.43	-14.05
26	.18	.21	.13	-1.56	-4.51	-7.10	-10.68	-14.28	-18.29	-20.90	-18.27	-13.80
27	.17	.19	.10	-1.63	-4.61	-7.22	-10.82	-14.37	-18.42	-21.03	-18.19	-13.52
28	.15	.24	.07	-1.72	-4.70	-7.33	-10.95	-14.50	-18.56	-21.17	-18.17	-13.33
29	.15	.26	.05	-1.81	---	-7.47	-11.08	-14.63	-18.70	-21.25	-18.13	-13.20
30	.15	.19	.03	-1.90	---	-7.58	-11.20	-14.76	-18.85	-21.34	-17.99	-13.12
31	.15	---	-0.02	-2.08	---	-7.71	---	-14.89	---	-21.44	-17.95	---
MEAN	.28	.25	.15	-0.92	-3.43	-6.08	-9.45	-13.08	-16.89	-20.32	-20.18	-16.23
MAX	.78	.56	.30	-.05	-2.18	-4.79	-7.82	-11.33	-15.01	-18.93	-17.95	-13.12
MIN	.15	.14	-0.02	-2.08	-4.70	-7.71	-11.20	-14.89	-18.85	-21.44	-21.83	-18.16

CAL YR 1982	MEAN	-1.43	MAX	.78	MIN	-7.93
WTR YR 1983	MEAN	-8.85	MAX	.78	MIN	-21.83

16854500 UGUM RIVER ABOVE TALOFOFO FALLS, NEAR TALOFOFO

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

DRAINAGE AREA.--5.76 mi².

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

GAGE.--Water-stage recorder. Altitude of gage is 130 ft, 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.--6 years, 24.1 ft³/s (17,460 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,890 ft³/s Feb. 26, 1980, gage height, 14.2 ft, from flood-marks, from rating curve extended above 350 ft³/s on basis of slope-area measurement at gage height 14.2 ft; minimum, 3.4 ft³/s June 27, 1978, July 14, 18, 19, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 869 ft³/s Oct. 3, gage height, 6.03 ft, no peak above base of 1,300 ft³/s; minimum, 3.5 ft³/s for several days in June.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	20	22	13	9.0	7.5	6.1	4.9	4.5	4.7	5.2	12
2	47	29	25	12	9.0	12	6.1	4.9	4.5	4.7	4.2	11
3	238	30	32	12	9.2	11	6.6	6.1	4.0	3.8	4.5	9.4
4	113	32	22	12	9.0	8.8	6.1	5.2	4.0	3.8	17	8.6
5	59	98	19	12	8.8	8.2	6.1	5.0	4.0	4.0	10	8.2
6	56	42	18	13	8.8	8.5	5.9	4.9	4.0	3.8	8.0	8.3
7	43	30	17	12	8.5	8.5	5.7	4.9	4.5	3.7	6.1	43
8	38	66	18	11	8.5	8.2	5.7	4.7	5.0	5.7	17	32
9	43	53	16	11	8.2	12	5.7	4.9	4.5	4.7	36	21
10	34	30	18	11	8.2	13	5.9	6.6	4.0	4.4	13	13
11	31	26	16	11	8.2	11	6.6	5.4	5.0	10	9.8	11
12	29	23	16	11	9.2	8.5	6.1	5.0	4.5	5.4	7.8	9.8
13	32	22	15	11	8.5	7.8	6.6	4.9	4.5	5.9	7.0	10
14	58	21	15	11	9.2	7.3	6.6	5.0	4.0	4.4	7.0	9.4
15	30	22	20	10	8.8	7.5	5.9	5.7	4.0	3.8	6.6	9.2
16	30	22	17	11	8.2	7.5	5.9	4.7	4.0	3.7	49	13
17	28	22	16	11	8.0	7.0	5.7	4.7	3.5	3.7	20	14
18	125	24	17	10	8.0	6.8	5.7	4.7	4.0	3.8	20	14
19	50	20	17	10	8.5	6.6	5.7	4.7	4.0	4.0	20	15
20	39	25	23	10	8.2	6.6	5.4	4.7	4.0	4.0	14	21
21	34	38	19	11	9.0	6.6	5.7	4.7	4.0	36	9.5	91
22	41	32	17	11	8.8	6.6	5.9	4.7	3.5	9.8	8.0	62
23	30	30	19	10	8.2	6.4	5.7	5.0	3.5	7.3	12	31
24	28	97	18	9.8	8.0	6.6	5.7	4.5	3.5	5.4	50	40
25	26	28	16	9.8	8.0	6.6	5.4	4.5	3.5	4.7	29	45
26	26	22	14	9.5	8.0	6.4	5.2	4.5	3.5	4.5	15	49
27	25	20	14	9.5	7.8	6.4	5.2	4.5	3.5	4.2	12	38
28	24	28	14	9.2	7.5	6.1	5.0	4.5	3.5	4.0	11	28
29	22	21	14	9.0	---	5.9	5.0	4.5	3.5	4.2	18	25
30	22	19	13	9.2	---	6.1	4.9	4.5	3.5	6.8	28	20
31	21	---	13	9.2	---	6.1	---	5.0	---	6.1	14	---
TOTAL	1450	992	550	332.2	237.3	244.1	173.8	152.5	120.0	185.0	488.7	721.9
MEAN	46.8	33.1	17.7	10.7	8.47	7.87	5.79	4.92	4.00	5.97	15.8	24.1
MAX	238	98	32	13	9.2	13	6.6	6.6	5.0	36	50	91
MIN	21	19	13	9.0	7.5	5.9	4.9	4.5	3.5	3.7	4.2	8.2
AC-FT	2880	1970	1090	659	471	484	345	302	238	367	969	1430

CAL YR 1982	TOTAL	9337.2	MEAN	25.6	MAX	243	MIN	4.9	AC-FT	18520
WTR YR 1983	TOTAL	5647.5	MEAN	15.5	MAX	238	MIN	3.5	AC-FT	11200

NOTE.--No gage-height record May 20 to June 29.

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 upstream from mouth, 1.9 mi southwest of Yona, and 5.6 mi south of Agana.

DRAINAGE AREA.--6.48 mi².

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, 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.--31 years, 28.2 ft³/s (20,430 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,900 ft³/s Sept. 9, 1963, gage height, 19.77 ft, from flood-marks, from rating curve extended above 830 ft³/s on basis of slope-area measurements at gage heights 11.24 ft and 15.87 ft, maximum gage height, 22.80 ft Feb. 26, 1980; minimum, 0.07 ft³/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, 1,690 ft³/s Oct. 14, gage height, 12.05 ft, from rating curve extended above 155 ft³/s, no peak above base of 2,000 ft³/s; minimum, 0.10 ft³/s June 29 to July 1.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	12	12	7.9	3.1	1.9	1.0	.46	.30	.22	1.6	15
2	80	19	49	7.5	3.1	4.7	1.0	.46	.30	.46	1.1	13
3	406	13	28	7.3	3.3	5.5	1.2	.46	.30	.40	1.0	11
4	148	13	17	7.0	3.3	3.8	1.2	.46	.30	.30	13	10
5	47	97	14	7.0	3.1	2.8	1.1	.46	.26	.35	7.0	16
6	72	25	13	7.0	2.9	2.5	1.0	.46	.30	.26	6.3	33
7	35	16	12	6.6	2.8	2.4	1.1	.40	.26	.22	8.3	52
8	31	30	12	6.1	2.6	2.4	1.0	.40	.26	.35	41	42
9	29	58	11	5.9	2.5	2.8	.94	.40	.26	.52	35	28
10	27	18	12	5.7	2.5	3.3	1.0	.40	.26	.64	14	20
11	24	17	10	5.7	2.5	2.9	1.0	.40	.26	1.0	42	18
12	22	15	10	5.7	2.8	2.4	1.0	.40	.30	1.2	17	15
13	22	14	9.4	5.3	2.8	1.9	1.0	.35	.35	1.1	12	14
14	185	13	9.4	5.5	2.9	1.6	1.0	.40	.40	.64	10	13
15	25	14	13	5.1	3.1	1.6	1.0	.78	.35	.46	10	12
16	24	15	14	4.9	2.6	1.6	.86	.86	.30	.30	19	60
17	20	16	9.4	4.9	2.5	1.6	.86	.64	.26	.26	14	156
18	194	17	13	4.5	2.4	1.6	.78	.64	.22	.22	13	42
19	35	12	13	4.1	2.5	1.5	.78	.64	.19	.26	13	32
20	45	42	12	4.0	2.5	1.5	.64	.52	.16	.40	11	34
21	30	18	11	4.9	2.6	1.4	.64	.40	.13	14	8.8	296
22	25	27	9.4	5.3	2.8	1.4	.71	.40	.13	4.7	7.3	74
23	22	17	23	4.7	2.2	1.4	.64	.40	.16	13	16	46
24	20	79	19	4.1	2.1	1.3	.58	.71	.13	4.3	104	38
25	18	17	12	4.0	2.1	1.3	.52	.58	.13	2.1	31	31
26	17	14	10	3.6	2.0	1.3	.46	.46	.13	1.4	20	32
27	16	13	9.5	3.6	1.9	1.3	.46	.40	.13	1.3	34	30
28	15	19	9.0	3.4	1.9	1.2	.46	.40	.13	.94	23	26
29	14	14	11	3.3	---	1.1	.46	.35	.10	.86	30	24
30	14	12	9.0	3.3	---	1.1	.46	.35	.10	3.8	23	21
31	13	---	8.2	3.3	---	1.0	---	.35	---	3.1	16	---
TOTAL	1697	706	424.3	161.2	73.4	64.1	24.85	14.79	6.86	59.06	602.4	1254
MEAN	54.7	23.5	13.7	5.20	2.62	2.07	.83	.48	.23	1.91	19.4	41.8
MAX	406	97	49	7.9	3.3	5.5	1.2	.86	.40	14	104	296
MIN	13	12	8.2	3.3	1.9	1.0	.46	.35	.10	.22	1.0	10
AC-FT	3370	1400	842	320	146	127	49	29	14	117	1190	2490

CAL YR 1982	TOTAL	9409.1	MEAN	25.8	MAX	406	MIN	1.9	AC-FT	18660
WTR YR 1983	TOTAL	5087.96	MEAN	13.9	MAX	406	MIN	.10	AC-FT	10090

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 south of Ordot, 2.6 mi south of Agana, and 3.6 mi southeast of Asan.

DRAINAGE AREA.--5.67 mi².

PERIOD OF RECORD.--September 1951 to December 1982 (discontinued).

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, from topographic map. Prior to Apr. 10, 1972, at datum 1.00 ft higher.

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

AVERAGE DISCHARGE.--31 years, 26.3 ft³/s (19,050 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,090 ft³/s May 21, 1976, gage height, 20.15 ft, from floodmarks, from rating curve extended above 320 ft³/s on basis of slope-area measurements at gage heights 13.22 ft, 15.07 ft, and 18.87 ft; no flow for many days in 1959 and 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period October to December, 2,220 ft³/s Oct. 3, gage height, 10.07 ft, no peak above base of 2,700 ft³/s; minimum, 6.0 ft³/s Dec. 31.

DISCHARGE (CUBIC FEET/SECOND) OCTOBER TO DECEMBER 1982
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	9.4	9.4	---								
2	62	9.4	40	---								
3	495	8.8	14	---								
4	197	8.3	12	---								
5	49	143	9.9	---								
6	67	23	8.8	---								
7	36	14	8.3	---								
8	103	22	8.8	---								
9	29	19	7.8	---								
10	35	12	8.8	≠4.2								
11	24	12	7.4	---								
12	21	12	7.4	---								
13	24	9.9	6.8	---								
14	107	9.4	6.8	---								
15	23	9.4	12	---								
16	55	9.9	16	---								
17	22	8.3	7.8	---								
18	173	8.8	39	---								
19	50	7.4	14	---								
20	66	32	9.4	---								
21	33	13	10	---								
22	25	36	7.8	---								
23	21	21	25	---								
24	19	106	18	---								
25	16	19	10	---								
26	15	14	8.3	---								
27	14	12	7.4	---								
28	12	12	7.1	---								
29	11	11	6.8	---								
30	10	9.4	6.4	---								
31	9.9	---	6.0	---								
TOTAL	1842.9	641.4	367.2	---								
MEAN	59.4	21.4	11.8	---								
MAX	495	143	40	---								
MIN	9.9	7.4	6.0	---								
AC-FT	3660	1270	728	---								

CAL YR 1982 TOTAL 9371.5 MEAN 25.7 MAX 495 MIN 1.9 AC-FT 18590

≠ Result of discharge measurement.

16890600 DIONGRADID RIVER, BABELTHUAP

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

DRAINAGE AREA.--4.45 mi².

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, 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.--14 years, 32.3 ft³/s (23,400 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,310 ft³/s Jan. 22, 1975, gage height, 15.44 ft, from rating curve extended above 410 ft³/s on basis of field estimate at gage height 15.44 ft; minimum, 2.1 ft³/s Apr. 14-17, 1983.

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

Date	Time	Discharge (ft³/s)	Gage height (ft)
July 13	1500	736	7.96
Aug. 16	2230	*1150	10.03

Minimum discharge, 2.1 ft³/s Apr. 14-17.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	12	8.6	11	6.8	4.0	2.7	5.9	3.0	110	47	33
2	34	13	8.1	13	7.4	4.0	2.7	3.4	3.0	56	48	29
3	61	13	7.7	11	7.2	4.0	2.7	2.7	2.4	62	52	27
4	65	13	8.9	9.9	6.6	4.0	2.5	2.4	2.4	62	42	24
5	65	12	7.9	9.4	6.3	3.7	2.5	2.4	3.0	50	75	22
6	52	11	16	13	6.0	3.7	2.5	2.4	3.2	56	71	23
7	37	11	24	14	6.0	3.7	2.5	2.3	6.6	76	88	23
8	32	11	11	10	5.7	3.5	2.5	2.4	4.2	75	94	22
9	29	10	9.4	9.7	5.7	3.5	2.3	2.5	2.6	59	142	24
10	28	10	10	9.1	5.5	4.0	2.3	2.5	2.4	50	109	21
11	29	11	9.9	9.1	5.5	3.4	2.3	2.5	2.4	46	127	23
12	31	11	11	10	5.5	3.2	2.3	2.4	2.9	48	106	20
13	24	9.9	20	9.9	5.0	3.2	2.3	3.5	4.6	182	87	18
14	22	9.1	16	10	5.0	3.4	2.1	3.0	4.6	95	83	18
15	20	8.9	12	9.4	5.0	3.2	2.1	2.4	28	70	75	29
16	19	8.6	11	8.9	4.7	3.5	2.1	2.4	8.9	59	213	31
17	19	8.9	10	9.4	4.7	3.7	2.1	10	27	50	208	28
18	18	10	10	9.9	5.0	3.7	2.4	5.0	15	45	128	30
19	17	8.4	9.4	8.6	4.7	3.4	3.4	3.0	9.7	50	99	39
20	16	7.9	9.1	8.1	4.5	3.2	3.5	2.7	46	75	81	44
21	16	7.9	9.1	7.7	4.5	3.7	2.9	2.5	25	172	69	40
22	17	8.1	8.9	7.9	4.5	3.4	2.6	2.4	13	94	60	34
23	16	11	8.9	8.9	4.5	4.6	2.6	2.7	37	81	52	30
24	16	7.9	9.1	7.9	4.5	3.8	2.4	2.7	31	67	49	27
25	21	8.1	15	7.7	4.5	3.5	2.4	2.6	21	67	48	23
26	16	7.7	14	7.7	4.3	3.3	2.3	2.4	16	58	42	50
27	16	36	28	7.7	4.3	3.3	2.3	2.3	13	50	38	70
28	14	23	16	7.4	4.3	3.0	3.8	2.3	12	50	34	50
29	14	11	13	7.2	---	3.0	7.8	3.0	16	68	31	47
30	13	9.1	12	7.0	---	2.7	22	4.0	23	66	29	43
31	12	---	11	6.8	---	2.7	---	3.5	---	51	31	---
TOTAL	831	339.5	375.0	287.3	148.2	109.0	100.9	96.2	388.9	2200	2458	942
MEAN	26.8	11.3	12.1	9.27	5.29	3.52	3.36	3.10	13.0	71.0	79.3	31.4
MAX	65	36	28	14	7.4	4.6	22	10	46	182	213	70
MIN	12	7.7	7.7	6.8	4.3	2.7	2.1	2.3	2.4	45	29	18
AC-FT	1650	673	744	570	294	216	200	191	771	4360	4880	1870

CAL YR 1982	TOTAL	8604.6	MEAN	23.6	MAX	161	MIN	6.0	AC-FT	17070
WTR YR 1983	TOTAL	8276.0	MEAN	22.7	MAX	213	MIN	2.1	AC-FT	16420

NOTE.--No gage-height record Feb. 6 to Mar. 10, May 6 to June 5.

CAROLINE ISLANDS, PALAU ISLANDS

16890900 TABECHEDING RIVER, BABELTHUAP

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

DRAINAGE AREA.--6.07 mi².

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, from topographic map.

REMARKS.--Records fair except those above 500 ft³/s, which are poor. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--13 years, 48.2 ft³/s (34,920 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,580 ft³/s Dec. 23, 1973, gage height, 8.79 ft, from rating curve extended above 290 ft³/s; minimum, 0.57 ft³/s Apr. 19, 1983.

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

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 27	0800	1080	6.27	Aug. 16	1800	1050	6.19
July 29	1730	*1410	6.92	Sept. 20	0230	1240	6.61

Minimum discharge, 0.57 ft³/s Apr. 19.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	9.5	17	30	7.6	3.5	1.8	8.8	4.1	205	74	67
2	113	12	16	34	7.6	3.5	1.6	5.2	3.9	82	101	46
3	144	44	15	28	8.4	3.3	1.5	4.3	3.2	54	90	36
4	100	20	14	24	7.1	3.1	1.5	3.7	3.2	82	80	30
5	47	35	14	21	6.6	3.0	1.4	3.5	6.2	67	108	25
6	34	21	16	25	6.4	3.5	1.4	3.5	6.1	177	95	26
7	27	21	23	39	6.1	4.0	1.2	3.2	7.6	178	202	23
8	24	17	15	23	5.7	3.5	1.2	3.4	7.6	134	232	20
9	22	14	14	20	5.4	3.0	1.1	3.4	5.0	90	378	30
10	29	14	16	18	5.4	2.9	1.1	3.7	4.1	63	181	23
11	41	13	15	17	5.2	2.7	1.0	3.5	7.1	54	125	44
12	34	15	28	17	5.2	2.5	1.0	3.2	6.4	48	91	26
13	27	13	140	16	5.0	2.5	1.0	5.2	8.2	40	73	22
14	22	12	48	17	4.8	2.3	.90	4.3	7.9	33	71	26
15	20	12	42	15	4.8	2.3	.90	3.0	21	29	68	39
16	18	11	30	14	4.5	2.1	.79	3.0	12	28	293	46
17	17	12	24	14	4.8	2.3	.79	20	124	24	219	37
18	16	15	22	15	5.0	2.5	.68	6.6	27	38	142	44
19	16	11	19	13	4.5	2.5	.68	4.1	18	35	94	56
20	14	10	18	12	4.3	2.0	3.5	3.4	55	96	70	381
21	14	10	17	11	4.1	4.5	1.9	3.0	26	107	56	118
22	13	12	16	11	4.1	3.0	1.8	2.8	18	52	46	74
23	13	18	15	11	4.1	5.0	1.5	3.4	102	44	40	57
24	12	12	16	10	4.3	3.4	3.9	3.5	42	37	38	47
25	23	10	16	10	4.3	1.9	2.0	3.2	28	52	45	41
26	15	10	23	9.9	4.1	1.8	1.2	3.0	20	37	33	101
27	13	112	341	9.5	3.9	1.8	1.4	3.0	19	37	31	137
28	12	81	94	9.2	3.7	1.6	1.6	2.8	17	54	27	76
29	12	30	54	8.7	---	1.6	19	3.5	28	315	26	60
30	11	20	39	8.2	---	1.6	60	5.4	27	174	29	59
31	10	---	33	7.9	---	1.6	---	4.8	---	87	30	---
TOTAL	993	646.5	1210	518.4	147.0	84.8	119.34	137.4	664.6	2553	3188	1817
MEAN	32.0	21.6	39.0	16.7	5.25	2.74	3.98	4.43	22.2	82.4	103	60.6
MAX	144	112	341	39	8.4	5.0	60	20	124	315	378	381
MIN	10	9.5	14	7.9	3.7	1.6	.68	2.8	3.2	24	26	20
AC-FT	1970	1280	2400	1030	292	168	237	273	1320	5060	6320	3600

CAL YR 1982	TOTAL	15121.0	MEAN	41.4	MAX	495	MIN	7.1	AC-FT	29990
WTR YR 1983	TOTAL	12079.04	MEAN	33.1	MAX	381	MIN	.68	AC-FT	23960

CAROLINE ISLANDS, PALAU ISLANDS

16891300 EDENG RIVER, BABELTHUAP

LOCATION.--Lat 07°23'00" N., long 134°33'07" E., Hydrologic Unit 20100006, on left bank 1,000 ft upstream from confluence with Kmekumel River, 0.7 mi north of Palau Mission Academy, and 2.1 mi northeast of airport terminal.

DRAINAGE AREA.--4.26 mi².

PERIOD OF RECORD.--October 1969 to current year (discontinued). 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, from stadia survey. Prior to Dec. 9, 1974, at site 300 ft downstream at datum 0.30 ft lower.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Small amount of water is pumped from site 300 ft upstream from station for irrigation. Continuous record of rainfall is obtained near station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--14 years, 31.7 ft³/s (22,970 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,850 ft³/s Apr. 13, 1979, gage height, 18.2 ft, from rating curve extended above 118 ft³/s on basis of measurement at gage height 13.0 ft; minimum, 1.1 ft³/s Apr. 15-17, 1983.

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

Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 27	0630	917	11.88
Aug. 16	a1800	a1500	unknown
Sept. 20	a0300	*a1700	unknown

Minimum discharge, 1.1 ft³/s Apr. 15-17.

a About.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	7.6	9.9	21	5.6	2.2	1.6	4.0	3.0	57	27	20
2	73	8.1	8.9	25	5.6	2.2	1.8	2.5	2.7	23	23	17
3	111	21	8.3	20	6.1	2.2	1.6	2.3	2.5	17	21	15
4	101	9.9	8.3	16	5.6	2.2	1.6	2.1	2.5	34	18	13
5	46	12	7.8	15	5.1	2.2	1.4	2.1	3.5	23	30	11
6	32	10	9.9	19	4.9	3.0	1.4	2.1	3.5	109	25	15
7	26	11	11	22	4.6	3.8	1.4	2.5	4.0	98	60	11
8	24	9.1	7.8	15	4.4	3.0	1.4	2.5	5.5	60	65	10
9	22	7.8	7.3	13	4.4	2.8	1.4	2.5	3.0	34	150	15
10	25	8.9	9.1	13	4.4	2.8	1.2	2.1	2.7	26	60	13
11	26	8.1	9.6	12	4.4	2.5	1.2	2.1	6.5	23	50	20
12	26	12	15	13	4.4	2.2	1.2	2.1	4.5	22	40	13
13	20	9.1	60	13	4.2	2.2	1.2	2.7	5.5	19	30	10
14	17	7.8	26	12	4.2	2.5	1.2	2.3	4.0	15	30	11
15	16	7.3	18	12	4.2	2.2	1.1	2.1	15	14	40	17
16	15	6.8	13	11	4.2	2.5	1.1	2.1	6.0	13	300	25
17	14	6.8	11	11	4.9	2.8	1.1	10	40	12	100	21
18	13	7.3	10	10	4.9	3.0	1.3	4.5	10	20	65	25
19	13	6.6	9.6	8.9	4.4	2.5	2.0	3.5	8.0	15	45	30
20	12	6.1	9.1	8.3	4.0	2.5	3.0	2.5	30	19	35	300
21	12	6.1	13	8.1	3.8	4.6	2.0	2.0	9.0	20	30	60
22	11	8.6	8.6	7.8	3.5	3.8	1.6	1.7	7.0	15	26	40
23	11	9.5	7.8	7.8	3.5	6.1	1.6	2.5	35	14	23	30
24	10	9.5	8.3	7.6	3.5	3.8	2.0	2.0	15	13	20	25
25	13	7.1	8.6	7.1	3.2	2.8	1.6	2.0	11	14	25	20
26	10	6.3	12	6.8	3.0	2.2	1.4	5.0	8.0	12	20	60
27	9.6	36	243	7.1	2.8	2.0	1.6	3.5	7.0	13	17	70
28	8.9	41	60	6.6	2.5	2.0	1.6	2.7	6.0	23	15	40
29	11	18	35	6.3	---	2.0	3.5	2.5	7.0	84	15	30
30	8.3	12	26	6.1	---	1.8	13	5.0	12	54	15	27
31	8.1	---	22	5.9	---	1.8	---	4.0	---	30	13	---
TOTAL	797.9	337.4	713.9	367.4	120.3	84.2	59.1	91.5	279.4	945	1433	1014
MEAN	25.7	11.2	23.0	11.9	4.30	2.72	1.97	2.95	9.31	30.5	46.2	33.8
MAX	111	41	243	25	6.1	6.1	13	10	40	109	300	300
MIN	8.1	6.1	7.3	5.9	2.5	1.8	1.1	1.7	2.5	12	13	10
AC-FT	1580	669	1420	729	239	167	117	181	554	1870	2840	2010

CAL YR 1982	TOTAL	11096.9	MEAN	30.4	MAX	323	MIN	6.1	AC-FT	22010	
WTR YR 1983	TOTAL	6243.1	MEAN	17.1	MAX	300	MIN	1.1	AC-FT	12380	

NOTE.--No gage-height record Apr. 12 to June 29, Aug. 3 to Sept. 30.

16891310 KMEKUMEL RIVER, BABELTHUAP

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

DRAINAGE AREA.--1.44 mi².

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, from stadia survey.

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

AVERAGE DISCHARGE.--5 years, 8.96 ft³/s (6,490 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,560 ft³/s Apr. 13, 1979, gage height, 10.53 ft, from rating curve extended above 106 ft³/s on basis of slope-area measurement at gage height 10.53 ft; minimum, 0.18 ft³/s Apr. 14-17, 1983.

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

Date	Time	Discharge (ft³/s)	Gage height (ft)
Aug. 16	1800	*772	7.86
Sept. 2	0300	579	6.97

Minimum discharge, 0.18 ft³/s Apr. 14-17.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	1.8	2.5	6.0	1.5	.56	.35	.62	.50	15	8.6	4.3
2	23	2.0	2.4	7.0	1.4	.56	.35	.45	.45	7.0	7.0	5.6
3	30	4.1	2.1	5.8	1.4	.56	.30	.40	.40	5.8	6.2	5.4
4	28	2.4	2.0	4.8	1.3	.56	.30	.35	.45	7.6	5.8	4.6
5	12	2.4	2.1	4.3	1.2	.56	.30	.35	.50	6.6	9.8	4.1
6	8.2	2.7	2.9	5.4	1.2	.62	.26	.35	.45	31	8.4	5.0
7	6.6	3.6	2.9	6.2	1.1	.68	.26	.30	.50	27	13	4.3
8	5.8	2.6	2.1	4.3	1.0	.56	.26	.30	.62	18	21	3.7
9	5.4	2.2	2.0	3.9	.94	.56	.26	.30	.45	11	51	5.4
10	5.4	2.5	2.1	3.5	.94	.50	.22	.30	.40	7.7	25	4.3
11	5.6	2.6	2.5	3.5	.94	.50	.22	.26	.50	7.3	17	9.0
12	6.2	2.6	3.8	3.5	.84	.45	.22	.26	.50	7.3	13	5.0
13	4.8	2.2	15	3.9	.84	.40	.22	.35	.94	5.6	11	4.3
14	4.1	2.1	9.6	3.4	.75	.45	.22	.30	.62	4.6	9.6	4.4
15	3.9	2.0	6.8	3.0	.75	.45	.18	.26	2.0	4.3	30	7.1
16	3.5	1.8	4.6	2.7	.75	.45	.18	.22	1.2	3.7	101	11
17	3.5	2.0	3.9	3.0	.94	.45	.18	2.7	8.0	3.4	45	8.9
18	3.4	2.1	3.5	2.9	.94	.45	.22	.62	2.1	3.9	26	8.3
19	3.0	1.8	3.2	2.6	.75	.40	.30	.45	1.7	3.5	18	8.4
20	2.9	1.7	3.0	2.5	.68	.40	.56	.40	3.4	5.3	14	78
21	2.9	1.6	3.8	2.4	.68	.68	.35	.40	2.6	5.9	11	31
22	2.7	2.6	2.7	2.2	.62	.50	.30	.35	2.4	4.1	9.6	18
23	2.7	2.0	2.6	2.2	.62	.84	.30	.35	9.0	4.3	8.2	13
24	2.6	2.0	2.6	2.1	.60	.56	.56	.40	4.3	3.5	8.8	10
25	2.5	1.7	3.0	2.1	.56	.45	.30	.40	2.4	4.3	8.4	8.4
26	2.4	1.5	3.5	2.0	.56	.40	.26	.40	2.4	3.5	6.6	16
27	2.4	7.9	70	2.0	.62	.40	.26	.45	2.4	3.4	6.2	26
28	2.2	10	20	1.8	.62	.40	.30	.40	1.7	8.4	5.4	14
29	2.8	4.4	10	1.7	---	.35	.45	.35	1.6	31	5.9	11
30	2.1	3.0	7.7	1.6	---	.35	2.9	.62	3.2	17	5.0	11
31	2.0	---	6.2	1.6	---	.35	---	.62	---	10	4.6	---
TOTAL	205.6	83.9	211.1	103.9	25.04	15.40	11.34	14.28	57.68	281.0	520.1	349.5
MEAN	6.63	2.80	6.81	3.35	.89	.50	.38	.46	1.92	9.06	16.8	11.6
MAX	30	10	70	7.0	1.5	.84	2.9	2.7	9.0	31	101	78
MIN	2.0	1.5	2.0	1.6	.56	.35	.18	.22	.40	3.4	4.6	3.7
AC-FT	408	166	419	206	50	31	22	28	114	557	1030	693

CAL YR 1982	TOTAL	3082.0	MEAN	8.44	MAX	98	MIN	1.5	AC-FT	6110	
WTR YR 1983	TOTAL	1878.84	MEAN	5.15	MAX	101	MIN	.18	AC-FT	3730	

16891400 SOUTH FORK NGERDORCH RIVER, BABELTHUAP

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

DRAINAGE AREA.--2.44 mi².

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, revised, 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.--12 years, 19.1 ft³/s (13,840 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,750 ft³/s Dec. 13, 1974, gage height, 9.19 ft, from rating curve extended above 65 ft³/s on basis of field estimate at gage height 7.57 ft; minimum, 0.48 ft³/s Apr. 16-17, 1983.

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

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 27	0700	912	4.37	Aug. 16	1900	1000	4.52
July 29	1800	755	4.07	Sept. 20	0400	*1320	5.00

Minimum discharge, 0.48 ft³/s Apr. 16, 17.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	3.8	5.7	10	2.6	1.6	.90	2.7	1.8	64	18	11
2	56	4.1	5.2	12	2.6	1.4	.90	1.6	1.6	20	18	10
3	72	19	4.7	10	3.0	1.4	.90	1.4	1.4	16	15	9.0
4	47	6.6	4.4	9.0	2.5	1.4	.90	1.2	1.4	23	13	7.6
5	23	6.1	4.4	8.0	2.3	1.6	.90	1.2	2.1	18	18	6.6
6	15	4.7	5.7	9.0	2.2	2.1	.75	1.2	2.1	65	16	8.1
7	13	4.1	6.1	13	2.1	2.4	.75	1.4	2.4	60	35	6.6
8	11	4.1	4.4	8.0	2.0	2.1	.75	1.4	3.2	37	37	6.1
9	10	3.8	4.1	7.5	1.9	1.8	.75	1.4	1.8	24	120	9.2
10	12	3.8	6.9	7.0	1.9	1.8	.75	1.2	1.6	18	37	7.1
11	19	3.8	5.2	6.5	1.8	1.6	.75	1.2	3.8	16	29	13
12	13	6.0	9.0	6.0	1.8	1.6	.75	1.2	2.7	17	23	8.1
13	11	4.1	56	6.0	1.7	1.4	.75	1.6	3.0	15	19	6.6
14	8.5	3.5	16	6.5	1.6	1.4	.60	1.4	2.4	13	18	7.6
15	8.1	3.5	13	5.5	1.6	1.2	.60	1.2	13	11	25	11
16	7.6	3.2	9.5	5.0	1.8	1.2	.60	1.2	4.4	9.0	168	15
17	6.6	3.2	8.5	5.0	2.4	1.4	.60	7.8	48	8.5	70	13
18	6.1	3.8	8.5	5.5	2.4	1.6	.75	2.7	13	20	37	15
19	6.1	3.2	8.1	5.0	2.1	1.6	.90	2.1	8.6	14	27	18
20	5.7	3.0	7.6	4.5	2.1	1.4	1.2	1.4	22	17	22	177
21	5.7	3.0	7.6	4.0	1.8	2.7	1.0	1.2	10	19	18	39
22	5.2	3.8	7.6	3.7	1.6	1.8	.90	1.0	7.6	13	16	25
23	5.2	4.7	7.1	3.5	1.8	3.5	.90	1.4	24	13	14	20
24	5.7	4.4	7.1	3.5	1.8	1.6	1.2	1.2	15	11	13	18
25	9.1	3.2	8.1	3.5	1.6	1.2	1.0	1.2	9.5	13	15	15
26	5.7	3.0	8.5	3.3	1.6	1.2	.75	2.9	7.1	10	12	36
27	4.7	56	155	3.3	1.8	1.2	.90	2.1	6.1	11	11	43
28	4.4	25	30	3.1	1.8	1.2	1.0	1.6	5.2	14	9.0	24
29	4.1	10	18	3.0	---	1.0	3.0	1.4	5.7	95	9.0	19
30	4.1	7.1	13	2.8	---	1.0	13	3.0	8.5	36	9.0	18
31	3.8	---	11	2.7	---	1.0	---	2.4	---	21	8.1	---
TOTAL	437.4	217.6	466.0	185.4	56.2	49.4	39.40	55.9	239.0	741.5	899.1	622.6
MEAN	14.1	7.25	15.0	5.98	2.01	1.59	1.31	1.80	7.97	23.9	29.0	20.8
MAX	72	56	155	13	3.0	3.5	13	7.8	48	95	168	177
MIN	3.8	3.0	4.1	2.7	1.6	1.0	.60	1.0	1.4	8.5	8.1	6.1
AC-FT	868	432	924	368	111	98	78	111	474	1470	1780	1230

CAL YR 1982	TOTAL	6001.9	MEAN	16.4	MAX	232	MIN	3.0	AC-FT	11900
WTR YR 1983	TOTAL	4009.50	MEAN	11.0	MAX	177	MIN	.60	AC-FT	7950

NOTE.--No gage-height record Dec. 28 to Feb. 14.

16892000 QATLIW STREAM, YAP

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

DRAINAGE AREA.--0.31 mi^2.

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

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

REMARKS.--Records good 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 874 ft^3/s June 21, 1982, gage height, 5.96 ft, from rating curve extended above 10 ft^3/s; no flow at times each year.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 21	a0800	*a300	Unknown
Sept. 3	a1000	280	3.80

No flow for many days.

a About.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.06	.11	.01	.00	.00	.00	.00	.00	.58	2.5	.10
2	.08	.10	.08	.02	.00	.00	.00	.00	.00	.65	.50	.07
3	.06	.05	.08	.01	.00	.00	.00	.00	.00	.54	.10	10
4	.05	.04	.05	.01	.00	.00	.00	.00	.00	7.1	4.0	1.0
5	.06	.03	1.2	.01	.00	.00	.00	.00	.00	.98	6.0	.45
6	.11	.03	1.9	.01	.00	.00	.00	.00	.00	.27	15	.45
7	1.7	.03	1.9	.01	.00	.00	.00	.00	.00	.13	13	.20
8	4.5	.05	6.3	.01	.00	.00	.00	.00	.00	.30	10	.10
9	5.1	.10	.94	.01	.00	.00	.00	.00	.00	.11	6.0	1.5
10	1.4	.04	3.2	.01	.00	.00	.00	.00	.00	.06	1.5	1.0
11	.45	.02	2.8	.01	.00	.00	.00	.00	.00	.25	1.5	.30
12	.11	.02	2.8	.00	.00	.00	.00	.00	.00	5.0	1.0	.15
13	.06	.02	5.9	.00	.00	.00	.00	.00	.00	.60	.50	.15
14	.06	.03	.88	.00	.00	.00	.00	.00	.00	.15	.25	.20
15	.04	.02	.19	.00	.00	.00	.00	.00	.00	.05	1.0	.20
16	.04	.02	.10	.00	.00	.00	.00	.00	.00	.04	1.5	.65
17	.04	.01	.08	.00	.00	.00	.00	.00	.00	.03	5.0	.30
18	.45	.01	.08	.00	.00	.00	.00	.00	.00	.02	5.0	2.0
19	.30	.01	.06	.00	.00	.00	.00	.00	.00	.02	1.0	.50
20	.45	.01	.05	.00	.00	.00	.00	.00	.06	3.0	.50	.30
21	3.4	.01	.04	.00	.00	.00	.00	.00	.06	30	.25	2.5
22	.70	1.0	.03	.00	.00	.00	.00	.00	.63	2.5	.10	5.0
23	.23	.34	.02	.00	.00	.00	.00	.00	4.1	1.5	.07	1.0
24	.11	.06	.08	.00	.00	.00	.00	.00	.51	7.0	.05	.30
25	.13	.03	.05	.00	.00	.00	.00	.00	.13	1.5	6.0	1.0
26	.11	.03	.02	.00	.00	.00	.00	.00	.10	2.5	.50	6.0
27	.08	.02	.01	.00	.00	.00	.00	.00	.06	.65	.20	1.5
28	.05	.02	.01	.00	.00	.00	.00	.00	.04	.20	.10	3.0
29	.04	.01	.01	.00	---	.00	.00	.00	.02	.10	.07	1.0
30	.03	1.1	.01	.00	---	.00	.00	.00	.11	.05	.40	.40
31	.06	---	.01	.00	---	.00	---	.00	---	.50	.20	---
TOTAL	20.10	3.32	28.99	.12	.00	.00	.00	.00	5.82	66.38	83.79	41.32
MEAN	.65	.11	.94	.004	.00	.00	.00	.00	.19	2.14	2.70	1.38
MAX	5.1	1.1	6.3	.02	.00	.00	.00	.00	4.1	30	15	10
MIN	.03	.01	.01	.00	.00	.00	.00	.00	.00	.02	.05	.07
AC-FT	40	6.6	58	.2	.00	.00	.00	.00	12	132	166	82

CAL YR 1982	TOTAL	557.72	MEAN	1.53	MAX	106	MIN	.00	AC-FT	1110	
WTR YR 1983	TOTAL	249.84	MEAN	.68	MAX	30	MIN	.00	AC-FT	496	

NOTE.--No gage-height record July 11 to Sept. 30.

16892400 QARINGEEL STREAM, YAP

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

DRAINAGE AREA.--0.24 mi².

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, 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.--15 years, 1.09 ft³/s (790 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 674 ft³/s July 13, 1981, gage height, 7.82 ft, from rating curve extended above 20 ft³/s; no flow at times.

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

Date	Time	Discharge (ft³/s)	Gage height (ft)
July 21	0900	*444	6.59
Aug. 25	0230	227	5.14
Sept. 3	1000	250	5.30

No flow for many days.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	.01	.03	.01	.00	.00	.00	.00	.00	.04	1.3	.11
2	.44	.01	.02	.01	.00	.00	.00	.00	.00	.03	.35	.16
3	.21	.01	.01	.01	.00	.00	.00	.00	.00	2.2	3.6	9.6
4	.17	.01	.01	.01	.00	.00	.00	.00	.00	5.0	4.6	.65
5	.14	.01	.02	.01	.00	.00	.00	.00	.00	1.0	5.6	.33
6	.17	.01	.22	.01	.00	.00	.00	.00	.00	.30	17	.23
7	8.7	.01	.16	.01	.00	.00	.00	.00	.00	.15	13	.16
8	2.7	.01	1.6	.01	.00	.00	.00	.00	.00	.50	2.8	.08
9	3.1	.29	.61	.00	.00	.00	.00	.00	.00	.30	5.6	.10
10	.65	.08	1.1	.00	.00	.00	.00	.00	.00	.10	1.9	.11
11	.23	.03	1.1	.00	.00	.00	.00	.00	.00	2.4	.73	.10
12	.11	.03	2.6	.00	.00	.00	.00	.00	.00	5.0	3.9	.08
13	.05	.02	1.9	.00	.00	.00	.00	.00	.00	.70	1.0	.05
14	.03	.01	.41	.00	.00	.00	.00	.00	.00	.27	1.5	.04
15	.03	.01	.19	.00	.00	.00	.00	.00	.00	.13	3.3	.16
16	.02	.01	.11	.00	.00	.00	.00	.00	.00	.07	4.8	.31
17	.01	.01	.05	.00	.00	.00	.00	.00	.00	.04	5.7	.13
18	.03	.01	.04	.00	.00	.00	.00	.00	.00	.04	2.0	3.2
19	.04	.01	.03	.00	.00	.00	.00	.00	.00	.05	1.4	.50
20	.04	.01	.02	.00	.00	.00	.00	.00	.02	3.7	.53	.16
21	.11	.00	.02	.00	.00	.00	.00	.00	.00	41	.19	6.0
22	.07	.00	.01	.00	.00	.00	.00	.00	.04	1.8	.13	3.5
23	.05	.01	.01	.00	.00	.00	.00	.00	2.0	1.3	.05	.86
24	.03	.01	.03	.00	.00	.00	.00	.00	.37	7.5	.03	.35
25	.03	.01	.03	.00	.00	.00	.00	.00	.16	2.7	10	5.5
26	.02	.01	.03	.00	.00	.00	.00	.00	.07	5.9	.44	3.3
27	.01	.01	.02	.00	.00	.00	.00	.00	.03	.71	.27	.65
28	.01	.01	.01	.00	.00	.00	.00	.00	.02	.65	.16	1.8
29	.01	.01	.02	.00	---	.00	.00	.00	.02	1.2	.08	.73
30	.01	.04	.02	.00	---	.00	.00	.00	.05	.39	.10	.33
31	.01	---	.01	.00	---	.00	---	.00	---	.33	.10	---
TOTAL	18.13	.71	10.44	.08	.00	.00	.00	.00	2.78	85.50	92.16	39.28
MEAN	.58	.024	.34	.003	.00	.00	.00	.00	.093	2.76	2.97	1.31
MAX	8.7	.29	2.6	.01	.00	.00	.00	.00	2.0	41	17	9.6
MIN	.01	.00	.01	.00	.00	.00	.00	.00	.00	.03	.03	.04
AC-FT	36	1.4	21	.2	.00	.00	.00	.00	5.5	170	183	78

CAL YR 1982	TOTAL	444.33	MEAN	1.22	MAX	92	MIN	.00	AC-FT	881
WTR YR 1983	TOTAL	249.08	MEAN	.68	MAX	41	MIN	.00	AC-FT	494

16893100 BURONG STREAM, YAP

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

DRAINAGE AREA.--0.23 mi².

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, 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.--15 years, 0.942 ft³/s (682 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 550 ft³/s June 21, 1982, gage height, 5.45 ft, from rating curve extended above 15 ft³/s; no flow at times.

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

Date	Time	Discharge (ft³/s)	Gage height (ft)
July 21	0800	*125	3.60
Sept. 3	1000	105	3.44

No flow for many days.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.55	.02	.08	.01	.00	.00	.00	.00	.00	.07	2.2	.08
2	.30	.02	.04	.01	.00	.00	.00	.00	.00	.09	.37	.06
3	.11	.02	.02	.01	.00	.00	.00	.00	.00	.38	.14	8.9
4	.09	.01	.02	.00	.00	.00	.00	.00	.00	5.2	3.6	.95
5	.09	.01	.87	.00	.00	.00	.00	.00	.00	.98	5.8	.40
6	.09	.01	.96	.00	.00	.00	.00	.00	.00	.40	12	.37
7	2.3	.01	.63	.00	.00	.00	.00	.00	.00	.30	9.8	.14
8	3.2	.02	4.6	.00	.00	.00	.00	.00	.00	.80	3.8	.08
9	4.1	.14	.65	.00	.00	.00	.00	.00	.00	.18	2.1	1.4
10	1.0	.04	1.7	.00	.00	.00	.00	.00	.00	.03	.85	.80
11	.37	.02	1.8	.00	.00	.00	.00	.00	.00	.14	.90	.24
12	.18	.01	1.6	.00	.00	.00	.00	.00	.00	3.9	.57	.13
13	.11	.02	2.8	.00	.00	.00	.00	.00	.00	.60	.24	.13
14	.10	.01	.53	.00	.00	.00	.00	.00	.00	.11	.13	.18
15	.06	.01	.14	.00	.00	.00	.00	.00	.00	.03	1.0	.18
16	.05	.01	.09	.00	.00	.00	.00	.00	.00	.00	1.5	.60
17	.05	.01	.06	.00	.00	.00	.00	.00	.00	.00	4.1	.30
18	.08	.00	.04	.00	.00	.00	.00	.00	.00	.00	3.1	1.8
19	.16	.00	.03	.00	.00	.00	.00	.00	.00	.00	.85	.60
20	.22	.00	.02	.00	.00	.00	.00	.00	.00	2.5	.50	.22
21	1.0	.00	.01	.00	.00	.00	.00	.00	.00	22	.18	2.1
22	.22	.01	.01	.00	.00	.00	.00	.00	.00	2.2	.08	4.4
23	.11	.11	.01	.00	.00	.00	.00	.00	1.1	1.3	.04	.60
24	.08	.04	.02	.00	.00	.00	.00	.00	.05	6.4	.01	.24
25	.06	.02	.02	.00	.00	.00	.00	.00	.00	1.5	5.4	.88
26	.05	.02	.01	.00	.00	.00	.00	.00	.00	2.6	.53	5.2
27	.03	.01	.01	.00	.00	.00	.00	.00	.00	.70	.20	1.0
28	.02	.01	.01	.00	.00	.00	.00	.00	.00	.22	.09	2.6
29	.02	.01	.02	.00	---	.00	.00	.00	.22	.14	.06	.90
30	.01	.47	.01	.00	---	.00	.00	.00	.68	.09	.28	.34
31	.02	---	.01	.00	---	.00	---	.00	---	.51	.16	---
TOTAL	14.83	1.09	16.82	.03	.00	.00	.00	.00	2.05	53.37	60.58	35.82
MEAN	.48	.036	.54	.001	.00	.00	.00	.00	.068	1.72	1.95	1.19
MAX	4.1	.47	4.6	.01	.00	.00	.00	.00	1.1	22	12	8.9
MIN	.01	.00	.01	.00	.00	.00	.00	.00	.00	.00	.01	.06
AC-FT	29	2.2	33	.06	.00	.00	.00	.00	4.1	106	120	71

CAL YR 1982	TOTAL	457.50	MEAN	1.25	MAX	115	MIN	.00	AC-FT	907
WTR YR 1983	TOTAL	184.59	MEAN	.51	MAX	22	MIN	.00	AC-FT	366

16893200 MUKONG STREAM, GAGIL-TAMIL

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

DRAINAGE AREA.--0.50 mi².

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, from topographic map.

REMARKS.--Records fair. At times some water is pumped from above station for village use. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--7 years (water years 1976-77, 1979-83), 1.97 ft³/s (1,430 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 153 ft³/s June 21, 1982, gage height, 4.10 ft, from rating curve extended above 18 ft³/s; minimum, 0.02 ft³/s May 17-23, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 47 ft³/s July 21, gage height, 2.98 ft, no peak above base of 50 ft³/s; minimum, 0.02 ft³/s May 17-23.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	1.5	1.3	.66	.22	.13	.32	.04	.07	.29	2.0	1.1
2	6.2	1.6	1.1	.62	.20	.13	.29	.04	.05	.32	2.3	1.3
3	3.0	1.0	.95	.59	.20	.13	.19	.04	.11	.45	2.9	5.7
4	2.1	.95	.90	.56	.20	.13	.13	.04	.11	1.7	2.4	3.1
5	2.1	1.0	1.6	.56	.19	.13	.11	.04	.09	2.0	4.5	3.1
6	2.1	.95	2.6	.52	.19	.13	.11	.04	.07	1.3	8.0	2.4
7	7.1	.95	2.3	.48	.19	.11	.09	.04	.07	1.1	9.0	1.7
8	6.5	1.8	4.4	.48	.19	.11	.09	.04	.05	.90	5.9	1.6
9	6.4	4.2	3.3	.45	.19	.11	.09	.03	.05	.72	3.8	2.0
10	3.8	2.0	5.3	.42	.19	.11	.09	.03	.09	.63	2.8	2.9
11	2.4	1.8	4.2	.38	.19	.11	.07	.03	.13	.68	2.4	2.1
12	1.9	1.4	4.1	.38	.19	.11	.07	.03	.11	1.4	2.2	1.7
13	2.1	2.3	4.0	.36	.19	.11	.07	.03	.11	1.7	1.9	1.4
14	2.3	1.9	2.5	.34	.16	.11	.07	.03	.13	1.3	1.6	1.4
15	1.6	1.8	1.5	.31	.19	.11	.07	.03	.16	.90	2.0	1.8
16	1.4	2.0	1.1	.34	.16	.11	.07	.03	.13	.68	2.3	2.2
17	1.8	1.7	1.0	.31	.16	.11	.07	.02	.11	.58	5.2	1.4
18	2.7	1.6	1.0	.31	.16	.11	.07	.02	.09	.54	9.1	1.9
19	2.6	1.5	.95	.31	.16	.11	.07	.02	.14	.54	3.7	1.6
20	2.2	1.4	.90	.29	.16	.09	.07	.02	.30	.86	2.7	1.4
21	2.1	1.1	.80	.31	.16	.09	.07	.02	.50	15	2.2	3.3
22	1.7	1.0	.76	.30	.16	.09	.05	.02	.50	4.9	1.6	7.4
23	2.1	1.2	.76	.29	.16	.09	.05	.02	1.0	2.7	1.3	3.4
24	2.2	.62	1.4	.27	.13	.09	.05	.02	.90	3.5	1.2	2.6
25	1.5	.59	1.0	.27	.13	.09	.05	.10	.60	3.5	4.8	3.3
26	1.3	.71	.85	.29	.13	.09	.05	.09	.50	4.0	2.7	5.2
27	1.0	.62	.80	.27	.13	.09	.05	.07	.40	3.1	2.0	2.5
28	1.0	.80	.76	.24	.13	.09	.05	.05	.30	2.4	1.9	3.1
29	.90	.85	.80	.24	---	.23	.05	.05	.29	2.0	2.0	2.3
30	.90	3.0	.76	.24	---	.42	.05	.07	.32	1.7	2.0	1.8
31	1.2	---	.71	.22	---	.35	---	.07	---	1.6	1.6	---
TOTAL	85.50	43.84	54.40	11.61	4.81	4.02	2.73	1.22	7.48	62.99	100.0	76.7
MEAN	2.76	1.46	1.75	.37	.17	.13	.091	.039	.25	2.03	3.23	2.56
MAX	9.3	4.2	5.3	.66	.22	.42	.32	.10	1.0	15	9.1	7.4
MIN	.90	.59	.71	.22	.13	.09	.05	.02	.05	.29	1.2	1.1
AC-FT	170	87	108	23	9.5	8.0	5.4	2.4	15	125	198	152

CAL YR 1982	TOTAL	1072.17	MEAN	2.94	MAX	79	MIN	.24	AC-FT	2130
WTR YR 1983	TOTAL	455.30	MEAN	1.25	MAX	15	MIN	.02	AC-FT	903

16893400 EYEB STREAM, GAGIL-TAMIL

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

DRAINAGE AREA.--0.22 mi^2.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 15 ft, 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.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 93 ft^3/s July 21, gage height, 3.43 ft, no peak above base of 150 ft^3/s; minimum, 0.01 ft^3/s for many days in May.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	.80	.83	.39	.07	.04	.13	.02	.09	.29	2.6	1.1
2	2.1	.80	.64	.39	.07	.03	.11	.02	.05	.24	2.2	1.1
3	1.3	.50	.59	.34	.07	.03	.05	.02	.11	.24	2.2	5.6
4	1.1	.45	.54	.34	.07	.03	.03	.02	.19	2.1	2.5	2.4
5	1.2	.55	1.3	.29	.07	.03	.03	.02	.16	2.0	3.7	2.0
6	1.3	.45	1.5	.24	.07	.03	.02	.01	.11	1.2	8.1	1.9
7	3.5	.45	1.1	.24	.07	.03	.02	.01	.09	1.1	8.0	1.4
8	3.5	.90	2.2	.29	.07	.03	.02	.01	.07	.97	5.7	1.3
9	3.4	2.0	1.5	.24	.07	.03	.02	.01	.04	.80	3.9	2.6
10	2.0	.80	4.0	.24	.05	.03	.02	.01	.07	.76	3.0	2.9
11	1.4	.76	2.8	.19	.05	.03	.02	.01	.29	.64	2.7	1.7
12	1.3	.59	2.6	.19	.04	.03	.02	.02	.24	2.0	2.1	1.4
13	1.3	.83	6.1	.19	.04	.03	.02	.01	.16	2.1	1.7	1.4
14	1.3	.83	2.2	.16	.04	.03	.02	.01	.16	1.1	1.5	1.3
15	.97	.75	1.5	.16	.04	.03	.02	.01	.39	.76	1.9	1.6
16	.90	.90	1.3	.19	.03	.03	.02	.01	.29	.64	2.2	2.1
17	.97	.80	1.1	.16	.03	.02	.02	.01	.19	.59	7.1	1.3
18	1.7	.75	.97	.13	.03	.02	.02	.01	.13	.59	5.8	1.3
19	1.3	.75	.90	.13	.03	.02	.02	.01	.29	.59	3.0	1.3
20	1.3	.70	.83	.11	.03	.02	.02	.01	.54	1.0	2.2	1.2
21	1.3	.60	.76	.11	.03	.02	.02	.01	.52	26	1.6	3.0
22	.97	.50	.69	.11	.03	.02	.02	.01	.54	6.2	1.3	7.0
23	.83	.70	.64	.09	.03	.02	.02	.01	1.3	3.0	1.2	3.0
24	.83	.65	.90	.09	.03	.02	.02	.01	1.1	6.1	.97	2.5
25	.76	.59	.76	.09	.03	.02	.02	.03	.67	3.2	5.7	3.0
26	.69	.59	.59	.09	.03	.02	.02	.02	.49	3.4	2.2	4.5
27	.60	.54	.49	.09	.04	.02	.02	.02	.44	2.3	1.6	2.3
28	.50	.49	.49	.07	.03	.02	.02	.05	.24	2.6	1.3	2.9
29	.47	.59	.44	.07	---	.09	.02	.05	.24	2.1	1.3	2.1
30	.47	1.7	.44	.07	---	.39	.02	.07	.34	1.6	1.3	1.7
31	.60	---	.39	.07	---	.24	---	.09	---	1.4	1.3	---
TOTAL	43.36	22.31	41.09	5.56	1.29	1.45	.85	.63	9.54	77.61	91.87	68.9
MEAN	1.40	.74	1.33	.18	.046	.047	.028	.020	.32	2.50	2.96	2.30
MAX	3.5	2.0	6.1	.39	.07	.39	.13	.09	1.3	26	8.1	7.0
MIN	.47	.45	.39	.07	.03	.02	.02	.01	.04	.24	.97	1.1
AC-FT	86	44	82	11	2.6	2.9	1.7	1.2	19	154	182	137

CAL YR 1982	TOTAL	896.72	MEAN	2.46	MAX	130	MIN	.15	AC-FT	1780
WTR YR 1983	TOTAL	364.46	MEAN	1.00	MAX	26	MIN	.01	AC-FT	723

16893800 WICHEN RIVER AT ALTITUDE 18 M, MOEN

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

DRAINAGE AREA.--0.57 mi².

PERIOD OF RECORD.--April 1955 to March 1956 (published as "at Peniesence"), June 1968 to January 1980, May 1980 to May 1983. All figures of discharge above 3 ft³/s prior to April 1956, published in WSP 1751, are unreliable and should not be used.

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

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

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

AVERAGE DISCHARGE.--13 years, 3.05 ft³/s (2,210 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 910 ft³/s June 4, 1972, gage height, 6.80 ft, from rating curve extended above 28 ft³/s; minimum, 0.01 ft³/s Apr. 16-19, 1977, Apr. 8, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period October to May, 120 ft³/s Oct. 8, gage height, 2.70 ft, no peak above base of 200 ft³/s; minimum, 0.01 ft³/s Apr. 8.

DISCHARGE (CUBIC FEET/SECOND) OCTOBER 1982 TO MAY 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	.76	.55	.11	.11	.03	.02	.05				
2	1.6	2.1	.37	.15	.08	.03	.02	.05				
3	1.2	1.6	.24	.11	.08	.03	.02	.03				
4	1.6	1.2	2.0	.11	.08	.03	.02	.03				
5	1.0	.76	1.8	.05	.08	.03	.02	.03				
6	1.2	.65	1.8	.05	.05	.03	.02	.03				
7	1.0	.65	1.2	.15	.05	.08	.02	.02				
8	6.2	.76	.65	1.2	.05	.05	.01	.02				
9	5.3	.76	.45	.37	.05	.05	.02	.02				
10	2.8	.55	.45	2.0	.05	.05	.05	.03				
11	2.0	.45	1.0	.76	.08	.05	12	.19				
12	1.5	.37	.55	.37	.05	.05	.88	.05				
13	1.3	.37	.45	.24	.05	.05	.30	.03				
14	1.0	.30	.30	.24	.08	.05	.15	.03				
15	1.5	.30	.24	.19	.11	.03	.11	.11				
16	6.8	.24	.24	.15	.08	.08	.11	.05				
17	3.8	.24	.24	.11	.08	.05	.08	.03				
18	2.3	.19	.19	.05	.08	.30	.08	.03				
19	1.6	.19	.19	.08	.08	.19	.05	.45				
20	1.2	.55	.19	.24	.08	.11	.05	.11				
21	1.3	.30	.19	.88	.08	.05	.03	.05				
22	.88	.24	.19	.65	.05	.05	.05	.05				
23	.76	.24	.19	.37	.05	.03	.03	.03				
24	.65	.19	.15	.24	.05	.03	.03	.03				
25	.65	.19	.11	.19	.05	.03	.15	.03				
26	1.5	.37	.11	.15	.05	.02	.05	.03				
27	.88	.24	.08	.15	.05	.03	.15	.03				
28	.55	.19	.11	.15	.05	.05	.11	.03				
29	.45	.19	.15	.11	---	.03	.08	.03				
30	.45	.19	.15	.11	---	.03	.05	.03				
31	.76	---	.15	.11	---	.02	---	.02				
TOTAL	55.03	15.33	14.68	9.84	1.88	1.74	14.76	1.75				
MEAN	1.78	.51	.47	.32	.067	.056	.49	.056				
MAX	6.8	2.1	2.0	2.0	.11	.30	12	.45				
MIN	.45	.19	.08	.05	.05	.02	.01	.02				
AC-FT	109	30	29	20	3.7	3.5	29	3.5				

CAL YR 1982 TOTAL 848.82 MEAN 2.33 MAX 30 MIN .08 AC-FT 1680

16897600 NANPIL RIVER

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

DRAINAGE AREA.--3.00 mi².

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, from topographic map.

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

AVERAGE DISCHARGE.--13 years, 45.3 ft³/s (32,820 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,820 ft³/s Aug. 4, 1976, gage height, 9.68 ft, from rating curve extended above 168 ft³/s on basis of slope-area measurement at gage height 9.68 ft; minimum, 0.54 ft³/s Apr. 19, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 2,460 ft³/s Nov. 13, gage height 6.88 ft, no peak above base of 3,200 ft³/s; minimum, 0.54 ft³/s Apr. 19.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	38	13	5.1	3.5	3.0	.97	.90	8.1	61	30	48
2	85	42	31	4.5	2.5	8.9	1.7	.90	22	212	87	29
3	41	20	35	4.3	1.9	3.7	1.3	.97	20	77	37	45
4	28	9.5	145	8.0	2.1	1.9	.97	.97	15	31	40	20
5	53	6.7	95	6.4	2.6	1.4	.83	.90	10	53	50	41
6	40	16	89	3.7	2.2	2.0	.76	1.2	6.7	82	64	83
7	20	9.9	25	3.0	1.9	2.0	.70	1.0	5.1	45	28	34
8	14	7.2	19	2.7	2.0	1.5	.70	.97	3.8	52	41	18
9	22	58	225	3.0	2.2	5.7	.68	1.3	4.9	41	36	11
10	14	38	134	2.9	1.7	4.7	.65	12	9.2	21	74	9.2
11	24	36	30	2.7	1.5	9.9	.65	7.4	9.5	17	42	14
12	13	43	18	2.3	1.3	8.1	.65	2.6	62	52	24	9.9
13	19	298	22	2.3	1.6	3.5	.70	1.9	32	37	38	17
14	146	37	12	5.8	11	2.5	.76	9.1	42	22	62	22
15	48	20	15	3.3	9.2	2.2	.83	5.1	72	64	74	50
16	36	12	8.4	5.8	4.3	1.7	.65	3.8	99	34	27	34
17	20	9.5	36	5.6	2.1	2.5	.65	2.3	48	39	18	41
18	13	7.2	32	4.0	8.6	1.6	.65	1.9	44	114	28	70
19	73	6.0	12	3.2	9.2	1.3	.59	2.2	31	36	22	44
20	60	41	7.5	4.0	3.2	1.1	.83	1.6	22	40	24	25
21	54	17	8.9	3.0	2.1	1.1	1.1	7.9	39	24	18	33
22	29	8.4	16	2.5	1.5	1.1	4.0	29	77	25	12	30
23	16	5.8	11	2.3	1.3	1.0	11	12	46	28	9.9	45
24	11	5.8	6.2	5.0	1.0	.97	5.8	5.4	69	271	8.6	107
25	10	11	9.2	6.0	.83	.97	2.3	3.2	55	60	8.1	63
26	9.5	4.7	30	4.0	.83	1.0	1.6	2.2	34	27	5.6	45
27	6.7	3.8	82	3.0	.76	.97	1.3	1.5	32	28	7.0	26
28	5.6	4.0	21	2.5	.90	.90	1.1	2.6	30	82	9.9	44
29	4.7	3.7	11	2.2	---	1.0	1.0	4.7	22	37	21	32
30	5.4	3.0	8.9	2.0	---	1.5	.97	2.7	120	144	12	33
31	21	---	5.8	2.7	---	1.6	---	6.1	---	95	76	---
TOTAL	1003.9	822.2	1213.9	117.8	83.82	81.31	46.39	136.31	1090.3	1951	1034.1	1123.1
MEAN	32.4	27.4	39.2	3.80	2.99	2.62	1.55	4.40	36.3	62.9	33.4	37.4
MAX	146	298	225	8.0	11	9.9	11	29	120	271	87	107
MIN	4.7	3.0	5.8	2.0	.76	.90	.59	.90	3.8	17	5.6	9.2
AC-FT	1990	1630	2410	234	166	161	92	270	2160	3870	2050	2230

CAL YR 1982	TOTAL	15417.1	MEAN	42.2	MAX	330	MIN	2.6	AC-FT	30580
WTR YR 1983	TOTAL	8704.13	MEAN	23.8	MAX	298	MIN	.59	AC-FT	17260

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
30...	1650	4.7	29.0	25.5
DEC				
01...	1240	2.9	30.0	25.0
15...	1430	12	28.0	25.0
JAN , 1983				
05...	1135	6.4	29.0	24.0
20...	0935	4.3	28.0	24.0
FEB				
03...	1130	1.9	28.0	24.0
15...	1135	5.9	27.0	23.0
MAR				
01...	1230	1.8	28.0	23.0
APR				
12...	1230	.65	31.0	25.0
APR , 1983				
26...	1145	1.6	32.0	26.0
MAY				
24...	1315	5.4	31.0	25.0
JUN				
07...	1125	5.1	30.0	25.0
21...	1305	78	28.0	24.0
JUL				
06...	1305	131	29.0	24.0
AUG				
17...	1345	17	31.0	25.0
30...	1335	13	30.0	25.0
SEP				
14...	1250	14	29.0	24.0
26...	1400	47	29.0	24.0

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 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
OCT											
30...	1650	4.7	26	6.5	25.5	6	0	1.1	.91	2.3	43

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)
OCT										
30...	.4	.10	11	<5.0	3.0	<.10	6.8	<.100	56	1

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

16897900 LEWI RIVER

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

DRAINAGE AREA.--0.46 mi².

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, 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.--13 years, 5.40 ft³/s (3,910 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,190 ft³/s Aug. 4, 1976, gage height, 5.92 ft, from rating curve extended above 37 ft³/s, on basis of slope-area measurement at gage height 5.92 ft; minimum, 0.02 ft³/s Apr. 18, 19, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 915 ft³/s Nov. 13, gage height, 5.50 ft, no other peak above base of 500 ft³/s; minimum, 0.02 ft³/s Apr. 18, 19.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	.72	.34	.61	.30	.21	.05	.03	.21	5.3	4.1	5.8
2	7.2	2.5	.83	.50	.21	.21	.27	.03	.11	17	5.8	3.0
3	4.0	1.3	2.7	.50	.18	.11	.18	.04	.18	8.4	4.0	2.0
4	3.0	.66	20	.83	.24	.09	.09	.04	.27	4.1	4.9	1.4
5	5.9	.61	16	.61	.24	.11	.07	.04	.24	6.6	6.9	6.9
6	4.2	.44	14	.39	.24	.11	.05	.07	.27	8.4	5.7	8.2
7	2.2	.56	3.3	.34	.24	.09	.05	.03	.24	4.9	2.8	4.0
8	1.7	.44	3.4	.30	.27	.09	.04	.03	.13	8.0	3.2	2.1
9	2.5	1.3	32	.30	.27	.13	.04	.05	.13	6.2	3.7	1.4
10	1.3	1.5	15	.34	.24	.09	.03	.24	.18	2.3	11	1.1
11	1.2	1.3	3.1	.34	.21	.11	.03	.15	.30	1.5	6.0	1.0
12	.94	7.0	1.7	.30	.21	.11	.04	.05	3.7	5.8	2.9	.82
13	2.3	55	1.6	.39	.39	.09	.03	.05	1.9	4.0	4.3	1.3
14	9.0	4.0	.88	.56	.66	.09	.04	.39	2.6	2.1	7.9	1.3
15	6.0	1.5	.72	.39	.39	.09	.03	.15	5.5	7.1	11	1.3
16	5.2	.94	.61	.56	.21	.11	.03	.11	8.9	3.8	4.4	3.1
17	7.8	.72	4.2	.50	.18	.13	.04	.07	2.4	2.9	2.6	3.0
18	3.0	.56	2.7	.39	.50	.07	.03	.09	2.3	14	2.8	7.1
19	9.1	.44	.94	.34	.30	.07	.02	.11	1.6	4.8	3.3	4.3
20	7.2	.83	.72	.39	.27	.07	.03	.05	2.1	4.4	3.0	2.2
21	3.7	.56	.66	.30	.24	.05	.05	.07	3.3	2.6	2.6	6.2
22	1.9	.44	1.4	.27	.21	.05	.39	.61	6.0	4.1	1.7	4.3
23	1.3	.39	.83	.27	.18	.05	.30	.30	3.1	3.8	1.3	4.4
24	1.1	.39	.50	.50	.18	.04	.21	.12	4.4	37	1.3	13
25	1.2	.72	.61	.56	.15	.05	.18	.05	4.3	8.0	1.3	9.2
26	.94	.44	3.1	.34	.15	.05	.13	.04	2.7	3.4	.99	5.1
27	.78	.34	8.2	.27	.13	.04	.11	.03	2.9	5.5	1.7	2.7
28	.66	.56	2.0	.27	.11	.05	.09	.04	3.1	8.9	1.8	3.6
29	.58	.39	1.1	.24	---	.05	.07	.11	2.4	4.3	4.0	2.3
30	.66	.34	.78	.21	---	.13	.04	.05	7.5	17	2.7	2.2
31	.72	---	.66	.30	---	.09	---	.30	---	11	14	---
TOTAL	103.98	86.89	144.58	12.41	7.10	2.83	2.76	3.54	72.96	227.2	133.69	114.32
MEAN	3.35	2.90	4.66	.40	.25	.091	.092	.11	2.43	7.33	4.31	3.81
MAX	9.1	55	32	.83	.66	.21	.39	.61	8.9	37	14	13
MIN	.58	.34	.34	.21	.11	.04	.02	.03	.11	1.5	.99	.82
AC-FT	206	172	287	25	14	5.6	5.5	7.0	145	451	265	227

CAL YR 1982	TOTAL	2689.33	MEAN	7.37	MAX	124	MIN	.34	AC-FT	5330
WTR YR 1983	TOTAL	912.26	MEAN	2.50	MAX	55	MIN	.02	AC-FT	1810

16898600 LUHPWOR RIVER

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

DRAINAGE AREA.--0.72 mi².

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, from topographic map.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--11 years, 8.78 ft³/s (6,360 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,090 ft³/s Aug. 4, 1976, gage height, 8.26 ft, from rating curve extended above 47 ft³/s, on basis of estimate of peak flow; minimum, 0.13 ft³/s May 4, 5, 1983.

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

Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 14	0600	894	5.89
Nov. 13	0500	*1100	6.24
July 2	1500	882	5.87

Minimum discharge, 0.13 ft³/s May 4, 5.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	1.9	2.3	1.4	.80	.56	.35	.16	.24	14	11	5.0
2	10	2.6	2.6	1.2	.71	.77	.40	.19	1.3	84	38	7.1
3	6.6	2.0	4.5	1.2	.68	.56	.33	.16	.84	21	13	4.6
4	6.0	1.6	14	1.4	.77	.46	.27	.16	.59	9.0	11	3.8
5	8.6	1.4	13	1.2	.74	.44	.26	.18	.37	11	21	3.9
6	6.2	1.2	15	1.1	.71	.46	.24	.21	.26	15	20	8.3
7	4.2	1.4	5.5	1.0	.68	.48	.26	.21	.21	9.8	10	6.0
8	3.6	1.6	4.6	1.0	.77	.44	.24	.24	.19	8.3	10	4.7
9	4.6	3.2	40	1.1	.80	.56	.23	.27	.26	8.0	8.8	3.7
10	3.3	5.3	27	.96	.74	.53	.23	.40	.31	5.5	14	3.9
11	3.0	12	8.3	.96	.71	.65	.21	.46	.21	4.5	9.8	3.5
12	2.5	6.2	5.7	.92	.68	.68	.21	.29	2.9	7.9	6.9	3.0
13	3.4	75	6.6	.88	.80	.48	.21	.27	1.6	6.2	6.9	3.7
14	39	6.0	4.2	1.1	1.2	.46	.31	.50	2.0	5.0	10	4.3
15	6.9	3.9	3.7	1.0	1.2	.46	.21	.46	4.3	8.4	12	8.9
16	5.5	2.9	3.0	1.2	.77	.40	.19	.40	8.3	6.4	6.0	5.1
17	4.0	2.4	4.6	1.1	.65	.40	.24	.31	4.5	15	6.0	4.8
18	3.2	2.0	4.6	.96	.88	.37	.19	.29	4.0	22	5.7	8.5
19	7.8	1.8	3.0	.92	.96	.35	.21	.24	3.9	9.8	6.6	11
20	7.1	9.0	2.6	.96	.68	.35	.26	.19	3.3	9.0	7.1	6.2
21	5.3	5.3	2.3	.84	.59	.33	.26	.21	5.5	6.9	6.0	7.1
22	3.7	2.9	2.3	.77	.56	.35	.29	.59	11	6.8	5.0	6.8
23	3.0	2.3	2.0	.77	.53	.33	.59	.62	6.2	6.6	4.3	7.1
24	2.6	1.9	1.8	.96	.53	.35	.59	.31	7.3	38	4.0	12
25	2.3	2.1	1.8	.92	.50	.33	.42	.24	5.7	14	3.6	14
26	2.1	1.6	2.8	.80	.50	.37	.33	.23	4.3	8.0	7.6	12
27	1.8	1.4	6.5	.74	.48	.37	.31	.21	3.4	7.8	9.3	7.6
28	1.7	1.4	2.4	.71	.44	.42	.21	.21	3.0	14	6.0	16
29	1.6	1.2	1.8	.71	---	.62	.19	.21	2.6	13	8.6	12
30	1.6	1.2	1.6	.71	---	.59	.16	.19	12	56	6.0	8.6
31	1.5	---	1.5	.71	---	.46	---	.26	---	25	4.6	---
TOTAL	172.7	164.7	201.6	30.20	20.06	14.38	8.40	8.87	100.58	475.9	298.8	213.2
MEAN	5.57	5.49	6.50	.97	.72	.46	.28	.29	3.35	15.4	9.64	7.11
MAX	39	75	40	1.4	1.2	.77	.59	.62	12	84	38	16
MIN	1.5	1.2	1.5	.71	.44	.33	.16	.16	.19	4.5	3.6	3.0
AC-FT	343	327	400	60	40	29	17	18	200	944	593	423

CAL YR 1982	TOTAL	3716.6	MEAN	10.2	MAX	100	MIN	1.2	AC-FT	7370	
WTR YR 1983	TOTAL	1709.39	MEAN	4.68	MAX	84	MIN	.16	AC-FT	3390	

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
13...	1040	2.0	28.0	26.0
DEC				
02...	1005	2.6	28.0	24.0
14...	1450	4.1	29.0	25.0
JAN , 1983				
04...	1215	1.5	30.0	25.0
FEB				
02...	1055	.54	27.0	23.0
16...	1340	.70	31.0	27.0
28...	1420	.34	29.5	25.5
MAR				
22...	1350	.37	27.0	25.0
APR , 1983				
13...	1340	.32	32.0	27.0
JUN				
08...	1055	.18	--	26.0
23...	1300	5.6	--	26.0
JUL				
11...	1200	4.7	--	27.0
AUG				
16...	1045	6.8	29.0	25.0
31...	1200	4.4	31.0	25.0
SEP				
15...	1245	13	29.0	25.0
27...	1220	7.2	29.0	25.0

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 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
OCT											
13...	1040	1.9	54	7.2	26.0	20	0	3.9	2.4	2.8	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)
OCT										
13...	.3	.10	23	<5.0	3.2	<.10	15	.170	210	6

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

16898690 LEHN MESI RIVER

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

DRAINAGE AREA.--2.31 mi².

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

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

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,740 ft³/s, May 8, 1982, gage height, 10.14 ft, from rating curve extended above 126 ft³/s; minimum, 4.5 ft³/s for several days in April and May, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,500 ft³/s, Nov. 9, gage height, 6.78 ft, no peak above base of 3,000 ft³/s; minimum, 4.5 ft³/s for several days in April and May.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	97	13	15	15	9.3	6.9	4.5	33	125	45	93
2	203	102	18	14	9.4	20	12	4.8	25	264	65	68
3	74	50	38	13	8.6	11	10	5.0	72	130	40	100
4	57	31	207	19	10	7.5	8.9	4.8	42	70	60	60
5	67	24	140	20	9.0	6.9	6.9	4.8	32	110	45	110
6	78	168	137	13	8.3	17	6.2	5.0	17	180	70	130
7	42	47	44	12	7.5	13	5.9	4.8	13	95	30	80
8	36	37	31	11	8.6	9.7	5.6	4.8	11	135	35	50
9	36	267	373	13	9.4	45	5.3	14	36	90	40	40
10	31	85	237	11	7.5	19	5.0	53	48	60	125	35
11	27	71	58	10	6.8	44	5.0	24	41	50	40	86
12	24	77	37	9.8	6.5	32	4.8	10	227	95	25	48
13	36	231	40	9.8	9.4	14	4.8	8.5	87	60	50	42
14	234	73	30	26	47	11	7.2	24	100	45	35	52
15	86	46	28	14	20	10	5.3	14	153	68	50	98
16	61	34	23	20	14	9.3	4.8	11	200	54	35	99
17	37	28	55	23	10	12	4.5	8.5	121	45	27	76
18	30	24	52	16	47	9.3	4.5	7.5	93	104	22	166
19	92	21	28	14	31	8.5	4.5	9.7	67	68	30	106
20	64	40	22	20	15	8.1	4.8	7.8	43	83	23	62
21	76	48	24	13	11	7.5	5.0	28	50	49	20	122
22	56	27	27	11	10	7.5	5.6	99	127	44	18	87
23	32	20	24	9.8	9.3	6.9	25	32	88	97	16	161
24	26	18	20	32	8.5	6.6	16	13	135	337	23	177
25	31	21	30	28	7.8	5.9	9.3	9.3	116	93	20	110
26	31	16	71	16	7.8	7.5	6.6	7.2	65	53	25	162
27	24	15	141	12	7.2	6.2	5.6	6.2	46	45	49	69
28	20	14	38	11	6.6	6.2	5.3	7.2	45	190	99	64
29	18	14	25	10	---	6.9	5.0	18	45	105	74	54
30	20	13	19	9.4	---	9.3	4.8	9.7	245	270	41	62
31	66	---	16	11	---	8.9	---	22	---	115	93	---
TOTAL	1824	1759	2046	466.8	368.2	396.0	211.1	482.1	2423	3329	1370	2669
MEAN	58.8	58.6	66.0	15.1	13.1	12.8	7.04	15.6	80.8	107	44.2	89.0
MAX	234	267	373	32	47	45	25	99	245	337	125	177
MIN	18	13	13	9.4	6.5	5.9	4.5	4.5	11	44	16	35
AC-FT	3620	3490	4060	926	730	785	419	956	4810	6600	2720	5290

CAL YR 1982	TOTAL	34157	MEAN	93.6	MAX	793	MIN	13	AC-FT	67750
WTR YR 1983	TOTAL	17344.2	MEAN	47.5	MAX	373	MIN	4.5	AC-FT	34400

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
25...	1220	29	29.5	26.0
NOV				
22...	1400	25	29.0	25.0
DEC				
06...	1235	126	29.0	25.0
23...	1130	24	29.0	24.0
JAN , 1983				
11...	1230	10	29.0	24.0
25...	1215	24	28.0	24.0
FEB				
10...	1530	7.4	31.0	27.0
27...	0930	6.9	29.0	27.0
MAR				
17...	1550	11	30.0	26.0
APR , 1983				
07...	1520	5.7	31.0	27.0
21...	1315	5.1	32.0	28.0
MAY				
31...	1205	10	30.0	26.0
JUN				
17...	1415	78	29.0	25.0
JUL				
01...	1205	120	28.0	24.0
14...	1305	43	29.0	26.0
AUG				
26...	1150	24	29.0	24.0
SEP				
10...	1255	31	31.0	25.0

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 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
OCT											
25...	1220	27	42	7.1	26.0	15	0	2.2	2.4	2.4	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)
OCT										
25...	.3	.20	20	<5.0	2.8	<.10	11	<.100	26	1

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

16099620 MELO RIVER

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

DRAINAGE AREA.--0.68 mi².

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, from topographic map.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--8 years (water years 1975-79, 1981-83), 6.68 ft³/s (4,840 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 784 ft³/s Mar. 22, 1976, gage height, 5.78 ft, from rating curve extended above 17 ft³/s; minimum, 0.11 ft³/s for several days in April 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 455 ft³/s Oct. 14, gage height, 4.25 ft, no other peak above base of 300 ft³/s; minimum, 0.11 ft³/s for several days in April.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	1.0	.75	.90	.50	.70	.22	.36	2.2	5.5	5.3	8.2
2	1.8	.90	1.0	.80	.45	.35	.22	.30	14	22	5.9	5.3
3	1.4	.85	.75	.70	.45	.30	.19	.25	4.8	8.5	6.3	4.6
4	6.3	.80	1.0	2.0	.45	.35	.16	.16	3.1	5.8	4.8	3.8
5	2.2	1.0	.75	.90	1.0	.30	.16	.64	2.6	5.0	14	3.4
6	2.1	1.0	.75	.80	.50	.30	.16	5.9	2.1	4.6	9.8	2.9
7	1.9	2.0	.70	.70	.45	.25	.16	6.7	1.8	6.9	10	2.8
8	2.8	4.6	.70	.65	.45	.36	.16	3.2	1.6	8.6	7.2	2.8
9	1.8	1.2	.80	.60	.45	.80	.13	7.6	3.3	5.5	6.9	2.9
10	1.4	3.0	.90	.60	.45	.91	.13	4.3	2.8	4.3	6.3	2.8
11	1.2	5.3	.70	.60	.40	.69	.13	12	2.1	4.6	6.3	2.2
12	1.0	1.9	1.0	.60	.40	.64	.13	10	2.6	3.4	4.8	1.9
13	2.9	17	4.0	.60	.45	.58	.16	6.9	12	7.8	4.1	1.8
14	22	8.7	4.0	.60	.50	.69	.30	32	8.9	12	33	3.1
15	6.3	3.6	2.0	.75	.50	.52	.64	5.8	4.6	11	11	2.2
16	4.8	2.8	10	.60	.40	.42	.22	3.3	3.8	6.9	9.2	17
17	3.1	2.1	3.0	.60	.40	.30	.19	2.6	3.1	5.0	6.6	23
18	2.2	1.8	2.0	.55	.50	.30	.16	3.4	18	4.3	5.3	28
19	1.9	1.5	1.5	.55	.50	.30	.13	5.3	9.9	6.7	4.6	8.5
20	1.7	1.5	1.5	.55	.40	.30	.16	2.6	6.6	5.0	4.8	6.6
21	2.1	1.5	1.2	.55	.35	.36	.19	1.9	5.5	3.8	3.8	11
22	1.1	1.3	1.0	.55	.35	.30	1.9	4.8	5.0	3.8	19	10
23	1.0	1.2	1.0	.60	.35	.30	6.6	3.4	4.1	2.9	8.6	8.5
24	1.1	1.1	.85	.75	.40	.30	1.6	2.4	4.8	2.8	5.8	23
25	1.1	1.0	.70	.60	.40	.25	.80	1.9	5.3	2.4	4.6	26
26	1.0	1.0	3.0	.55	.35	.30	.69	1.8	4.8	2.1	4.1	19
27	1.0	1.0	2.5	.55	.30	.30	.52	1.7	4.1	4.4	6.7	12
28	.95	.90	1.2	.55	.35	.25	.47	1.5	4.8	7.7	15	7.9
29	.90	.85	1.0	.50	---	.30	.47	1.4	4.3	13	6.9	6.6
30	.90	.80	1.0	.50	---	.25	.42	1.2	3.3	7.5	5.0	7.0
31	1.2	---	1.0	.50	---	.25	---	1.1	---	5.8	9.0	---
TOTAL	83.25	73.20	52.25	20.85	12.45	12.52	17.57	136.41	155.9	199.6	254.7	264.8
MEAN	2.69	2.44	1.69	.67	.44	.40	.59	4.40	5.20	6.44	8.22	8.83
MAX	22	17	10	2.0	1.0	.91	6.6	32	18	22	33	28
MIN	.90	.80	.70	.50	.30	.25	.13	.16	1.6	2.1	3.8	1.8
AC-FT	165	145	104	41	25	25	35	271	309	396	505	525

CAL YR 1982	TOTAL	2477.30	MEAN	6.79	MAX	59	MIN	.70	AC-FT	4910
WTR YR 1983	TOTAL	1283.50	MEAN	3.52	MAX	33	MIN	.13	AC-FT	2550

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979, 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
06...	1020	2.2	27.0	25.5
19...	1200	1.7	29.5	26.5
NOV				
19...	0945	1.6	29.0	25.5
MAR , 1982				
05...	1230	.30	29.0	26.5

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 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												
19...	1200	1.7	130	7.2	26.5	53	0	11	6.1	4.1	14	.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											
19...	.60	57	5.0	3.7	.10	21	86	.12	<.100	200	7

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

16899750 MALEM RIVER

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

DRAINAGE AREA.--0.76 mi².

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

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

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

REMARKS.--Records poor. Water is diverted upstream for domestic use in village of Malem.

AVERAGE DISHCARGE.--10 years (1972-80, 1983), 6.77 ft³/s (4,900 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,550 ft³/s Mar. 22, 1976, gage height, 6.20 ft, from rating curve extended above 110 ft³/s; minimum, 0.07 ft³/s Apr. 30, May 1, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 280 ft³/s Oct. 14, gage height, 4.40 ft, no peak above base of 350 ft³/s; minimum, 0.07 ft³/s Apr. 30, May 1.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	1.6	.65	.67	.15	.24	.25	.07	.77	3.8	7.0	3.3
2	3.2	1.3	2.2	.67	.15	.48	.41	.09	17	25	5.5	2.6
3	2.9	1.3	.72	.57	.15	.11	.29	.10	4.0	8.5	4.3	2.2
4	10	1.4	1.2	1.4	.31	.11	.21	.26	1.3	5.5	3.3	2.1
5	3.0	1.4	1.2	.65	.58	.21	.26	.37	.91	4.3	15	1.9
6	2.4	1.2	1.5	.52	.24	.24	.21	5.7	.64	4.5	10	1.8
7	4.4	1.5	.74	.48	.15	.48	.35	2.5	.59	5.5	11	1.9
8	7.3	5.0	.89	.47	.24	.35	.18	1.5	.37	17	7.3	1.8
9	2.6	2.0	1.0	.45	.26	.17	.22	4.3	.66	6.8	5.5	1.7
10	2.0	2.4	1.3	.42	1.0	.14	.17	1.2	.51	3.6	4.5	1.5
11	1.9	9.2	.55	.49	.21	.24	.16	1.7	.47	3.8	3.6	1.4
12	1.8	5.4	1.1	.38	.28	.18	.25	3.0	2.5	3.8	3.1	1.3
13	6.7	28	7.1	.36	.23	.31	.20	5.9	12	7.1	2.5	1.2
14	25	14	4.0	.37	.15	.39	.31	42	7.4	9.3	27	1.8
15	9.0	5.3	1.8	.38	.27	.31	.25	4.0	3.9	35	10	1.1
16	7.1	3.0	15	.39	.13	.27	.23	1.4	1.9	12	6.2	12
17	3.5	2.1	8.8	.39	.20	.27	.15	1.3	1.1	8.8	4.9	8.2
18	2.8	1.6	4.4	.40	.18	.29	.21	1.5	4.2	6.6	4.0	29
19	2.1	1.4	2.0	.40	.17	.30	.19	3.6	7.0	5.3	3.4	5.9
20	1.8	1.8	1.5	.35	.18	.29	.23	1.4	4.3	4.5	3.3	4.1
21	3.1	1.7	1.2	.35	.18	.26	.20	.71	3.8	4.3	3.0	7.2
22	2.1	1.3	1.1	.39	.24	.25	.45	1.0	3.2	5.5	5.3	8.9
23	1.9	1.1	1.1	.31	.27	.24	3.7	.76	2.6	3.9	4.3	11
24	2.0	.99	.90	.27	.39	.31	.33	.54	2.2	3.5	2.8	14
25	1.7	.90	.85	.24	.31	.29	.29	.39	4.5	3.0	2.3	21
26	1.6	.82	1.5	.21	.24	.30	.27	.32	3.8	2.7	2.1	22
27	1.4	.81	1.3	.21	.24	.30	.12	.23	2.9	2.7	2.7	13
28	1.4	.87	.77	.21	.23	.28	.09	.18	2.7	4.5	24	7.7
29	1.4	.71	.68	.18	---	.30	.08	.21	2.3	8.8	8.2	5.8
30	1.3	.67	.76	.18	---	.28	.07	.14	2.0	20	4.1	4.9
31	1.8	---	.75	.18	---	.22	---	.12	---	9.0	4.3	---
TOTAL	122.1	100.77	68.56	12.94	7.33	8.41	10.33	86.49	101.52	248.6	204.5	202.3
MEAN	3.94	3.36	2.21	.42	.26	.27	.34	2.79	3.38	8.02	6.60	6.74
MAX	25	28	15	1.4	1.0	.48	3.7	42	17	35	27	29
MIN	1.3	.67	.55	.18	.13	.11	.07	.07	.37	2.7	2.1	1.1
AC-FT	242	200	136	26	15	17	20	172	201	493	406	401

WTR YR 1983 TOTAL 1173.85 MEAN 3.22 MAX 42 MIN .07 AC-FT 2330

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979, 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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)
OCT , 1982					NOV , 1982				
18...	1610	2.7	30.0	26.5	30...	1355	.55	32.0	28.0
NOV					JAN , 1983				
15...	1045	5.2	29.0	26.0	13...	0950	.34	30.0	25.0

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 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
OCT											
18...	1610	2.7	110	7.4	26.5	41	0	7.7	5.3	4.2	18

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)
OCT										
18...	.3	.70	48	<5.0	4.6	.10	23	<.100	22	<1

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

16899800 TOFOL RIVER

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

DRAINAGE AREA.--0.53 mi^2.

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

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

REMARKS.--Records good. Water is diverted through 8-in pipe from dam above station for domestic use.

AVERAGE DISCHARGE.--11 years (1971-79, 1981-83), 5.72 ft^3/s (4,140 acre-ft/yr).

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 576 ft^3/s Oct. 14, gage height, 4.39 ft, no other peak above base of 450 ft^3/s; minimum, 0.01 ft^3/s Apr. 1.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	1.7	.87	.75	.22	.26	.02	.04	.34	2.3	6.0	3.1
2	2.8	1.3	1.2	.72	.20	.20	.02	.04	6.0	16	5.1	2.5
3	2.4	1.1	.94	.67	.20	.10	.04	.03	1.8	5.0	3.7	2.1
4	8.4	1.1	1.2	1.8	.18	.14	.04	.03	.88	3.1	3.1	1.9
5	2.8	1.0	.97	.76	.58	.10	.02	.05	.76	2.8	13	1.8
6	2.3	1.1	1.0	.62	.26	.09	.03	1.3	.58	3.1	9.3	1.6
7	4.4	2.4	.83	.54	.20	.10	.02	1.1	.54	4.7	9.9	1.5
8	5.0	5.9	.93	.50	.20	.08	.03	.62	.42	9.3	6.6	1.4
9	2.7	3.3	.91	.46	.12	.12	.04	1.9	.62	4.7	6.1	1.6
10	2.2	3.3	1.1	.46	.16	.12	.02	1.1	.58	3.2	6.0	1.4
11	2.0	7.3	.74	.46	.10	.09	.02	2.1	.50	3.8	5.8	1.2
12	2.0	3.2	.89	.47	.12	.06	.03	3.0	.76	2.9	4.9	1.2
13	6.4	22	3.2	.46	.16	.07	.04	1.9	8.8	4.9	3.9	1.1
14	21	9.1	3.7	.47	.18	.08	.04	19	4.4	6.6	22	1.5
15	7.6	4.0	1.6	.54	.18	.07	.08	2.6	1.9	11	10	1.1
16	5.8	2.8	8.2	.46	.14	.05	.04	1.3	1.4	5.9	6.8	6.2
17	3.3	2.3	2.5	.42	.14	.04	.04	1.1	1.0	4.0	5.4	7.7
18	2.8	2.0	1.7	.38	.20	.02	.04	1.1	3.2	3.2	4.5	20
19	2.5	1.8	1.2	.38	.20	.05	.03	1.5	5.5	2.7	3.9	4.8
20	2.4	1.8	1.2	.30	.18	.02	.03	.81	3.2	2.6	3.6	3.9
21	3.6	1.9	.98	.30	.12	.03	.03	.70	2.9	2.5	3.1	7.7
22	2.2	1.6	.90	.30	.09	.04	.12	1.4	2.2	3.7	4.7	8.0
23	2.1	1.4	.96	.34	.09	.04	2.6	1.0	1.6	2.3	3.7	7.3
24	2.1	1.3	.78	.46	.12	.06	.24	.70	1.9	1.9	2.8	9.2
25	1.8	1.2	.79	.34	.12	.04	.08	.54	3.8	1.7	2.4	21
26	1.6	1.2	2.4	.30	.10	.04	.04	.42	2.8	1.6	2.1	20
27	1.5	1.2	1.9	.28	.10	.02	.04	.38	2.0	1.6	2.2	13
28	1.4	1.1	1.0	.28	.14	.02	.04	.28	1.9	3.1	10	8.4
29	1.3	1.0	.81	.24	---	.04	.04	.26	1.7	6.6	4.6	6.5
30	1.3	.94	.83	.24	---	.02	.04	.24	1.4	15	3.0	6.3
31	1.8	---	.75	.24	---	.04	---	.24	---	7.6	3.6	---
TOTAL	112.4	91.34	46.98	14.94	4.80	2.25	3.94	46.78	65.38	149.4	181.8	175.0
MEAN	3.63	3.04	1.52	.48	.17	.073	.13	1.51	2.18	4.82	5.86	5.83
MAX	21	22	8.2	1.8	.58	.26	2.6	19	8.8	16	22	21
MIN	1.3	.94	.74	.24	.09	.02	.02	.03	.34	1.6	2.1	1.1
AC-FT	223	181	93	30	9.5	4.5	7.8	93	130	296	361	347

CAL YR 1982	TOTAL	2249.72	MEAN	6.16	MAX	46	MIN	.74	AC-FT	4460
WTR YR 1983	TOTAL	895.01	MEAN	2.45	MAX	22	MIN	.02	AC-FT	1780

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979, 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
16...	1000	5.3	30.0	25.0
NOV				
18...	1130	2.0	29.0	26.0
DEC				
01...	1010	.89	29.0	25.5
DEC , 1982				
15...	1005	1.3	27.5	25.5
JAN , 1983				
11...	0955	.43	31.0	25.0

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 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
OCT											
16...	1225	5.3	110	7.1	26.0	43	0	9.6	4.7	4.1	17

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)
OCT										
16...	.3	.90	45	<5.0	3.9	.10	23	<.100	51	3

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

16912000 PAGO STREAM AT AFONO

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

DRAINAGE AREA.--0.60 mi².

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, from topographic map.

REMARKS.--Records good. About 0.06 ft³/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.--24 years (water years 1960-83), 3.44 ft³/s (2,490 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,350 ft³/s July 5, 1969, gage height, 5.49 ft, from rating curve extended above 52 ft³/s; minimum, 0.11 ft³/s Sept. 15, 16, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 212 ft³/s Apr. 6, gage height, 3.29 ft, no other peak above base of 210 ft³/s; minimum, 0.11 ft³/s Sept. 15, 16.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.78	1.1	.22	.43	2.1	.28	8.8	.32	.20	.16	.15
2	.70	.49	.62	.22	.43	1.3	.25	1.9	.32	.20	.15	.14
3	.49	.32	10	.20	.37	1.7	.28	1.1	1.1	.22	.15	.17
4	.43	.28	1.7	.32	1.2	1.3	.25	.87	.70	.20	.14	.15
5	.37	.37	.87	7.9	.78	1.1	.60	.78	.55	.19	.15	.14
6	.43	2.8	.62	3.0	.49	.96	45	.70	.37	.40	.15	.13
7	.37	1.1	.49	2.4	.43	.87	3.8	.62	.28	.28	.17	.16
8	2.7	.49	.32	8.5	1.4	.70	1.9	.62	.32	.22	.16	.13
9	7.4	.32	.32	7.3	.78	.70	1.9	.49	.32	.20	.14	.14
10	2.8	.28	.28	16	.49	.78	4.9	.49	.25	.22	.14	.15
11	1.9	.25	.28	15	.43	.62	3.6	.43	.23	.19	.14	.13
12	1.1	.25	.25	3.2	.37	.55	2.1	.37	.25	.19	.13	.12
13	.78	.25	.32	2.1	.37	.43	1.4	.43	.23	.19	.13	.12
14	.62	.23	.25	1.6	.32	.43	1.1	.43	.23	.20	.15	.12
15	.55	.23	.25	1.2	.37	.43	.96	.32	.22	.23	.14	.14
16	.49	.23	.23	1.3	2.0	.43	.87	.32	.23	.22	.14	1.2
17	.78	.23	.23	1.2	3.8	.37	.78	.32	.28	.20	.19	.22
18	.70	.28	.22	2.9	1.8	.37	.87	.43	.25	.19	.15	.16
19	.49	1.1	.22	1.8	.87	.37	.96	.32	.22	.17	.15	.15
20	.43	.87	.25	1.7	.62	1.1	.78	.28	.55	.20	.16	.17
21	.37	.70	.25	1.2	.43	.78	.70	.25	.37	.19	1.5	.15
22	.32	.43	.23	.96	1.5	.96	.70	.25	.87	.17	.70	.15
23	.32	.37	.28	.78	1.0	1.7	.55	.25	.43	.17	.25	.19
24	.37	.32	.37	.78	.70	1.0	.87	.25	.28	.19	.19	.15
25	.37	1.8	.25	.70	1.3	.70	.78	.80	.25	.20	.16	1.2
26	.28	1.8	.23	.55	30	.49	.55	.43	.23	.19	.15	.78
27	.25	.70	.23	.49	9.8	.43	.49	.49	.28	.17	.15	.28
28	.25	.70	.23	.49	3.4	.43	.43	.43	.20	.16	.16	.60
29	.37	.78	.28	.49	---	.32	.55	.49	.22	.17	.16	1.7
30	.70	1.9	.25	.49	---	.32	6.2	.87	.20	.17	.15	1.6
31	1.9	---	.25	.49	---	.28	---	.49	---	.16	.14	---
TOTAL	29.63	20.65	21.67	85.48	65.88	24.02	84.40	25.02	10.55	6.25	6.70	10.79
MEAN	.96	.69	.70	2.76	2.35	.77	2.81	.81	.35	.20	.22	.36
MAX	7.4	2.8	10	16	30	2.1	45	8.8	1.1	.40	1.5	1.7
MIN	.25	.23	.22	.20	.32	.28	.25	.25	.20	.16	.13	.12
AC-FT	59	41	43	170	131	48	167	50	21	12	13	21

CAL YR 1982	TOTAL	1112.41	MEAN	3.05	MAX	109	MIN	.20	AC-FT	2210
WTR YR 1983	TOTAL	391.04	MEAN	1.07	MAX	45	MIN	.12	AC-FT	776

16920500 AASU STREAM AT AASU

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

DRAINAGE AREA.--1.03 mi².

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 by hand levels from high-tide mark.

REMARKS.--Records fair. 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.--24 years (water years 1960-83), 6.09 ft³/s (4,410 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 498 ft³/s Sept. 7, 1972, gage height, 5.16 ft, from rating curve extended above 20 ft³/s on basis of slope-area measurement at gage height 4.57 ft; minimum, 0.12 ft³/s Oct. 21, 23, 24, 27, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 362 ft³/s Oct. 9, gage height, 4.57 ft, no other peak above base of 180 ft³/s; minimum, 0.34 ft³/s Aug. 15, 16, 19.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	5.5	2.7	1.0	2.2	4.9	3.0	6.2	1.5	.87	.57	.63
2	2.8	4.0	2.5	.95	2.1	4.3	2.8	3.4	1.6	.81	.52	.57
3	2.2	3.6	4.6	.95	1.9	4.0	2.7	2.8	3.0	.81	.52	.81
4	2.1	3.6	2.8	1.4	2.1	4.6	2.5	2.7	2.1	.81	.47	.57
5	1.9	4.3	2.7	7.4	2.2	17	3.3	2.5	1.8	.81	.47	.52
6	2.2	23	2.5	4.9	6.6	13	11	2.5	1.6	1.1	.47	.57
7	2.1	14	2.4	7.6	2.8	9.2	9.8	2.4	1.5	.95	.47	.68
8	5.8	9.2	2.5	11	2.5	7.8	7.0	2.4	1.4	.81	.42	.52
9	73	7.8	2.4	5.5	2.2	8.3	8.1	2.4	1.3	.74	.38	.52
10	20	7.0	2.1	5.8	2.1	11	13	2.2	1.2	.81	.38	.81
11	16	6.7	2.1	7.0	1.9	7.0	13	2.4	1.2	.74	.42	.66
12	12	6.1	1.9	6.4	1.8	6.1	9.5	2.1	1.1	.74	.38	.58
13	10	5.5	1.9	5.5	1.8	5.2	8.1	2.1	1.1	.74	.38	.50
14	8.8	4.6	1.8	4.0	1.7	4.3	7.0	2.1	1.0	.74	.38	.49
15	7.4	4.0	1.7	3.6	2.0	4.0	6.1	1.9	1.0	.87	.42	.62
16	6.7	3.6	1.6	3.6	3.0	3.8	5.5	2.1	1.0	.95	.47	.88
17	7.0	3.6	1.5	3.7	3.0	3.2	5.5	1.8	1.0	.74	.42	.56
18	6.1	3.6	1.4	6.0	2.5	3.2	4.6	1.7	1.0	.74	.38	.52
19	4.9	3.8	1.4	4.9	2.2	3.0	4.3	1.7	.87	.68	.38	.50
20	4.3	3.2	1.4	4.0	1.8	6.2	3.8	1.6	1.4	.68	1.0	.49
21	3.8	2.8	1.6	3.2	1.7	3.8	3.6	1.5	1.1	.68	4.5	.48
22	3.2	2.5	1.4	4.3	2.1	3.8	3.4	1.5	1.3	.68	2.8	.46
23	3.0	2.7	3.5	3.2	1.8	14	3.2	1.4	1.3	.63	1.9	.44
24	3.2	2.4	1.8	3.4	1.5	7.0	3.4	1.3	1.0	.63	1.1	.42
25	2.7	7.6	1.5	3.2	1.7	5.2	3.0	1.4	.95	.63	.87	2.5
26	2.5	5.5	1.4	2.8	11	4.9	5.6	1.3	.95	.57	.74	5.0
27	2.2	3.2	1.3	2.7	11	4.9	3.6	1.3	1.3	.57	.68	3.2
28	2.2	2.8	1.2	2.8	7.0	4.0	2.8	1.4	.95	.57	.63	2.1
29	2.5	3.0	1.2	2.8	---	3.8	2.7	1.5	1.1	.81	.63	7.7
30	7.8	2.8	1.1	2.4	---	3.6	3.7	1.6	.95	1.0	.57	19
31	14	---	1.1	2.2	---	3.2	---	1.6	---	.57	.57	---
TOTAL	246.7	162.0	61.0	128.20	86.2	188.3	165.6	64.8	38.57	23.48	24.29	53.30
MEAN	7.96	5.40	1.97	4.14	3.08	6.07	5.52	2.09	1.29	.76	.78	1.78
MAX	73	23	4.6	11	11	17	13	6.2	3.0	1.1	4.5	19
MIN	1.9	2.4	1.1	.95	1.5	3.0	2.5	1.3	.87	.57	.38	.42
AC-FT	489	321	121	254	171	373	328	129	77	47	48	106

CAL YR 1982	TOTAL	2381.15	MEAN	6.52	MAX	73	MIN	.95	AC-FT	4720
WTR YR 1983	TOTAL	1242.44	MEAN	3.40	MAX	73	MIN	.38	AC-FT	2460

16931000 ATAULOMA STREAM AT AFAO

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

DRAINAGE AREA.--0.24 mi².

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

REVISED RECORDS.--WSP 1937: Drainage area.

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

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

AVERAGE DISCHARGE.--24 years (water years 1960-83), 1.45 ft³/s (1,050 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 815 ft³/s Oct. 28, 1979, gage height, 4.47 ft, from rating curve extended above 30 ft³/s; minimum, 0.04 ft³/s Oct. 24-26, 28-31, Nov. 1, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 191 ft³/s Oct. 9, gage height, 2.68 ft, no other peak above base of 180 ft³/s; minimum, 0.13 ft³/s Sept. 3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	.87	.54	.24	.24	.80	.44	2.0	.33	.19	.21	.17
2	.69	.69	.49	.24	.21	.59	.36	.64	.36	.19	.19	.15
3	.59	.64	.86	.24	.19	.40	.36	.49	.92	.19	.19	.21
4	.59	.59	.54	.30	.21	.40	.36	.36	.44	.21	.19	.15
5	.54	.69	.49	3.2	1.4	4.9	.60	.33	.36	.19	.19	.15
6	.74	6.9	.44	.68	3.4	1.3	11	.30	.27	.24	.21	.17
7	.54	2.5	.44	.64	.54	.69	2.0	.30	.24	.24	.19	.33
8	2.3	1.3	.49	.80	.36	.59	1.2	.30	.24	.21	.19	.17
9	32	1.0	.44	.36	.33	.64	1.1	.27	.21	.21	.19	.17
10	4.1	.87	.44	.36	.30	2.1	2.8	.27	.21	.21	.17	.19
11	2.6	.74	.44	.36	.36	.74	2.8	.30	.21	.24	.17	.19
12	1.8	.74	.40	.30	.36	.54	1.6	.30	.21	.21	.17	.17
13	1.3	.69	.40	.44	.33	.44	1.1	.27	.19	.21	.17	.17
14	1.0	.64	.40	.33	.30	.36	.87	.27	.21	.21	.17	.17
15	.94	.59	.40	.27	.40	.33	.74	.27	.21	.21	.17	.19
16	.87	.59	.40	.27	.44	.44	.59	.33	.21	.27	.21	.21
17	1.1	.59	.40	.30	.54	.33	.59	.30	.21	.21	.19	.19
18	1.0	.69	.36	.40	.30	.30	.59	.27	.24	.21	.19	.17
19	.87	.59	.36	.30	.24	.30	.49	.27	.21	.21	.17	.17
20	.87	.54	.36	.36	.24	1.8	.59	.24	.33	.21	.40	.17
21	.80	.54	.44	.27	.21	.87	.59	.24	.27	.24	3.8	.17
22	.80	.54	.44	.36	.21	.80	.59	.24	.30	.27	1.5	.19
23	.74	.54	.71	.49	.21	5.9	.54	.24	.30	.24	.80	.19
24	.74	.54	.49	.64	.21	1.9	.64	.24	.24	.21	.30	.17
25	.69	2.7	.40	.36	.21	1.0	.59	.33	.21	.24	.24	1.6
26	.69	1.3	.33	.27	7.4	.74	.77	.30	.21	.21	.21	2.6
27	.69	.74	.30	.27	5.5	1.6	.59	.27	.24	.21	.19	1.6
28	.64	.64	.27	.24	1.0	.87	.54	.27	.24	.24	.17	.69
29	.64	.59	.27	.24	---	.69	.44	.27	.24	.30	.17	6.3
30	1.5	.64	.27	.24	---	.59	1.8	.36	.19	.33	.15	17
31	2.3	---	.24	.24	---	.54	---	.40	---	.27	.15	---
TOTAL	65.47	31.22	13.25	14.01	25.64	33.49	37.27	11.24	8.25	7.03	11.61	34.17
MEAN	2.11	1.04	.43	.45	.92	1.08	1.24	.36	.27	.23	.37	1.14
MAX	32	6.9	.86	3.2	7.4	5.9	11	2.0	.92	.33	3.8	17
MIN	.54	.54	.24	.24	.19	.30	.36	.24	.19	.19	.15	.15
AC-FT	130	62	26	28	51	66	74	22	16	14	23	68

CAL YR 1982	TOTAL	586.15	MEAN	1.61	MAX	32	MIN	.15	AC-FT	1160
WTR YR 1983	TOTAL	292.65	MEAN	.80	MAX	32	MIN	.15	AC-FT	580

16931500 ASILI STREAM AT ALTITUDE 330 FT NEAR ASILI

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

DRAINAGE AREA.--0.32 mi².

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

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

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

AVERAGE DISCHARGE.--6 years, 2.52 ft³/s (1,830 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 635 ft³/s Oct. 28, 1980, gage height, 4.73 ft, from rating curve extended above 14 ft³/s; minimum, 0.20 ft³/s Aug. 16, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 142 ft³/s Oct. 9, gage height, 3.20 ft, no other peak above base of 205 ft³/s; minimum, 0.20 ft³/s Aug. 16.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.92	2.7	.95	.52	.67	2.3	1.1	3.0	.52	.40	.28	.40
2	.71	2.0	.95	.49	.64	1.8	1.0	1.6	.63	.40	.28	.34
3	.64	1.7	2.1	.46	.61	1.7	.99	1.3	2.0	.37	.25	.53
4	.61	1.7	1.1	.58	.64	1.6	.91	1.2	.75	.37	.25	.34
5	.58	1.7	.99	3.9	1.4	6.4	1.2	1.2	.67	.34	.25	.31
6	.79	6.7	.95	1.3	3.0	3.2	9.2	1.1	.58	.52	.25	.34
7	.61	5.4	.91	1.4	.95	2.3	3.7	1.1	.60	.40	.25	.54
8	4.6	3.6	.87	1.8	.79	2.2	2.6	1.1	.61	.34	.22	.31
9	27	2.7	.87	1.1	.75	2.1	2.5	1.0	.55	.34	.22	.31
10	7.9	2.3	.79	1.4	.71	3.0	4.4	1.1	.52	.31	.22	.43
11	5.6	2.0	.75	1.3	.67	1.6	4.8	.99	.49	.31	.25	.34
12	3.8	1.7	.75	1.2	.64	1.4	3.4	.91	.49	.31	.22	.31
13	2.9	1.4	.71	1.5	.64	1.2	2.7	.87	.49	.31	.22	.31
14	2.3	1.3	.71	1.1	.61	1.1	2.3	.79	.46	.34	.22	.31
15	1.8	1.2	.75	.99	.78	1.0	1.9	.75	.46	.43	.22	.37
16	1.5	1.1	.75	.99	1.1	1.1	1.6	.83	.46	.53	.28	.49
17	2.0	1.0	.75	1.1	1.3	.96	1.6	.75	.46	.34	.25	.34
18	1.4	1.3	.75	.99	.75	.94	1.4	.67	.46	.34	.25	.31
19	1.2	1.1	.75	.91	.71	.91	1.4	.64	.43	.31	.22	.31
20	1.1	.99	.75	.95	.61	2.6	1.3	.61	.64	.31	.64	.31
21	1.0	.91	.79	.87	.58	1.1	1.3	.61	.49	.34	3.8	.31
22	.99	.83	.75	1.2	.75	1.5	1.1	.58	.73	.31	1.7	.34
23	.91	.92	1.8	1.4	.58	5.4	1.1	.58	.71	.28	1.1	.34
24	.96	.83	.79	1.2	.67	2.9	1.2	.55	.49	.31	.61	.31
25	.83	3.9	.58	1.0	.64	2.2	.99	.58	.46	.31	.52	1.9
26	.79	1.7	.58	.87	6.7	2.0	2.0	.55	.46	.28	.46	2.5
27	.75	1.2	.55	.79	5.6	2.4	1.2	.52	.49	.28	.43	1.8
28	.71	1.0	.55	.83	3.1	1.7	1.0	.52	.43	.31	.40	.75
29	.87	1.2	.55	.75	---	1.4	.95	.58	.46	.50	.37	5.2
30	4.1	1.2	.52	.71	---	1.4	2.7	.64	.40	.45	.37	17
31	5.7	---	.52	.81	---	1.2	---	.66	---	.28	.34	---
TOTAL	85.57	57.28	25.88	34.41	36.59	62.61	63.54	27.88	17.39	10.97	15.34	37.70
MEAN	2.76	1.91	.83	1.11	1.31	2.02	2.12	.90	.58	.35	.49	1.26
MAX	27	6.7	2.1	3.9	6.7	6.4	9.2	3.0	2.0	.53	3.8	17
MIN	.58	.83	.52	.46	.58	.91	.91	.52	.40	.28	.22	.31
AC-FT	170	114	51	68	73	124	126	55	34	22	30	75

CAL YR 1982	TOTAL	812.27	MEAN	2.23	MAX	27	MIN	.44	AC-FT	1610
WTR YR 1983	TOTAL	475.16	MEAN	1.30	MAX	27	MIN	.22	AC-FT	942

16933500 LEAFU STREAM AT ALTITUDE 370 FT NEAR LEONE

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

DRAINAGE AREA.--0.31 mi².

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, from topographic map.

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

AVERAGE DISCHARGE.--6 years, 4.59 ft³/s (3,330 acre-ft/yr).

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

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

Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 8	2400	*283	5.53
Mar. 5	1545	200	4.70

Minimum discharge, 0.32 ft³/s Aug. 9.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	4.5	1.8	.82	1.4	5.0	1.8	4.4	.94	.66	.45	.66
2	1.7	3.7	1.9	.78	1.3	4.1	1.7	2.3	1.1	.66	.42	.59
3	1.4	3.2	3.8	.78	1.2	3.7	1.6	2.0	2.1	.62	.42	.73
4	1.2	3.1	2.2	1.0	1.2	3.5	1.5	1.9	1.6	.62	.42	.59
5	1.2	3.0	2.0	9.8	2.1	15	1.8	1.9	1.4	.59	.39	.56
6	1.5	16	1.9	3.0	5.9	8.3	24	1.8	1.2	.92	.39	.59
7	1.2	9.4	1.8	4.1	1.8	5.2	6.8	1.7	1.2	.70	.39	.98
8	15	6.5	1.8	5.0	1.6	4.8	5.1	1.8	1.2	.59	.39	.56
9	59	5.4	1.6	2.9	1.4	4.6	4.8	1.5	.94	.59	.36	.52
10	20	4.5	1.5	3.6	1.4	6.9	7.7	1.5	.86	.59	.39	.70
11	12	3.8	1.4	3.3	1.4	3.7	7.1	1.4	.82	.56	.42	.59
12	8.1	3.2	1.4	2.9	1.4	3.2	5.4	1.4	.82	.56	.39	.52
13	5.8	2.8	1.4	3.2	1.3	2.7	4.5	1.3	.82	.56	.39	.48
14	4.7	2.5	1.4	2.4	1.4	2.4	3.9	1.2	.78	.59	.36	.48
15	3.8	2.2	1.2	2.4	1.9	2.2	3.4	1.2	.78	.70	.39	.59
16	3.2	2.0	1.2	2.2	2.2	2.4	3.0	1.3	.78	.74	.45	.84
17	3.8	2.0	1.2	2.2	3.0	1.9	2.8	1.2	.78	.56	.42	.59
18	2.8	2.1	1.1	2.2	1.7	1.8	2.3	1.1	.74	.51	.39	.48
19	2.4	2.2	1.2	1.9	1.4	1.7	2.4	1.0	.74	.52	.36	.48
20	2.0	1.8	1.1	2.0	1.4	6.0	2.2	1.0	2.0	.52	1.0	.48
21	1.9	1.8	1.2	1.8	1.3	2.2	2.0	.98	.94	.56	6.6	.48
22	1.8	1.5	1.1	2.4	1.6	3.0	1.8	.94	1.2	.52	2.7	.52
23	1.7	1.8	3.0	2.1	1.3	10	1.8	.94	1.1	.48	1.7	.48
24	1.7	1.6	1.3	2.0	1.7	4.3	2.1	.90	.86	.48	.98	.45
25	1.5	7.4	1.2	1.9	1.7	3.4	1.8	.94	.82	.52	.82	2.5
26	1.4	3.5	1.0	1.6	14	3.3	2.6	.86	.78	.48	.74	6.1
27	1.3	2.6	1.0	1.5	11	3.8	1.8	.86	.90	.48	.70	4.1
28	1.3	2.2	.94	1.4	6.1	2.8	1.6	.90	.70	.52	.66	1.9
29	1.7	2.1	1.0	1.5	---	2.4	1.4	.94	.74	.74	.66	19
30	9.1	2.3	.90	1.4	---	2.2	3.5	1.0	.70	.59	.62	43
31	9.7	---	.86	1.4	---	2.0	---	1.2	---	.45	.62	---
TOTAL	186.2	110.7	46.40	75.48	75.1	128.5	114.2	43.36	30.34	18.18	25.39	90.54
MEAN	6.01	3.69	1.50	2.43	2.68	4.15	3.81	1.40	1.01	.59	.82	3.02
MAX	59	16	3.8	9.8	14	15	24	4.4	2.1	.92	6.6	43
MIN	1.2	1.5	.86	.78	1.2	1.7	1.4	.86	.70	.45	.36	.45
AC-FT	369	220	92	150	149	255	227	86	60	36	50	180

CAL YR 1982	TOTAL	1755.80	MEAN	4.81	MAX	59	MIN	.70	AC-FT	3480	
WTR YR 1983	TOTAL	944.39	MEAN	2.59	MAX	59	MIN	.36	AC-FT	1870	

SAMOA ISLANDS, ISLAND OF TUTUILA

16948000 AFUELO STREAM AT MATUU

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

DRAINAGE AREA.--0.25 mi².

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, 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.--25 years, 1.46 ft³/s (1,060 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 502 ft³/s Apr. 29, 1975, gage height, 4.59 ft, from rating curve extended above 26 ft³/s on basis of slope-area measurement of peak flow; minimum, 0.01 ft³/s Sept. 16, 17, 20-26, 28, 29, 1975, Apr. 5-7, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 150 ft³/s Apr. 6, gage height, 2.83 ft, no peak above base of 160 ft³/s; minimum, 0.02 ft³/s July 13.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	.13	.50	.05	.08	.67	.08	3.0	.11	.04	.03	.06
2	.43	.08	.19	.05	.06	.50	.07	.39	.13	.04	.03	.03
3	.16	.07	4.2	.05	.06	.36	.10	.21	1.2	.04	.03	.05
4	.13	.08	.55	.59	.35	1.8	.08	.14	.30	.04	.03	.04
5	.09	.14	.27	8.6	.17	.91	1.0	.11	.19	.04	.04	.03
6	.10	5.5	.16	2.7	.13	.42	26	.11	.09	.05	.04	.04
7	.11	.70	.14	2.9	.08	.28	1.4	.10	.08	.05	.04	.06
8	2.1	.19	.13	3.2	.30	.19	.60	.08	.08	.03	.05	.04
9	5.5	.11	.09	1.3	.05	.18	.46	.08	.06	.02	.05	.04
10	.91	.09	.08	5.0	.04	.36	1.7	.08	.05	.02	.04	.06
11	.42	.10	.10	3.4	.05	.14	1.1	.09	.05	.02	.05	.06
12	.23	.13	.08	.70	.05	.14	.75	.08	.04	.02	.05	.04
13	.16	.09	.07	.39	.06	.11	.46	.10	.04	.02	.04	.04
14	.13	.05	.07	.21	.04	.10	.28	.11	.04	.04	.04	.04
15	.13	.07	.05	.17	.05	.10	.19	.07	.03	.05	.04	.03
16	.11	.06	.05	.42	.37	.11	.16	.08	.03	.06	.05	.47
17	.35	.13	.05	.46	.74	.09	.16	.07	.05	.05	.05	.05
18	.23	.18	.05	1.4	.16	.09	.16	.09	.07	.04	.04	.03
19	.13	.24	.05	.36	.08	.08	.14	.08	.05	.04	.04	.03
20	.10	.15	.08	.33	.05	.24	.13	.08	.15	.05	.05	.03
21	.07	.27	.14	.17	.05	.09	.11	.08	.09	.04	.78	.03
22	.06	.19	.07	.17	4.2	.62	.10	.07	.06	.05	.25	.03
23	.07	.13	.08	.10	.50	1.5	.09	.06	.05	.05	.13	.04
24	.08	.09	.07	.09	.19	.30	.22	.05	.05	.05	.06	.03
25	.09	1.5	.06	.10	.25	.17	.16	.27	.04	.05	.05	3.2
26	.07	.90	.06	.08	17	.13	.33	.06	.04	.06	.06	1.9
27	.06	.21	.05	.09	4.3	.12	.15	.28	.05	.05	.06	.60
28	.07	.13	.05	.49	1.1	.11	.10	.10	.05	.06	.05	.28
29	.08	.23	.08	.10	---	.11	.11	.09	.05	.07	.05	3.4
30	.24	1.5	.05	.06	---	.10	2.4	.46	.05	.07	.05	13
31	.64	---	.04	.12	---	.09	---	.10	---	.03	.05	---
TOTAL	13.24	13.44	7.71	33.85	30.56	10.21	38.79	6.77	3.37	1.34	2.42	23.78
MEAN	.43	.45	.25	1.09	1.09	.33	1.29	.22	.11	.043	.078	.79
MAX	5.5	5.5	4.2	8.6	17	1.8	26	3.0	1.2	.07	.78	13
MIN	.06	.05	.04	.05	.04	.08	.07	.05	.03	.02	.03	.03
AC-FT	26	27	15	67	61	20	77	13	6.7	2.7	4.8	47

CAL YR 1982	TOTAL	392.66	MEAN	1.08	MAX	32	MIN	.04	AC-FT	779
WTR YR 1983	TOTAL	185.48	MEAN	.51	MAX	26	MIN	.02	AC-FT	368

16963900 LEAFU STREAM NEAR AUASI

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

DRAINAGE AREA.--0.11 mi².

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, 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.--11 years, 0.35 ft³/s (254 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 234 ft³/s Dec. 5, 1980, gage height, 4.43 ft, from recorded range in stage, from rating curve extended above 19 ft³/s; minimum, 0.02 ft³/s several days in 1976 and many days in 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 40 ft³/s Apr. 6, gage height, about 2.43 ft, no other peak above base of 30 ft³/s; minimum, 0.02 ft³/s many days in July, August, September.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.05	.07	.07	.08	.08	.05	.16	.05	.02	.02	.02
2	.10	.04	.05	.07	.07	.07	.05	.07	.07	.02	.02	.02
3	.08	.04	.10	.08	.07	.08	.05	.07	.14	.03	.02	.02
4	.08	.04	.05	.27	.08	.07	.05	.05	.07	.03	.02	.02
5	.08	.05	.05	.24	.07	.07	.07	.05	.05	.04	.02	.02
6	.16	.07	.05	.21	.05	.07	2.7	.05	.05	.05	.02	.02
7	.21	.05	.04	.19	.05	.05	.14	.04	.05	.04	.02	.02
8	.27	.05	.04	.27	.08	.05	.10	.04	.08	.02	.02	.02
9	.21	.05	.04	.24	.05	.05	.08	.04	.05	.03	.02	.02
10	.12	.05	.04	.50	.05	.07	.12	.04	.04	.03	.02	.02
11	.10	.04	.04	.14	.05	.08	.10	.04	.04	.04	.02	.02
12	.10	.04	.04	.10	.05	.05	.08	.04	.04	.04	.02	.02
13	.08	.04	.04	.08	.04	.05	.07	.04	.04	.03	.02	.02
14	.08	.03	.04	.07	.04	.05	.07	.04	.04	.03	.02	.02
15	.10	.03	.03	.07	.05	.05	.05	.04	.04	.03	.02	.02
16	.12	.03	.03	.07	.14	.05	.04	.04	.04	.03	.02	.02
17	.14	.03	.03	.07	.10	.05	.04	.04	.04	.02	.02	.02
18	.08	.04	.03	.10	.07	.05	.04	.07	.04	.02	.02	.02
19	.07	.07	.03	.08	.07	.07	.05	.07	.04	.02	.02	.02
20	.05	.07	.03	.07	.05	.08	.04	.04	.05	.02	.02	.02
21	.05	.05	.04	.07	.04	.08	.04	.04	.04	.02	.02	.02
22	.05	.04	.05	.07	.08	.14	.05	.04	.05	.02	.02	.02
23	.07	.04	.07	.05	.05	.34	.04	.04	.03	.02	.02	.02
24	.08	.04	.07	.04	.05	.16	.07	.04	.03	.02	.02	.02
25	.10	.07	.05	.03	.08	.14	.05	.04	.03	.02	.02	.02
26	.08	.07	.05	.03	.76	.12	.05	.08	.03	.02	.02	.02
27	.07	.05	.05	.04	.27	.08	.05	.05	.04	.02	.02	.02
28	.07	.05	.05	.07	.14	.07	.04	.05	.03	.02	.02	.02
29	.07	.07	.05	.12	---	.07	.05	.05	.03	.02	.02	.02
30	.07	.16	.05	.08	---	.05	.12	.09	.02	.02	.02	.02
31	.08	---	.05	.12	---	.05	---	.05	---	.02	.02	---
TOTAL	3.09	1.55	1.45	3.71	2.78	2.54	4.55	1.64	1.39	.81	.62	.60
MEAN	.10	.052	.047	.12	.099	.082	.15	.053	.046	.026	.020	.020
MAX	.27	.16	.10	.50	.76	.34	2.7	.16	.14	.05	.02	.02
MIN	.05	.03	.03	.03	.04	.05	.04	.04	.02	.02	.02	.02
AC-FT	6.1	3.1	2.9	7.4	5.5	5.0	9.0	3.3	2.8	1.6	1.2	1.2

CAL YR 1982	TOTAL	116.17	MEAN	.32	MAX	5.8	MIN	.03	AC-FT	230
WTR YR 1983	TOTAL	24.73	MEAN	.068	MAX	2.7	MIN	.02	AC-FT	49

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of base flow or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations and the second is a table of low-flow measurements made at miscellaneous sites.

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 1983

Station No.	Station name	Location	Drainage area mi²	Period of record	Measurements: Date	Measurements: Discharge (ft³/s)
		Mariana Islands, Island of Guam				
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 west of Mount Bolanos, and 1.3 mi east of Sanchez School in Umatac.	-	1955, 1961-65, 1967-79, 1982-83	4- 8-83	0.15
16816000	Umatac River at Umatac	Lat 13°17'48" N., long 144°39'46" E., on left bank 0.2 mi upstream from mouth, 0.3 mi southeast of Umatac, and 5.8 mi northwest of Inarajan.	2.11	1952-76≠, 1977-79, 1983	7 -5 83	.29
		Caroline Islands, Palau Islands				
16891430	North Fork Ngerdorch River, Babelthuap	Lat 07°27'51" N., long 134°35'12" E., 500 ft upstream from right-bank tributary, 1.4 mi upstream from confluence with South Fork Ngerdorch River, and 1.5 mi west of Ngchesar Village.	9.70	1975-83	7- 5-83	78.7
16891440	North Fork Ngerdorch River tributary, Babelthuap	Lat 07°27'51" N., long 134°35'10" E., 50 ft upstream from North Fork Ngerdorch River and 1.5 mi west of Ngchesar Village.	1.78	1975-83	7- 5-83	12.2
		Caroline Islands, Yap Islands				
16892600	Ripu Stream, Yap	Lat 09°30'10" N., long 138°06'24" E., 300 ft upstream from mouth and 0.3 mi southwest of Gitaem water-treatment plant.	.29	1968-83	8-30-83	.09
16892650	Pinaey Stream, Yap	Lat 09°30'32" N., long 138°06'15" E., at upper Gitaem Reservoir, 0.4 mi northwest of water-treatment plant.	.04	1980-83	8-30-83	.07
16892680	Tholomar Stream above reservoir, Yap	Lat 09°30'37" N., long 138°06'18" E., about 500 ft upstream from upper Gitaem Reservoir and 1.4 mi southwest of Colonia.	.10	1965≠, 1968-74≠, 1980-83	8-30-83	.09
16893180	Monguch Stream, Gagil-Tamil	Lat 09°31'59" N., long 138°09'57" E., 0.7 mi northeast of Tamel Elementary School and 1.0 mi south of Coast Guard LORAN station.	.18	1980-83	5-25-83 6-28-83 7- 9-83 7-25-83 8-26-83	No flow No flow a.01 1.50 .99
		Caroline Islands, Island of Ponape				
16897550	Meitik River	Lat 06°56'12" N., long 158°13'26" E., at bridge near mouth.	5.04	1971, 1973, 1977, 1980-81, 1983	1- 7-83	8.07

≠ Operated as a continuous-record gaging station.
≠ At station 16892700, 800 ft downstream.
a Estimated.

Discharge measurements made at low-flow partial-record stations during water year 1983--Continued

Station No.	Station name	Location	Drainage area mi²	Period of record	Measurements Date	Measurements Discharge (ft³/s)
		Mariana Islands, Island of Ponape--Continued				
16897800	Kiepw (formerly Tawenjokola) River, at mouth	Lat 06°56'36" N., long 158°13'14" E., at road crossing 0.1 mi upstream from mouth.	11.2	1970-71, 1973-74, 1977, 1981, 1983	1- 7-83	15.6
16898500	Nankewi River	Lat 06°56'03" N., long 158°10'46" E., at highway bridge 350 ft west of Sekere School.	1.48	1971-73, 1975-77, 1981-83	1- 4-83 2-16-83 4-27-83 5-25-83 6-23-83	3.89 1.88 .53 .51 15.6
16898550	Kiriedleng River	Lat 06°55'17" N., long 158°09'48" E., at small right-bank tributary, 300 ft downstream from road bridge, and 1.4 mi northwest of Mount Temwetemwensekir.	.73	1972-73, 1975-77, 1981-83	1- 4-83 2-16-83 4-27-83 5-25-83 6-23-83	1.65 .98 .42 .42 4.86
16898700	Lehn Mesi River at hanging bridge	Lat 06°49'24" N., long 158°10'11" E., at foot bridge, 0.6 mi upstream from mouth.	8.32	1971, 1973, 1976-77, 1981-83	2-11-83 6-13-83	12.2 17.2
**16898900	Keprohi River	Lat 06°50'40" N., long 158°17'57" E., 150 ft upstream from road bridge and 0.46 mi northeast of Ponape Agriculture Trade School.	2.05	1981-83	11- 2-82 1- 6-83 2-17-83 3-24-83 4-28-83 5-26-83	4.01 4.04 2.32 1.88 1.21 1.01
16899000	Senipehn (formerly Senpen) River	Lat 06°52'28" N., long 158°16'17" E., 0.1 mi downstream from confluence of two branches, 0.5 mi southeast of Merewi Hill, and 1.5 mi upstream from mouth.	6.04	1971, 1973, 1976-77, 1980-81, 1983	1- 6-83 2-17-83 3-24-83 4-28-83 5-26-83	14.0 7.97 3.41 4.62 7.97
16899100	Lehdau (formerly Lataw) River	Lat 06°52'59" N., long 158°16'15" E., 0.1 mi upstream from left-bank tributary, 0.4 mi northeast of Merewi Hill, and 1.4 mi upstream from mouth.	2.44	1971, 1973, 1976-77, 1980-81, 1983	1- 6-83 2-17-83 3-24-83 4-28-83 5-26-83	4.33 3.51 1.48 1.60 1.62
		Caroline Islands, Island of Kosrae				
**16899670	Mwot River	Lat 05°18'26" N., long 162°55'25" E., 300 ft upstream from dam, 0.55 mi upstream from mouth, and 1.3 mi northwest of Mount Wakapp.	.79	1980-81, 1983	10-20-82	1.27
**16899780	Tafuyat River	Lat 05°18'38" N., long 163°00'47" E., at old Japanese dam, 0.75 mi upstream from mouth, and 1.5 mi east of Mount Finkol.	.27	1974-75, 1977-83	10-15-82 3-31-83 8-30-83	1.70 .15 1.48
**16899830	Innem River	Lat 05°19'49" N., long 163°00'27" E., at concrete road bridge, 0.5 mi upstream from mouth, and 1.4 mi southeast of Mount Mutunte.	1.82	1971-74, 1978-83	10-17-82 3- 8-83 3-31-83	11.2 2.69 .21
**16899850	Pukusruk River	Lat 05°21'01" N., long 163°00'37" E., 20 ft upstream from diversion dam, 0.7 mi upstream from mouth, and 1.2 mi east of Mount Mutunte.	.27	1974-75, 1980-83	10-21-82 3- 8-83 3-31-83	.92 .07 .14

** Also a water-quality partial-record station.

Discharge measurements made at low-flow partial-record stations during water year 1983--Continued

Station No.	Station name	Location	Drainage area mi²	Period of record	Measurements Date	Measurements Discharge (ft³/s)
		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 upstream from mouth.	0.23	1966-76≠, 1977, 1981-83	10-20-82 8- 3-83 9-14-83	0.31 .07 .06
16919000	Leaveave Stream near Aasu	Lat 14°18'28" S., long 170°45'06" W., 0.6 mi upstream from mouth and 0.9 mi southeast of Aasu.	.60	1959-60, 1962-63, 1968, 1974-77, 1979, 1981, 1983	12-28-82 8-16-83	.66 .32
16920000	Aasu Stream near Aasu	Lat 24°18'16" S., long 170°45'29" W., 300 ft downstream from 100 ft waterfall, 0.5 mi south of Aasu, and 0.5 mi upstream from mouth.	.82	1959-63, 1968, 1974-76, 1978-79, 1981, 1983	12-28-82 7-26-83 8-16-83	1.27 .48 .30
16932000	Asili Stream near Asili	Lat 14°19'46" S., long 170°47'42" W., 0.4 mi north of Asili and 0.5 mi upstream from mouth.	.55	1959-61, 1963-65, 1968, 1970, 1974-77, 1981-83	10-28-82 7-12-83 8- 9-83	.80 .24 .18
16932500	Asili Stream at Asili	Lat 14°20'04" S., long 170°47'40" W., 100 ft upstream from highway bridge at Asili and 0.1 mi upstream from mouth.	.66	1958-59≠, 1960-61, 1963-65, 1967-69, 1974-77, 1981-83	7-12-83 8- 9-83	.34 .26
16934000	Leafu Stream near Leone	Lat 14°19'47" S., long 170°46'55" W., 30 ft upstream from reservoir, 0.9 mi upstream from mouth, and 1.0 mi north of Leone.	.69	1959-64, 1968-69, 1971-74, 1976-77, 1981-83	7-14-83 8- 9-83	.69 .46
16944000	Papa Stream near Nuuuli	Lat 14°18'31" S., long 170°42'29" W., 0.3 mi upstream from Tauese Stream and 0.9 mi northwest of Nuuuli.	.57	1959-61, 1963-64, 1967-68, 1974-78, 1981-83	10-26-82 7-19-83 9-14-83	.38 .07 .20
16949800	Utumoa Stream near Pago Pago	Lat 14°17'35" S., long 170°42'20" W., 0.6 mi upstream from mouth and 1.1 mi south of Pago Pago above the Vaipito diversion intake system.	.07	1960-61, 1963-65, 1967-71, 1974, 1983	5- 4-83	.33
16960000	Alega Stream at Alega	Lat 14°16'58" S., long 170°38'19" W., on left bank 300 ft upstream from left-bank tributary, 0.2 mi northwest of Alega, and 0.3 mi upstream from mouth.	.19	1958-76≠, 1977-78, 1981-83	10-20-82 8- 2-83 9-15-83	.46 .26 .30
16964000	Leafu Stream at Auasi	Lat 14°16'28" S., long 170°34'26" W., 0.1 mi north of Auasi and 0.2 mi upstream from mouth.	.12	1959-61, 1963-65, 1968-71, 1976, 1981, 1983	10-20-82	.04

≠ Operated as a continuous-record gaging station.

DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1983

Stream	Tributary to	Location	Drainage area mi²	Measured previously (water years)	Measurements Date	Measurements Discharge (ft³/s)
		Mariana Islands, Island of Saipan				
Middle Fork Talofofo Stream (**16801500)	Talofofo River	Lat 15°12'59" N., long 145°46'17" E., 1,000 ft upstream from confluence with South and North Forks, and 2.2 mi southeast of Tanapag.	0.28	1968-82≠,	11-19-82	0.56
		Mariana Islands, Island of Guam				
Alasi Spring	Madog River	Lat 13°17'19" N., long 144°40'29" E., 400 ft south of confluence of Madog and Asdulili Rivers, and 1.3 mi north of Merizo Martyrs Memorial School. Altitude 200 ft, from topographic map.	-	1979	4- 9-83	.02
Sadog Gago River	Imong River	Lat 13°19'45" N., long 144°40'32" E., at altitude 640 ft, 0.4 mi east of Mt Jumullong Manglo, and 1.6 mi upstream from gaging station 16847000.	-	-	4-19-83	.04
Left branch tributary	Sadog Gago River	Lat 13°19'51" N., long 144°40'40" E., at altitude 440 ft, 0.5 mi east of Mt Jumullong Manglo, and 1.5 mi upstream from gaging station 16847000.	-	-	4-19-83	.04
Sadog Gago River	Imong River	Lat 13°19'51" N., long 144°40'41" E., at altitude 420 ft, 0.6 mi east of Mt Jumullong Manglo, and 1.5 mi upstream from gaging station 16847000.	-	-	4-19-83	.09
Sadog Gago River	Imong River	Lat 13°19'53" N., long 144°,40'47" E., at altitude 330 ft, 0.7 mi east of Mt Jumullong Manglo, and 1.3 mi upstream from gaging station 16847000.	-	-	4-19-83	.53
Sadog Gago River	Imong River	Lat 13°20'04" N., long 144°41'24" E., at altitude 190 ft, 0.6 mi upstream from gaging station 16847000, and 1.4 mi east of Mt Jumullong Manglo.	-	-	4- 6-83	.53
Sadog Gago River	Imong River	Lat 13°20'05" N., long 144°41'37" E., at altitude 160 ft, 50 ft above confluence to Imong River, 0.4 mi above gaging station 16847000, and 1.6 mi east of Mt Jumullong Manglo.	-	-	4- 6-83	1.0
Imong River	Fena Valley Reservoir	Lat 13°20'05" N., long 144°41'38" E., at altitude 160 ft, 10 ft above confluence to Sadog Gago River, 0.4 mi upstream from gaging station 16847000, and 1.7 mi east of Mt Jumullong Manglo.	-	-	4- 6-83	.57
16847000 Imong River	Fena Valley Reservoir	Lat 13°20'17" N., long 144°41'55" E., at altitude 120 ft, 0.1 mi upfrom Fena Valley Reservoir, and 2.0 mi east of Mt Jumullong Manglo.	1.95	1960-82≠	4- 6-83	2.2
Almagosa Springs	Almagosa River	Lat 13°20'42" N., long 144°40'29" E., at altitude 720 ft, 0.3 mi east of Mt Almagosa, and 1.2 mi upstream from gaging station 16848100. Called West Impoundment.	-	-	4- 8-83	.27
Almagosa Springs	Almagosa River	Lat 13°20'42" N., long 144°40'30" E., at altitude 690 ft, 0.4 mi east of Mt Almagosa, and 1.2 mi upstream from gaging station 16848100. Called East Impoundment.	-	-	4- 5-83	.30

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

DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1983--Continued

Stream	Tributary to	Location	Drainage area mi²	Measured previously (water years)	Measurements Date	Measurements Discharge (ft³/s)
		Mariana Islands, Island of Guam--Continued				
Almagosa Springs	Almagosa River	Lat 13°20'43" N., long 144°40'35" E., at altitude 680 ft, 0.4 mi east of Mt Almagosa, and 1.1 mi upstream from gaging station 16848100.	-	-	4- 5-83	0.15
16848000 Almagosa Springs	Almagosa River	Lat 13°20'43' N., long 144°40'45" E., at altitude 620 ft and 0.7 mi east Mt Almagosa.	-	1951-67, 1971-75≠	4- 5-83	.01
Almagosa River	Fena Valley Reservoir	Lat 13°20'43" N., long 144°40'51" E., at altitude 550 ft, 0.7 mi east of Mt Almagosa, and 0.8 mi upstream from gaging station 16848100.	-	-	4- 5-83	.04
Right branch tributary	Almagosa River	Lat 13°20'34" N., long 144°41'25" E., at altitude 190 ft, 70 ft above confluence to Almagosa River, 0.3 mi upstream from gaging station 168481000, and 1.4 mi east of Mt Almagosa.	-	-	4-20-83	.19
Almagosa River	Fena Valley Reservoir	Lat 13°20'37" N., long 144°41'27" E., at altitude 190 ft, 20 ft below confluence with right tributary, 0.2 mi upstream from gaging station 16848100, and 1.4 mi east of Mt Almagosa.	-	-	4-20-83	.31
16848100 Almagosa River	Fena Valley Reservoir	Lat 13°20'43" N., long 144°41'36" E., at altitude 155 ft, 0.1 mi upstream from Fena Valley Reservoir, and 1.6 mi east of Mt Almagosa.	1.32	1972-82≠	4- 5-83 4-20-83	.39 .35
Left branch tributary	Maulap River	Lat 13°21'25" N., long 144°40'30" E., at altitude 610 ft, 90 ft above confluence to Maulap River, 0.9 mi north of Mt Almagosa, and 1.4 mi upstream from gaging station 16848500.	-	-	4- 5-83	.01
Maulap River	Fena Valley Reservoir	Lat 13°21'23" N., long 144°40'34" E., at altitude 580 ft, 0.9 mi north of Mt Almagosa, and 1.3 mi upstream from gaging station 16848500.	-	-	4- 5-83	.06
Maulap River	Fena Valley Reservoir	Lat 13°21'27" N., long 144°40'47" E., at altitude 480 ft, 1.1 mi upstream from gaging station 16848500, and 1.1 mi northeast of Mt Almagosa.	-	-	4- 5-83	.10
Maulap River	Fena Valley Reservoir	Lat 13°21'27" N., long 144°40'52" E., at altitude 420 ft, 1.0 mi upstream from gaging station 16848500, and 1.2 mi northeast of Mt Almagosa.	-	-	4- 5-83	.13
16848500 Maulap River	Fena Valley Reservoir	Lat 13°21'14" N., long 144°41'44" E., at altiutde 130 ft, 0.1 mi upstream from Fena Valley Reservoir and 1.8 mi northeast of Mt Almagosa.	1.15	1972-82≠	4- 5-83	.75
Bonya River	Tolaeyuus River	Lat 13°21'58" N., long 144°41'12" E., at altitude 220 ft, 1.4 mi south of Fena Water Treatment Plant, and 1.8 mi northeast of Mt Almagosa.	-	-	4-20-83	.36

≠ Operated as a continuous-record gaging station.

DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1983--Continued

Stream	Tributary to	Location	Drainage area mi²	Measured previously (water years)	Measurements Date	Measurements Discharge (ft³/s)
		Mariana Islands, Island of Guam--Continued				
Talisay River	Maemony River	Lat 13°22'29" N., long 144°40'53" E., at altitude 270 ft, 0.8 mi south of Fena Water Treatment Plant, and 2.2 mi north of Mt Almagosa.	-	-	4-20-83	No flow
Talofofo River (16850000)	Pacific Ocean	Lat 13°21'05" N., long 144°43'50" E., 200 ft downstream from Mahlac River and 1.5 mi southwest of Talofofo.	16.2	1951-62≠	4-21-83 7-15-83	1.96 .76
		Caroline Islands, Yap Islands				
Dorfay Stream (16893190)	Mukong Stream	Lat 09°32'08" N., long 138°10'13" E., 0.2 mi upstream from mouth and 0.9 mi northeast of Tamilang Elementary School.	.20	1981-82	5-25-83 6-28-83 7-25-83 8-26-83	No flow No flow .95 1.13
		Caroline Islands, Truk Islands				
Nachiponong Stream, Moen, (16894200)	Pacific Ocean	Lat 07°25'45" N., long 151°51'31" E., 300 ft downstream from dam site and 0.2 mi upstream from mouth.	0.16	1968-76≠	3-12-83	No flow
		Caroline Islands, Island of Ponape				
Lewi River at mouth (16898200)	Pacific Ocean	Lat 06°57'04" N., long 158°12'39" E., 0.3 mi upstream from bridge at mouth and 0.4 mi west southwest of Ponape State Hospital.	2.08	1970-81≠	10-29-82 3- 2-83	5.99 2.42
Luhpwor River	Pacific Ocean	Lat 06°54'15" N., long 158°09'59" E., at old Japanese dam, 1.1 mi southwest of Mount Temwetemwensekir, and 1.2 mi upstream from gaging station.	.17	1973, 1982	10-13-82	.51
Seniahdak River (**16898620)	Pacific Ocean	Lat 06°53'41" N., long 158°09'47" E., at road bridge, 0.45 mi south of Pwakorokot Hill.	.56	1982	1- 4-83 2- 6-83 3-22-83 4-27-83 5-25-83 6-23-83	2.54 1.03 .93 .31 .91 7.90
Pehleng River (16898650)	Pacific Ocean	Lat 06°52'27" N., long 158°09'26" E., at road crossing near mouth, 0.25 mi north of Doletikitik Hill.	2.01	1981-82	1- 4-83 2-16-83 3-22-83 4-27-83 5-25-83 6-23-83	2.92 2.52 1.18 .56 1.36 23.7
		Caroline Islands, Island of Kosrae				
Mutunte River (**16899500)	Pacfic Ocean	Lat 05°21'45" N., long 162°59'20" E., at dam, 0.6 mi upstream from mouth, and 1.2 mi north of Mount Mutunte.	.52	1971-82≠	6-20-83	2.13
Walung River above diversion (**16899680)	Pacific Ocean	Lat 05°18'25" N., long 162°55'01" E., above diversion dam, 0.2 mi upstream from mouth, and 1.7 mi west of Mount Wakapp. Altitude 65 ft, from topographic map.	.03	1981	10-20-82	.10
Walung River below diversion	Pacific Ocean	Lat 05°18'26" N., long 162°55'01" E., 200 ft below diversion dam, 0.1 mi upstream from mouth, and 1.7 mi west Mount Wakapp.	-	-	10-20-82	a.03

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

DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1983--Continued

Stream	Tributary to	Location	Drainage area mi²	Measured previously (water years)	Measurements Date	Measurements Discharge (ft³/s)
		Caroline Islands, Island of Kosrae--Continued				
Finkol River (**16899690)	Pacific Ocean	Lat 05°17'10" N., long 162°59'04" E., 0.2 mi upstream from Menka River and 1.7 mi south of Mount Finkol. Altitude 25 ft, from topographic map.	1.70	1981	10-15-82	15.0
Palusrik River (**16899700)	Finkol River	Lat 05°16'32" N., long 162°59'13" E., 50 ft below diversion, 0.9 mi northeast of Utwe Village.	.45	1971-72≠, 1980-81	10-15-82	5.82
Malem River above diversion	Pacific Ocean	Lat 05°17'43" N., long 163°00'46" E., 70 ft above diversion, 1,300 ft upstream from gaging station, and 1.8 mi southeast of Mount Finkol.	-	-	3- 3-83 5-24-83	.64 1.42
Tafuyat River below diversion	Pacific Ocean	Lat 05°18'39" N., long 163°00'48" E., 70 ft below old Japanese dam, 1.5 mi east of Mount Finkol.	-	-	3-31-83 8-30-83	.03 1.19
Tofol River	Pacific Ocean	Lat 05°19'04" N., long 163°00'18" E., 100 ft above diversion dam and 1,000 ft upstream from gaging station.	-	1981	10-16-82 3- 4-83 3-29-83 4-26-83 5-24-83 6-21-83 7-21-83	4.10 .29 .15 .28 .94 3.00 2.17
Tofol River	Pacific Ocean	Lat 05°19'05" N., long 163°00'19" E., 60 ft below diversion dam, 840 ft upstream from gaging station.	-	1981	3- 4-83 7-21-83	.05 1.83
Pakusruk River below diversion	Pacific Ocean	Lat 05°21'01" N., long 163°00'38" E., 20 ft downstream from diversion dam, 1.2 mi east of Mount Mutunte.	-	-	10-21-82 3- 8-83	.05 No flow
		Samoa Islands, Island of Tutuila				
Leafu Stream No. 3	Pacific Ocean	Lat 14°19'34" S., long 170°46'54" W., 1,100 ft above village catchment and 1.3 mi northeast of Leone.	-	1977, 1981-82	7-14-83 8- 9-83	.63 .44
Unnamed Stream No. 4	Leafu Stream	Lat 14°19'35" S., long 170°46'57" W., 300 ft above confluence with Leafu Stream and 1.3 mi northeast of Leone.	-	1977	8- 9-83	.07
Unnamed Tributary	Asili Stream	Lat 14°19'42" S., long 170°47'46" W., 200 ft above confluence with Asili Stream and 0.5 mi northwest of Asili.	-	1977	10-28-82 7-12-83 8- 9-83	.24 .09 .08
Afuelo Stream	Pacific Ocean	Lat 14°18'07" S., long 170°41'07" W., 20 ft above the village intake system, 0.2 mi northwest of Matuu, and 0.3 mi upstream from mouth.	-	-	10-26-82 7-13-83 8-18-83	.08 .09 .07

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

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 1982 TO SEPTEMBER 1983

CAROLINE ISLANDS, ISLAND OF PONAPE

16898900 KEPROHI RIVER, PONAPE

LOCATION.--Lat 06°50'40" N., long 158°17'57" E., Hydrologic Unit 20100006, 150 ft upstream from road bridge and 0.46 mi northeast of Ponape Agriculture Trade School.

DRAINAGE AREA.--2.05 mi².

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 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
NOV 02...	1200	4.0	62	7.0	27.5	23	0	3.1	3.6	3.2	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)
NOV 02...	.3	.20	28	<5.0	3.9	<.10	16	.120	61	2

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899670 MWOT RIVER, KOSRAE

LOCATION.--Lat 05°18'26" N., long 162°55'25" E., Hydrologic Unit 20100006, 300 ft upstream from dam, 0.55 mi upstream from mouth, and 1.3 mi northwest of Mount Wakapp.

DRAINAGE AREA.--0.79 mi².

PERIOD OF RECORD.--Water years 1980-81, 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 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
OCT 20...	1555	1.3	60	7.3	27.0	20	0	3.0	3.1	2.4	20

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)
OCT 20...	.2	.30	25	<5.0	3.6	.10	11	<.100	130	10

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

CAROLINE ISLANDS, ISLAND OF KOSRAE--Continued

16899780 TAFUYAT RIVER, KOSRAE

LOCATION.--Lat 05°18'38" N., long 163°00'47" E., Hydrologic Unit 20100006, at old Japanese dam, 0.75 mi upstream from mouth, and 1.5 mi east of Mount Finkol.

DRAINAGE AREA.--0.27 mi².

PERIOD OF RECORD.--Water years 1974-75, 1977 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 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 15...	1535	1.7	180	7.4	26.0	82	0	19	8.4	5.3	12	.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 15...	1.1	89	6.0	4.2	.20	27	120	.17	<.100	10	<1

16899830 INNEM RIVER, KOSRAE

LOCATION.--Lat 05°19'49" N., long 163°00'27" E., Hydrologic Unit 20100006, at concrete road bridge, 0.5 mi upstream from mouth, and 1.4 mi southeast of Mount Mutunte.

DRAINAGE AREA.--1.82 mi².

PERIOD OF RECORD.--Water years 1971-74, 1978 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 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 17...	1025	11	120	7.1	26.5	46	0	9.4	5.5	4.2	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 17...	.70	49	6.0	4.5	.10	20	80	.11	<.100	230	28

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

CAROLINE ISLANDS, ISLAND OF KOSRAE--Continued

16899850 PUKUSRUK RIVER, KOSRAE

LOCATION.--Lat 05°21'01" N., long 163°00'37" E., Hydrologic Unit 20100006, 20 ft upstream from diversion dam, 0.7 mi upstream from mouth, and 1.2 mi east of Mount Mutunte.

DRAINAGE AREA.--0.27 mi^2.

PERIOD OF RECORD.--Water years 1974-75, 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 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
OCT											
21...	1100	.92	130	7.4	26.5	50	0	8.6	7.0	5.3	18

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)
OCT										
21...	.3	.60	57	<5.0	5.8	.10	23	<.100	16	<1

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

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 1982 TO SEPTEMBER 1983

MARIANA ISLANDS, ISLAND OF SAIPAN

16801500 MF TALOFOFO STREAM (LAT 15°13'05" LONG 145°46'36")

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L 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 19...	1145	370	8.0	26.0	120	0	37	6.6	31	36	1

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)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
NOV 19...	1.3	136	6.0	37	.10	44	240	.33	<.100	31	2

CAROLINE ISLANDS, ISLAND OF PONAPE

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

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM
NOV 02...	1425	9.7	38	6.8	26.0	13	0	2.2	1.8	2.3	28

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)
NOV 02...	.3	.20	16	<5.0	3.3	<.10	9.6	.110	62	<1

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

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899500 MUTUNTE RIVER (LAT 05°21'45" LONG 162°59'20")

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 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
OCT 20...	1020	1.1	85	7.1	25.5	30	0	4.7	4.4	3.5	20

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)
OCT 20...	.3	.40	35	<5.0	4.9	.10	21	<.100	9	<1

16899600 OKAT RIVER (LAT 05°19'11" LONG 162°58'19")

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 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
OCT 19...	1615	8.8	95	7.0	26.5	34	0	7.1	4.0	3.6	18

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)
OCT 19...	.3	.70	39	<5.0	3.9	.10	19	<.100	430	31

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

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

CAROLINE ISLANDS, ISLAND OF KOSRAE--Continued

16899680 WALUNG RIVER (LAT 05°18'25" LONG 162°55'01")

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 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
OCT 20...	1650	.10	70	7.2	26.0	26	0	4.1	3.8	2.9	20

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)
OCT 20...	.3	.10	29	<5.0	3.8	<.10	11	<.100	12	<1

16899690 FINKOL RIVER (LAT 05°17'10" LONG 162°59'04")

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 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
OCT 15...	1030	15	82	6.0	26.5	32	0	5.5	4.4	3.0	17

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)
OCT 15...	.2	.40	37	<5.0	3.4	.10	19	<.100	160	10

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

CAROLINE ISLANDS, ISLAND OF KOSRAE--Continued

16899700 PALUSRIK RIVER (LAT 05°16'32" LONG 162°59'13")

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 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
OCT 15...	1300	5.8	58	5.8	26.0	19	0	3.3	2.6	2.8	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)
OCT 15...	.3	.30	24	<5.0	4.2	<.10	15	<.100	100	5

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

MARIANA ISLANDS, ISLAND OF GUAM

16808300 - FINILE CREEK AT AGAT, GUAM (LAT 13 22 39 LONG 144 39 26)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1982				
15...	1150	1.1	30.0	25.0
DEC , 1982				
27...	1450	.58	29.0	26.5

16809600 - LA SA FUA RIVER NEAR UMATAC, GUAM (LAT 13 18 23 LONG 144 39 45)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
04...	1205	11	29.0	27.5
DEC				
08...	1225	1.8	30.0	27.0
JAN , 1983				
07...	1120	1.3	28.5	26.0
FEB				
08...	1240	.74	29.5	25.5
MAR				
12...	1305	.97	27.5	25.5
17...	1400	.81	28.0	26.0
APR , 1983				
26...	1015	.52	27.5	26.0
MAY				
26...	1550	.38	28.5	27.0
JUN				
28...	1400	.23	28.0	26.5
JUL				
22...	1200	1.0	30.0	27.5
AUG				
25...	1130	5.0	--	27.5

16835000 - INARAJAN RIVER NR INARAJAN, GUAM (LAT 13 16 41 LONG 144 44 15)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
05...	1200	37	30.5	28.5
JAN , 1983				
05...	1040	5.7	28.0	24.5

16840000 - TINAGA RIVER NR INARAJAN, GUAM (LAT 13 17 10 LONG 144 45 04)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
DEC , 1982				
09...	1305	3.3	29.5	26.5
FEB , 1983				
10...	1200	.88	29.0	25.5
APR				
15...	1540	.60	28.0	26.0
MAY				
18...	1525	.49	28.5	27.0
JUN , 1983				
24...	1550	.43	28.0	26.0
JUL				
25...	1010	.98	--	28.0
AUG				
11...	1220	1.8	28.5	27.5

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1982				
12...	1355	7.3	29.0	28.0
JAN , 1983				
13...	1320	3.2	29.5	26.5
FEB				
07...	1305	2.5	28.5	25.5
MAR				
18...	1350	1.8	28.0	26.0
MAY , 1983				
24...	1145	1.9	28.0	27.5
JUL				
20...	1115	1.4	30.0	28.5
AUG				
17...	1130	7.8	--	27.5

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1982				
12...	1155	4.9	30.5	26.5
DEC				
07...	1430	3.0	29.0	26.0
JAN , 1983				
13...	1445	.86	27.5	26.0
FEB , 1983				
07...	1500	.53	27.0	26.0
MAY				
24...	1420	.26	28.0	27.0

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1982				
12...	1020	3.8	29.0	25.0
DEC				
07...	1005	2.9	29.5	25.5
JAN , 1983				
13...	1010	1.6	27.5	24.5
FEB				
07...	1040	1.2	--	25.5
MAR				
18...	1035	.99	28.0	25.0
MAY , 1983				
24...	1615	.48	28.0	27.0
JUN				
16...	1500	.44	28.0	26.5
JUL				
20...	1505	.39	30.0	28.5
AUG				
17...	1500	9.4	--	27.5

MARIANA ISLANDS, ISLAND OF GUAM--Continued

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
07...	1115	41	--	26.5
DEC				
08...	1530	17	29.0	27.0
JAN , 1983				
06...	1420	14	31.0	26.0
FEB				
10...	1425	8.3	31.5	26.5
APR				
25...	1320	5.6	27.5	26.5
MAY , 1983				
19...	1150	4.7	28.5	26.5
JUN				
29...	1530	3.6	28.5	27.0
AUG				
23...	1415	7.7	29.0	27.0
25...	1130	27	29.0	27.5

16858000 - YLIG RIVER NR YONA, GUAM (LAT 13 23 28 LONG 144 45 06)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
DEC , 1982				
06...	1430	11	30.0	26.5
APR , 1983				
15...	1210	.98	28.0	26.5
MAY , 1983				
18...	1155	.67	28.0	26.5
AUG				
23...	1120	6.2	29.0	27.5

16865000 - PAGO RIVER NR ORDOT, GUAM (LAT 13 26 08 LONG 144 45 14)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
JAN , 1983				
10...	1405	4.2	29.5	25.5

CAROLINE ISLANDS, PALAU ISLANDS

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
20...	1255	16	29.0	25.0
DEC				
06...	1240	7.8	27.0	25.0
FEB , 1983				
03...	1300	7.0	27.0	25.0
MAR				
10...	1330	4.2	27.5	25.0
APR , 1983				
18...	1325	2.4	28.5	26.0
JUL				
02...	1125	51	27.5	26.0
29...	1310	45	27.5	26.0
AUG				
23...	1320	52	28.5	26.0

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
21...	1140	14	27.5	25.0
DEC				
10...	1310	19	28.0	26.0
JAN , 1983				
19...	1225	14	27.5	25.0
MAR				
24...	1155	3.4	29.0	25.0
APR , 1983				
19...	1020	.57	--	27.0
JUL				
26...	1110	37	28.5	25.5
SEP				
07...	1045	22	28.0	25.5

16891300 - EDENG RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 23 00 LONG 134 33 07)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1982				
05...	1240	21	25.5	25.0
DEC				
02...	1105	9.1	28.0	25.0
JAN , 1983				
11...	1140	12	28.0	25.0
FEB				
24...	1205	3.5	28.5	25.5
MAR				
29...	1225	1.6	30.0	26.0
APR , 1983				
01...	1245	1.6	30.0	26.0
08...	1025	1.3	29.0	26.0
JUN				
29...	1210	4.7	25.5	25.0
JUL				
04...	1200	16	26.0	25.5
11...	1150	26	29.0	25.5

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

CAROLINE ISLANDS, PALAU ISLANDS--Continued

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
NOV , 1982				
08...	1140	2.4	27.0	25.0
DEC				
02...	1315	2.3	28.0	26.0
JAN , 1983				
12...	1130	3.7	27.0	25.0
FEB				
24...	1510	.57	28.0	25.0
MAR				
29...	1430	.35	30.0	26.0
APR , 1983				
14...	1110	.22	29.0	25.5
JUL				
03...	1410	6.3	28.0	26.0
AUG				
01...	1155	8.4	27.5	26.0
SEP				
01...	1235	4.1	29.0	26.0

16891400 - SF NGERDORCH RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 26 19 LONG 134 34 28)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
22...	1140	5.7	29.5	25.0
DEC				
16...	1200	9.3	28.0	26.0
FEB , 1983				
14...	1145	1.6	30.0	26.0
MAR				
25...	1240	1.2	30.0	28.0
MAY , 1983				
05...	1235	1.3	29.5	27.0
JUL				
05...	1305	17	28.5	26.5
27...	1225	14	27.5	26.5
SEP				
08...	1105	6.6	27.5	25.5

CAROLINE ISLANDS, YAP ISLANDS

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
19...	1005	.38	27.5	26.0
NOV				
11...	1145	.03	27.5	26.0
25...	0940	.03	27.5	25.0
DEC				
10...	1425	4.4	27.5	26.0
JUN , 1983				
29...	1030	.03	--	26.5
JUL , 1983				
11...	1250	.29	--	26.0
27...	1220	.66	27.5	26.0
AUG				
09...	1455	7.7	27.5	26.5
30...	1010	.19	27.0	26.0
SEP				
19...	1430	.48	28.0	26.0

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
19...	1130	.05	27.5	26.5
NOV				
11...	1020	.04	26.5	25.5
DEC				
10...	1310	1.6	27.0	26.0
JUN , 1983				
29...	0915	.02	27.0	26.0
JUL , 1983				
27...	1410	.70	27.5	27.0
AUG				
10...	1415	1.9	28.0	27.5
29...	1100	.09	27.5	26.5
SEP				
14...	1025	.04	27.0	26.0

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
18...	1205	.02	27.0	26.5
NOV				
10...	1440	.06	28.0	27.0
24...	1305	.04	27.5	26.0
DEC				
09...	1400	.70	27.5	26.5
JUL , 1983				
27...	0955	.80	27.0	26.0
AUG				
09...	1300	2.9	27.0	26.0
29...	0930	.06	27.0	26.0
SEP				
14...	1215	.18	27.0	26.0

CAROLINE ISLANDS, YAP ISLANDS--Continued

16893200 - MUKONG STREAM, GAGIL-TAMIL, YAP ISLANDS (LAT 09 32 05 LONG 138 10 18)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
18...	0920	1.8	27.0	26.5
NOV				
09...	0930	3.2	28.0	26.5
24...	0930	.67	27.5	26.5
DEC				
09...	1115	5.4	27.0	26.0
28...	1150	.76	28.0	26.0
JAN , 1983				
14...	1010	.34	27.0	25.5
FEB				
03...	0950	.19	26.5	25.0
21...	1010	.15	26.5	25.5
MAR				
11...	0955	.11	27.0	26.0
29...	1035	.08	--	26.0
APR , 1983				
19...	1025	.06	27.5	27.0
MAY				
06...	1115	.04	28.5	27.0
25...	1040	.11	28.0	27.5
JUN				
28...	1015	.31	28.0	27.5
JUL				
09...	0950	.78	28.0	27.0
25...	1050	3.3	26.5	26.0
AUG				
10...	1005	3.2	27.5	27.0
26...	0955	2.6	27.5	26.5
SEP				
19...	0945	1.5	31.0	26.0

16893400 - EYEB STREAM, GAGIL-TAMIL, YAP ISLANDS (LAT 09 33 11 LONG 138 09 14)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
18...	1100	.97	27.0	26.0
NOV				
10...	1010	.77	27.5	26.0
24...	1120	.58	27.0	26.0
DEC				
09...	1250	2.4	27.5	26.5
JAN , 1983				
14...	1150	.30	27.5	25.5
FEB				
03...	1110	.06	26.5	25.0
21...	1215	.03	27.0	25.0
MAR				
11...	1135	.03	26.0	25.5
MAR , 1983				
31...	1040	.26	27.5	26.0
APR				
19...	1205	.02	28.0	27.0
MAY				
25...	1320	.03	28.0	27.5
JUL				
09...	1330	.75	--	27.0
25...	1525	2.7	27.0	26.0
AUG				
10...	1235	3.0	28.0	27.5
26...	1420	2.1	27.5	27.0
SEP				
19...	1200	1.3	28.0	27.0

CAROLINE ISLANDS, ISLAND OF PONAPE

16897900 - LEWI RIVER, PONAPE (LAT 06 55 32 LONG 158 12 18)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
29...	1355	.59	31.0	27.0
DEC				
01...	1030	.39	28.0	25.0
15...	1015	.74	28.0	25.0
JAN , 1983				
05...	0940	.66	27.5	24.0
20...	1100	.44	28.0	24.0
FEB				
03...	0930	.19	27.0	24.0
15...	0950	.23	26.0	24.0
MAR				
02...	1015	.20	28.0	24.5
APR				
12...	0950	.03	32.0	26.0
26...	1340	.12	32.0	27.0
MAY , 1983				
24...	1040	.13	31.0	26.0
JUN				
07...	0955	.30	29.0	25.0
21...	1045	2.2	29.0	25.0
JUL				
06...	1045	11	29.0	25.0
AUG				
17...	1045	2.6	30.0	25.0
30...	1100	3.0	29.0	24.0
SEP				
14...	1030	1.2	29.0	24.0
26...	1045	5.3	29.0	24.0

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

SAMOA ISLANDS, ISLAND OF TUTUILA

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
01...	1200	.60	27.0	26.0
26...	1455	.28	27.0	25.0
DEC				
02...	0755	.71	25.0	24.0
JAN , 1983				
06...	0945	3.3	25.5	24.0
FEB				
01...	1155	.48	26.0	25.0
MAR				
03...	1045	2.1	24.0	24.0
APR				
08...	0850	1.9	25.0	24.0
MAY , 1983				
04...	1015	.90	25.5	25.0
10...	1450	.43	26.0	24.0
24...	1230	.26	26.0	24.0
JUN				
10...	1255	.25	26.0	24.0
AUG				
23...	0935	.25	25.0	24.0
30...	1345	.14	30.0	27.0
SEP				
09...	1150	.16	25.5	24.0

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
22...	0915	3.2	25.5	24.0
DEC				
28...	0915	1.3	25.0	24.0
FEB , 1983				
03...	0805	1.9	24.5	24.0
11...	0850	2.1	26.0	25.0
APR				
05...	0820	2.4	26.0	24.0
MAY , 1983				
26...	0855	1.3	26.0	25.0
JUL				
26...	0830	.56	27.0	25.0
AUG				
16...	0855	.34	25.0	24.0
SEP				
27...	0800	2.7	24.0	24.0

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
05...	1140	.55	26.0	25.0
NOV				
02...	1305	.66	27.0	26.0
DEC				
07...	1035	.45	25.0	25.0
JAN , 1983				
12...	1000	.33	25.0	24.0
FEB				
17...	0830	.55	25.0	24.0
MAR				
17...	0920	.33	26.5	25.0
MAR , 1983				
31...	0930	.53	27.0	25.0
APR				
20...	0945	.68	26.0	24.0
MAY				
24...	1000	.21	27.0	26.0
AUG				
09...	0810	.19	24.0	24.0
31...	1250	.11	24.0	22.0
SEP				
01...	1135	.18	27.0	25.0

16931500 - ASILI STR AT ALT 330 FT (100M) NR ASILI,TUTUILA (LAT 14 19 34 LONG 170 47 38)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
05...	1005	.62	24.0	23.5
28...	0955	.71	24.5	24.0
NOV				
03...	1005	1.8	24.0	23.0
DEC				
08...	1015	.84	25.0	24.0
JAN , 1983				
11...	0950	1.3	25.0	24.0
FEB				
15...	0925	.62	25.0	24.0
MAR				
22...	1045	1.2	25.0	24.0
APR , 1983				
12...	1000	3.3	25.0	23.0
MAY				
03...	1000	1.4	25.0	24.0
12...	0940	.81	26.0	24.0
JUN				
07...	1020	.63	26.0	24.0
AUG				
09...	1005	.22	24.0	23.0
SEP				
13...	0935	.30	24.0	22.0

SAMOA ISLANDS, ISLAND OF TUTUILA--Continued

16933500 - LEAFU STR AT ALT 370 FT (113M) NR LEONE, TUTUILA (LAT 14 19 31 LONG 170 46 50)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
06...	0855	1.4	25.0	24.0
27...	1020	1.3	24.0	23.0
NOV				
03...	1200	3.5	24.0	24.0
DEC				
09...	0920	1.7	25.0	24.0
JAN , 1983				
17...	0925	2.0	25.0	24.0
FEB				
22...	0920	1.7	25.0	24.0
MAR				
01...	1020	5.0	26.0	25.0
09...	0900	4.0	24.0	23.5
29...	0930	2.5	24.0	23.0
APR , 1983				
19...	0930	3.6	24.0	24.0
MAY				
10...	0920	1.5	24.0	24.0
JUN				
08...	1025	1.1	26.0	24.0
JUL				
14...	1055	.53	24.0	22.0
AUG				
09...	1255	.34	24.0	23.0
SEP				
06...	0850	.56	24.0	23.5
20...	0855	.48	24.0	22.0

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

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
08...	0910	.07	26.0	25.0
26...	0900	.07	25.0	24.0
NOV				
02...	1445	.08	25.0	24.0
JAN , 1983				
13...	0940	.64	25.0	22.0
14...	0800	.22	25.0	24.0
FEB				
16...	1305	.22	25.0	22.0
MAR				
23...	0825	1.4	24.0	24.0
28...	1505	.12	23.0	22.0
APR , 1983				
27...	1125	.14	26.0	24.0
JUN				
09...	1230	.05	25.0	24.0
JUL				
13...	1120	.02	25.0	24.0
AUG				
18...	1010	.01	26.0	24.0
SEP				
07...	0900	.05	24.0	22.0
23...	1220	.04	24.0	22.0
29...	0905	.36	24.0	22.0

16963900 - LEAFU STREAM NEAR AUASI, TUTUILA (LAT 14 16 27 LONG 170 34 26)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)
OCT , 1982				
01...	0920	.08	27.0	26.0
20...	0830	.05	26.0	25.0
NOV				
04...	0920	.05	26.0	25.0
18...	1035	.04	26.0	25.0
DEC				
21...	1210	.04	21.0	20.0
MAR , 1983				
17...	1250	.06	22.0	22.0
APR				
21...	1330	.04	24.0	22.0
26...	1150	.06	26.0	24.0
MAY , 1983				
05...	1135	.04	28.0	25.0
13...	1055	.04	24.0	22.0
25...	1035	.04	26.0	24.0
JUN				
23...	0955	.04	26.0	24.0
JUL				
08...	1110	.02	28.0	26.0
AUG				
10...	1355	.02	26.0	24.0
SEP				
15...	1030	.03	24.0	22.0

MARIANA ISLANDS, ISLAND OF PAGAN

180800145470570. Local number, 12-0745-05 Well 5.

LOCATION.--Lat 18°07'25" N., long 145°45'53" E., Hydrologic Unit 20100006, at southwest corner of airfield and 2.2 mi southwest of Mt. Pagan.

AQUIFER.--Alluvium or marine tuff.

WELL CHARACTERISTICS.--Hand-dug, diameter 3.0 ft, lined with concrete about 3-in thick, in 2 to 3 ft sections. Depth 15.6 ft.

DATUM.--Land-surface datum is 14 ft. Measuring point: Top of concrete casing, 15.55 ft, above mean sea level, established by the U.S. Army in 1950.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, MARCH 1983

DATE	MAXIMUM	MEAN	MINIMUM
MAR 7	1.31	1.08	.91
8	1.37	1.17	.91
9	1.23	1.07	.89
10	1.30	1.12	.82
11	1.33	1.14	.90

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
MAR 07...	0920	3950	6.8	26.0	3.8	.9	5500	840	190	180	96

DATE	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	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)
MAR 07...	500	55	8	32	656	21	960	.20	66	2200	2.00

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
MAR 07...	170	1	<100	<10	<1	10	1	13	690	480	210

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
MAR 07...	4	10	1200	0	1200	<.1	<1	7	<1	<1	110

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

MARIANA ISLANDS, ISLAND OF PAGAN

18080014547070. Local number, 12-0745-06 Well 6.

LOCATION.--18°07'40" N., long 145°45'44" E., Hydrologic Unit 20100006, at southern corner of Shomushon Harbor, and 2.1 mi southwest of Mt. Pagan.

AQUIFER.--Marine Tuff.

WELL CHARACTERISTICS.--Hand-dug, diameter 3.0 ft, line with concrete about 3-in thick, in 2 to 3 ft sections. Depth 11.3 ft.

DATUM.--Land-surface datum is 9 ft. Measuring point: Top of concrete casing, 9.80 ft, above mean sea level, established by the U.S. Army in 1950.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, MARCH 1983

DATE	MAXIMUM	MEAN	MINIMUM
MAR 10	1.11	.70	.21
11	1.00	.62	.13
12	.97	.57	0.0
13	.97	.55	-.08
14	1.20	.77	.18

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
MAR 07...	1015	15900	6.4	26.5	1.4	1.0	>10000	2100	1840	230	360

DATE	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	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)
MAR 07...	2700	73	26	92	221	760	4900	.30	55	9200	<.100

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
MAR 07...	90	2	<100	<10	1	20	1	17	280	220	60

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
MAR 07...	2	40	170	20	150	<.1	4	7	<1	<1	70

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

MARIANA ISLANDS, ISLAND OF PAGAN

180800145470470. Local number, 12-0746-04 Well 4.

LOCATION.--Lat 18°07'38" N., long 145°46'01" E., Hydrologic Unit 20100006, in Shomushon, 1.0 mi south of Lagona Lake, and 1.9 mi southwest of Mt. Pagan.

AQUIFER.--Marine Tuff.

WELL CHARACTERISTICS.--Hand-dug, 4.0 ft sq, lined with concrete about 4-in thick. Depth 32.8 ft.

DATUM.--Land-surface datum is 32 ft. Measuring point: Top of concrete casing, 34.15 ft, above mean sea level, established by the U.S. Army in 1950.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, MARCH 1983

DATE	MAXIMUM	MEAN	MINIMUM
MAR 5	2.24	2.07	1.82
6	2.32	2.11	1.85
7	2.36	2.15	1.86
8	2.38	2.18	1.85
9	2.31	2.17	1.85
10	2.37	2.14	1.83

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
MAR 07...	0830	1840	7.1	28.0	.60	4.5	150	280	92	48	40

DATE	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	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)
MAR 07...	260	65	7	14	193	74	430	.40	44	1000	1.40

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
MAR 07...	110	4	100	<10	<1	10	1	9	20	20	4

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
MAR 07...	<1	20	<10	2	<.1	3	9	1	<1	20

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

MARIANA ISLANDS, ISLAND OF PAGAN

180800145470770. Local number, 12-0845-07 Well 7.

LOCATION.--Lat 18°08'08" N., long 145°45'57" E., Hydrologic Unit 20100006, 0.5 mi north of Shomushon, Bay and 1.7 mi southwest of Mt. Pagan.

AQUIFER.--Alluvium over lava.

WELL CHARACTERISTICS.--Hand-dug, diameter 3.0 ft, lined with concrete about 3-in thick, in 2 to 3 ft sections. Depth 35.7 ft.

DATUM.--Land-surface datum is 33 ft. Measuring point: Top of concrete casing, 33.94 ft, above mean sea level, established by the U.S. Army in 1950.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, MARCH 1983

DATE	MAXIMUM	MEAN	MINIMUM
MAR 12	1.82	1.32	.50
13	1.84	1.30	.45

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
MAR 07...	1315	7460	6.8	34.5	.70	5.1	70	1000	684	150	160

DATE	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	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)
MAR 07...	1300	72	18	61	350	360	2200	1.3	55	4500	.670

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
MAR 07...	120	6	<100	<10	1	10	1	11	70	40	30

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
MAR 07...	<1	70	10	0	10	.1	7	11	2	<1	60

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

MARIANA ISLANDS, ISLAND OF PAGAN

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

180800145471170 - 12-0745-11 KAIPUT'S CISTERN, PAGAN

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
MAR 07...	0815	235	7.2	24.0	.40	8.7	200	78	51	29	1.4

DATE	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	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)
MAR 07...	10	21	.5	2.0	27	24	34	2.2	4.9	120	1.00

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
MAR 07...	180	<1	100	<10	1	10	1	5	110	70	39

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
MAR 07...	<1	<10	20	7	13	<.1	<1	7	1	<1	900

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

MARIANA ISLANDS, ISLAND OF PAGAN

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

180800145471870 - 12-0745-18 OCEAN WATER AT SHOMUSHON BAY, PAGAN

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	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)
MAR 12...	2030	50100	7.5	26.0	.30	8.5	5900	5820	400	1200	9300

DATE	PERCENT SODIUM	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)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
MAR 12...	76	53	330	128	2700	16000	.70	3.5	30000	.120	30

DATE	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
MAR 12...	1	100	<10	<1	40	1	2	160	40	120	<1

DATE	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
MAR 12...	140	30	0	30	<.1	9	10	<1	<1	20

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

180800145471570 - 12-0846-15 LAGONA LAKE, PAGAN

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
MAR 12...	1610	21400	7.9	27.0	1.1	9.0	150	2700	2620	440	390

DATE	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	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)
MAR 12...	3500	73	30	120	87	940	7000	1.9	4.1	12000	<.100

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
MAR 12...	160	2	100	<10	1	20	1	5	130	90	40

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
MAR 12...	<1	50	20	0	20	<.1	9	9	2	<1	20

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

MARIANA ISLANDS, ISLAND OF PAGAN

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

180800145471670 - 12-0946-16 INNER LAKE, PAGAN

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
MAR 12...	1545	11600	6.8	28.0	.40	7.0	15	1300	1150	260	160

DATE	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	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)
MAR 12...	1800	73	22	94	160	390	3500	1.4	80	6400	<.100

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
MAR 12...	40	7	<100	<10	<1	20	1	3	40	0	50

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
MAR 12...	11	110	20	0	20	.1	7	11	2	<1	20

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

180800145471770 - 12-0946-17 WARM SPRINGS, PAGAN

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARBONATE (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
MAR 12...	1530	10300	6.9	41.0	.30	5.0	.00	1400	1270	280	180

DATE	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	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)
MAR 12...	1900	73	22	100	174	440	3600	1.1	92	6700	1.90

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
MAR 12...	40	15	<100	<10	<1	20	1	2	60	0	60

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
MAR 12...	<1	120	10	0	10	<.1	8	8	2	<1	10

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

MARIANA ISLANDS, ISLAND OF SAIPAN

151032145460370. Local number, 14-1045-09 (formerly 1046300) Hakmang Well 78.

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

AQUIFER.--Tagpochau Limestone.

WELL CHARACTERISTICS.--Drilled artesian basal water-table well, diameter 12 in, depth 369 ft.

DATUM.--Altitude of land-surface datum is 229 ft. Measuring point: Top of casing, about 230 ft 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 above mean sea level, Sept. 17, 1975; lowest, 18.40 ft above mean sea level, Aug. 24, 1982.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.87	18.76	18.83	18.81	18.60	18.88	18.92	18.92	18.92	19.01	18.96	19.06
2	18.91	18.76	18.82	18.81	18.62	18.87	18.92	18.91	18.93	19.01	18.95	19.06
3	19.03	18.75	18.78	18.81	18.63	18.87	18.92	18.90	18.94	19.05	18.96	19.06
4	18.95	18.74	18.78	18.80	18.63	18.84	18.93	18.89	18.94	19.04	18.96	19.07
5	19.02	18.75	18.79	18.81	18.61	18.84	18.93	18.89	18.92	19.03	18.95	19.10
6	19.02	18.76	18.77	18.79	18.64	18.84	18.93	18.88	18.93	19.04	18.94	19.09
7	19.02	18.76	18.77	18.80	18.64	18.84	18.94	18.87	18.94	19.05	18.96	19.10
8	19.04	18.75	18.76	18.79	18.64	18.82	18.94	18.87	18.95	19.04	18.98	19.10
9	19.02	18.72	18.76	18.75	18.65	18.82	18.95	18.86	18.95	19.06	19.01	19.12
10	19.10	18.72	18.76	18.77	18.65	18.81	18.95	18.85	18.95	19.06	19.01	19.12
11	18.96	18.75	18.76	18.77	18.68	18.83	18.97	18.86	18.95	19.07	19.02	19.12
12	19.01	18.75	18.78	18.76	18.69	18.84	18.97	18.87	18.95	19.07	19.03	19.10
13	19.02	18.75	18.79	18.74	18.73	18.83	18.96	18.89	18.95	19.08	19.03	19.10
14	19.06	18.74	18.80	18.72	18.75	18.83	18.94	18.89	18.96	19.08	19.04	19.08
15	19.06	18.73	18.82	18.70	18.77	18.83	18.94	18.90	18.98	19.07	19.04	19.07
16	19.06	18.72	18.81	18.69	18.77	18.86	18.96	18.90	18.99	19.07	19.05	19.06
17	---	18.75	18.84	18.68	18.79	18.87	18.96	18.89	18.99	19.06	19.04	19.05
18	---	18.76	18.83	18.69	18.81	18.89	18.96	18.91	18.99	19.05	19.04	19.05
19	---	18.78	18.83	18.70	18.81	18.88	18.96	18.91	18.99	19.04	19.03	19.06
20	---	18.78	18.84	18.70	18.80	18.89	18.96	18.92	18.99	19.03	19.02	19.05
21	---	18.79	18.83	18.68	18.81	18.89	18.98	18.93	18.99	19.02	19.02	19.06
22	---	18.79	18.85	18.67	18.84	18.92	18.98	18.94	19.00	19.01	19.02	19.05
23	---	18.80	18.85	18.64	18.83	18.94	18.97	18.94	19.00	18.99	19.05	19.06
24	---	18.78	18.83	18.64	18.84	18.94	18.95	18.94	18.99	18.98	19.05	19.07
25	---	18.79	18.82	18.71	18.86	18.93	18.94	18.95	18.99	18.98	19.06	19.08
26	---	18.82	18.82	18.75	18.86	18.91	18.94	18.94	18.99	18.97	19.06	19.08
27	---	18.81	18.81	18.66	18.87	18.92	18.94	18.93	18.99	18.95	19.05	19.07
28	---	18.82	18.80	18.65	18.88	18.92	18.94	18.92	18.99	18.94	19.06	19.09
29	---	18.81	18.80	18.64	---	18.92	18.96	18.91	18.99	18.96	19.06	19.08
30	---	18.82	18.81	18.64	---	18.92	18.94	18.91	19.00	18.95	19.06	19.08
31	18.75	---	18.82	18.62	---	18.92	---	18.92	---	18.96	19.06	---
MEAN	---	18.77	18.81	18.72	18.74	18.87	18.95	18.90	18.97	19.02	19.02	19.08
MAX	---	18.82	18.85	18.81	18.88	18.94	18.98	18.95	19.00	19.08	19.06	19.12
MIN	---	18.72	18.76	18.62	18.60	18.81	18.92	18.85	18.92	18.94	18.94	19.05

MARIANA ISLANDS, ISLAND OF SAIPAN

151130145445970. Local number, 14-1144-07 (formerly 1144330) Akgak Well 31.

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

AQUIFER.--Tagpochan Limestone.

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 407.97 ft above mean sea level, Dec. 24, 1982; lowest, 377.20 ft above mean sea level, Sept. 23, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, JUNE TO SEPTEMBER 1982
MEAN VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 29	385.14	JUL 12	383.69	JUL 25	382.48	AUG 7	381.90	AUG 20	381.76	SEP 1	381.75
30	385.02	13	383.59	26	382.41	8	381.88	21	381.69	2	381.70
JUL 1	384.90	14	383.50	27	382.35	9	381.86	22	381.64	3	381.65
2	384.80	15	383.41	28	382.28	10	381.84	23	381.60	4	381.64
3	384.69	16	383.31	29	382.22	11	381.82	24	381.59	23	382.67
4	384.59	17	383.23	30	382.13	12	381.79	25	381.59	24	382.63
5	384.48	18	383.13	31	382.10	13	381.78	26	381.63	25	382.60
6	384.38	19	383.03	AUG 1	382.09	14	381.80	27	381.67	26	382.59
7	384.27	20	383.91	2	382.08	15	381.81	28	381.70	27	382.50
8	384.28	21	382.80	3	382.06	16	381.81	29	381.71	28	382.47
9	384.10	22	382.73	4	382.02	17	381.81	30	381.73	29	382.43
10	383.97	23	382.64	5	381.97	18	381.80	31	381.72	30	382.33
11	383.79	24	382.56	6	381.93	19	381.78				

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	382.27		---	405.55	398.20	388.30	382.00	380.65	378.85	378.16	377.88	377.57
2	382.24		---	405.15	398.00	388.00	381.90	382.28	378.80	378.15	377.87	377.56
3	382.38		---	405.00	397.70	387.70	381.80	381.65	378.76	378.12	377.84	377.51
4	382.44		---	404.42	397.50	387.40	381.70	381.38	378.87	378.10	377.79	377.45
5	382.44		---	404.95	397.30	387.20	381.70	380.90	378.80	378.12	377.75	377.43
6	382.47		---	405.35	397.00	387.10	381.60	380.65	378.70	378.10	377.71	377.41
7	382.56		---	405.12	396.60	387.10	381.60	380.44	378.68	378.10	377.68	377.40
8	---		---	404.90	396.20	387.20	381.52	380.33	378.65	378.08	377.65	377.40
9	---		---	404.40	395.80	387.30	381.48	380.24	378.61	378.06	377.64	377.35
10	---		---	404.40	395.30	387.00	381.43	380.16	378.57	378.04	377.63	377.33
11	---		---	404.23	394.80	386.60	381.40	380.80	378.53	378.02	377.61	377.77
12	---		---	403.70	394.40	386.30	381.35	381.50	378.50	378.00	377.58	377.83
13	---		---	403.50	394.00	386.00	381.32	380.70	378.48	377.99	377.58	377.75
14	---		h407.38	403.48	393.70	385.70	381.28	380.30	378.44	377.98	377.57	377.71
15	---		406.85	403.15	393.40	385.40	381.25	380.05	378.41	377.98	377.58	377.95
16	---		406.78	402.45	393.20	385.20	381.25	379.93	378.40	377.99	377.59	377.70
17	---		406.59	402.20	393.00	384.90	381.18	379.82	378.37	378.04	377.60	377.56
18	---	h406.82	406.43	401.85	392.50	384.70	381.09	379.75	378.34	378.01	377.60	377.46
19	---		406.13	401.60	392.10	384.50	381.02	379.65	378.31	377.99	377.59	377.35
20	---		406.17	400.95	391.60	384.30	380.97	379.60	378.30	377.98	377.58	377.31
21	---		406.16	401.00	391.00	384.00	380.90	379.50	378.28	377.98	377.57	377.27
22	---		406.60	400.76	390.60	383.80	380.82	379.43	378.35	377.97	377.55	377.22
23	---		406.80	400.13	390.20	383.50	380.79	379.36	378.40	377.95	377.55	377.24
24	---		407.70	400.00	389.80	383.20	380.74	379.30	378.27	377.90	377.54	377.27
25	h393.67		406.85	399.56	389.50	383.00	380.70	379.25	378.24	377.89	377.52	377.27
26	---		406.28	399.52	389.20	382.80	380.65	379.18	378.21	377.88	377.50	377.38
27	---		406.20	399.28	388.90	382.60	380.56	379.11	378.20	377.87	377.50	377.31
28	---		405.90	399.30	388.60	382.40	380.54	379.09	378.19	377.87	377.50	377.26
29	---		406.07	399.55	---	382.30	380.58	379.02	378.18	377.88	377.50	377.26
30	---		405.75	398.60	---	382.20	380.52	378.95	378.17	377.88	377.50	377.26
31	---		405.50	398.40	---	382.10	---	378.90	---	377.88	377.48	---
MEAN	---		---	402.34	393.57	385.15	381.19	380.06	378.46	378.00	377.61	377.45
MAX	---		---	405.55	398.20	388.30	382.00	382.28	378.87	378.16	377.88	377.95
MIN	---		---	398.40	388.60	382.10	380.52	378.90	378.17	377.87	377.48	377.22

h Tape measurement.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

150730145431370 - 14-0743-11 KOBLER FIELD 111

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 18...	1200	1320	28.5	270
MAR 02...	1430	3760	26.5	1000
JUN 30...	1738	4040	28.0	1200
SEP 08...	0945	--	28.5	1200

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
NOV 18...	1200	7.1	350	126	110	18	120	42	3

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	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 18...	4.7	223	30	<.10	8.8	700	3.60	28	3

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

150730145435270 - 14-0743-17 ISLEY FIELD 103

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV					JUN				
18...	1110	874	28.5	110	30...	1645	970	28.5	120
MAR					SEP				
02...	1345	940	27.5	120	08...	0910	--	28.5	130

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
NOV									
18...	1110	7.0	330	67	120	6.9	52	26	1

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	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									
18...	2.0	262	11	<.10	6.5	470	4.00	37	3

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

151026145454970 - 14-1046-08 HAKMANG WELL 76

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM
JUL 02...	1355	883	28.5	360	130	7.6	42	20
SEP 08...	1450	--	28.0	--	--	--	--	--

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	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)
JUL 02...	1	1.5	--	<.10	26	1.50	4	<1
SEP 08...	--	--	75	--	--	--	--	--

151250145444170 - 14-1244-09 MAUI IV 144

DATE	TIME	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
NOV 18...	1350	2110	28.0	--	--	--	--	--	--	--
JUL 01...	1250	2520	28.0	560	384	140	52	470	64	9
SEP 08...	1345	--	27.5	--	--	--	--	--	--	--

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)
NOV 18...	--	--	--	460	--	--	--	--	--	--
JUL 01...	15	180	330	860	<.10	7.6	2000	2.50	40	10
SEP 08...	--	--	--	1100	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

151315145441670 - 14-1344-16 WELL 164 PUERTO RICO

DATE	TIME	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										
01...	1055	9400	28.5	1300	1130	250	170	1500	70	18
SEP										
08...	1330	--	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)
JUL										
01...	41	196	360	2800	<.10	8.2	5200	1.80	40	10
SEP										
08...	--	--	--	4500	--	--	--	--	--	--

151312145443970 - 14-1344-17 WELL 148 AS RAPUGAO

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	HARDNESS (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									
01...	1021	596	27.5	270	100	4.7	28	18	.8
SEP									
09...	1015	--	28.0	--	--	--	--	--	--

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	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)
JUL								
01...	2.6	7.9	51	<.10	9.1	3.10	6	<1
SEP								
09...	--	--	60	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

151309145443870 - 14-1344-18 WELL 149 AS RAPUGAO

DATE	TIME	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
JUL 01...	1104	596	27.0	250	5	94	4.6	18	13	.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)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	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)
JUL 01...	.80	249	6.7	29	<.10	9.2	310	3.20	10	2

151309145443370 - 14-1344-19 WELL 150 AS RAPUGAO

DATE	TIME	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
APR 23...	1000	639	--	270	7	100	4.7	23	16	.6
JUL 01...	1045	596	27.5	260	--	96	4.7	19	14	.5
SEP 09...	1025	--	28.0	--	--	--	--	--	--	--

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)	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)
APR 23...	2.9	263	8.8	42	<.10	8.6	350	--	9	2
JUL 01...	1.1	--	--	--	<.10	10	--	2.60	<3	3
SEP 09...	--	--	--	34	--	--	--	--	--	--

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

GROUND-WATER RECORDS

MARIANA ISLANDS, ISLAND OF SAIPAN

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

151508145465370 - 14-1546-03 WELL 171 MATANSA

DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	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
JUN 30...	0645	188	26300	3200	2670	330	570	5200	77	41

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)	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)
JUN 30...	130	500	550	9300	.10	10	16000	<.100	160	5000

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

MARIANA ISLANDS, ISLAND OF SAIPAN

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	DATE OF SAMPLE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
150723145431170	14-0742-06	15 07 23	145 43 11	82-11-18	1145	5150	28.0	1400
				83-09-08	0925	--	28.0	1400
150737145431070	14-0742-07	15 07 37	145 43 10	82-11-18	1210	1520	28.0	320
				83-03-02	1455	1350	27.0	260
				83-06-30	1755	2510	28.0	620
				83-09-08	0955	--	28.5	680
150744145430370	14-0742-08	15 07 44	145 43 03	82-11-18	1215	3170	28.0	800
				83-09-08	1000	--	28.0	1000
150732145431270	14-0742-09	15 07 32	145 43 12	82-11-18	1205	1870	28.0	430
				83-06-30	1305	5150	28.0	1300
				83-09-08	0950	--	28.5	1400
150731145430870	14-0742-11	15 07 31	145 43 08	82-11-18	1205	1220	28.0	200
				83-03-02	1435	3600	27.0	980
				83-06-30	--	4470	28.0	1200
				83-09-08	0952	--	28.0	1300
150732145432070	14-0743-09	15 07 32	145 43 20	82-11-18	1155	3510	28.0	920
				83-03-02	1425	4060	26.5	1100
				83-09-08	0930	--	28.0	1600
150728145431470	14-0743-10	15 07 28	145 43 14	82-11-18	1150	1360	28.0	270
				83-06-30	1246	3670	28.0	1000
				83-09-08	0935	--	28.0	1200
150736145430070	14-0743-13	15 07 36	145 43 00	83-03-02	1500	1090	26.5	180
				83-06-30	1805	1450	27.0	300
150737145440670	14-0743-18	15 07 37	145 44 06	82-11-18	1125	1580	28.0	310
				83-03-02	1410	1760	27.5	360
				83-06-30	1712	1800	28.5	380
				83-09-08	0825	--	28.5	330
150749145434170	14-0743-19	15 07 49	145 43 41	82-11-18	1140	1620	28.0	320
				83-03-02	1415	1730	28.0	360
				83-06-30	1130	1790	29.0	370
				83-09-08	0820	--	29.0	400
150731145440370	14-0743-22	15 07 31	145 44 03	82-11-18	1105	1160	28.0	190
				83-03-02	1400	1490	28.5	300
				83-06-30	1655	1790	28.5	370
				83-09-08	0900	--	28.5	430
150738145435870	14-0743-23	15 07 38	145 43 58	82-11-18	1055	1120	--	180
				83-03-02	1335	1420	27.5	260
				83-06-30	1608	1640	28.5	320
				83-09-08	0850	--	28.5	300
150743145435470	14-0743-24	15 07 43	145 43 54	82-11-18	1135	1680	28.0	340
				83-03-02	1320	1750	28.5	360
				83-06-30	1550	1880	28.0	400
				83-09-08	0830	--	28.5	430
150740145435570	14-0743-25	15 07 40	145 43 55	82-11-18	1130	1180	28.0	190
				83-03-02	1330	1370	26.5	240
				83-06-30	1601	1450	28.5	260
				83-09-08	0835	--	28.5	260
150733145435970	14-0743-26	15 07 27	145 43 44	82-11-18	1100	1160	28.0	190
				83-03-02	1340	1420	27.5	260
				83-06-30	1635	1600	28.5	320
				83-09-08	0855	--	28.5	340

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	DATE OF SAMPLE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
150722145434570	14-0743-27	15 07 22	145 43 45	83-03-02	1350	1890	28.0	410
				83-06-30	1705	1870	28.5	400
				83-09-08	0905	--	28.5	400
150905145435670	14-0943-01	15 09 05	145 43 56	82-11-18	1635	3420	28.5	850
				83-09-08	0810	--	29.0	610
151021145460870	14-1046-03	15 10 21	145 46 08	83-09-08	1500	--	28.0	340
151127145434270	14-1143-02	15 11 27	145 43 42	83-03-02	1610	1400	28.0	270
				83-07-01	1015	1470	29.0	300
				83-09-08	1315	--	29.0	270
151127145434070	14-1143-05	15 11 27	145 43 40	82-11-18	1330	2780	28.0	700
				83-03-02	1600	2910	29.0	780
				83-06-30	1020	3140	30.5	820
				83-09-08	1305	--	30.5	1000
151133145445770	14-1144-05	15 11 33	145 44 57	83-09-08	1440	--	30.0	21
151124145445670	14-1144-10	15 11 24	145 44 56	83-09-08	1435	--	28.0	25
151248145443470	14-1244-05	15 12 48	145 44 34	82-11-18	1400	3980	28.0	1000
				83-07-01	--	5500	32.5	1500
				83-09-08	1400	--	27.5	2000
151239145441870	14-1244-07	15 12 39	145 44 18	83-09-08	1405	--	27.5	1200
151246145443770	14-1244-08	15 12 46	145 44 37	82-11-18	1425	4340	28.0	1200
				83-03-02	1545	4360	27.5	1200
				83-07-01	1230	5670	28.0	1600
				83-09-08	1410	--	27.0	2000
151250145443370	14-1244-10	15 12 50	145 44 33	82-11-18	1355	4690	28.0	1300
				83-03-02	1535	7350	28.5	2200
				83-07-01	1200	9450	29.0	2900
				83-09-08	1350	--	28.5	3400
151244145442270	14-1244-12	15 12 44	145 44 22	83-03-02	1550	12400	27.0	4100
				83-07-01	1205	27500	29.0	9500
				83-09-08	1355	--	28.5	5400
151312145441570	14-1344-14	15 13 12	145 44 15	83-07-01	1105	6420	28.0	1600
				83-09-08	1325	--	28.0	1600
151314145441570	14-1344-15	15 13 14	145 44 15	83-07-01	1045	7540	28.0	2300

MARIANA ISLANDS, ISLAND OF GUAM

132624144452771. Local number, 18-2645-07 (formerly 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 west of juncrtion of Routes 4 and 10, Ordot. Owner: Government of Guam.

AQUIFER.--Mariana Limestone and Alutom formation.

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

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

PERIOD OF RECORD.--January 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 54.03 ft above mean sea level, Oct. 21, 1980; lowest, 32.92 ft above mean sea level, Aug. 11, 12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45.70	49.85	48.45	46.05	42.48	39.58	37.04	35.23	34.05	33.42	33.04	34.46
2	45.90	49.82	48.38	45.96	42.38	39.48	36.96	35.17	34.03	33.41	33.03	34.60
3	46.10	49.78	48.29	45.85	42.27	39.40	36.88	35.14	34.00	33.39	33.02	34.70
4	46.25	49.76	48.24	45.75	42.16	39.33	36.82	35.10	33.96	33.37	33.00	34.81
5	46.40	49.70	48.19	45.64	42.05	39.27	36.75	35.03	33.94	33.36	32.99	34.86
6	46.60	49.64	48.16	45.56	41.92	39.19	36.69	34.99	33.91	33.34	32.98	34.89
7	46.75	49.61	48.10	45.42	41.81	39.12	36.63	34.94	33.88	33.32	32.96	34.91
8	46.95	49.59	48.03	45.29	41.70	39.07	36.58	34.90	33.86	33.31	32.95	34.91
9	47.10	49.58	47.96	45.18	41.59	38.98	36.52	34.86	33.84	33.29	32.94	34.92
10	47.30	49.56	47.90	45.08	41.49	38.92	36.45	34.81	33.83	33.27	32.93	34.96
11	47.45	49.54	47.81	44.96	41.38	38.85	36.39	34.76	33.79	33.26	32.92	35.01
12	47.60	49.52	47.73	44.83	41.27	38.76	36.33	34.73	33.78	33.25	32.92	35.06
13	47.80	49.50	47.63	44.73	41.16	38.67	36.27	34.70	33.76	33.24	32.93	35.10
14	48.00	49.46	47.56	44.59	41.06	38.59	36.19	34.67	33.74	33.24	32.98	35.12
15	48.12	49.40	47.46	44.48	40.93	38.50	36.14	34.62	33.72	33.23	33.04	35.13
16	48.28	49.32	47.36	44.35	40.82	38.39	36.09	34.58	33.69	33.22	33.09	35.13
17	48.45	49.25	47.28	44.25	40.72	38.31	36.01	34.52	33.68	33.20	33.11	35.11
18	48.60	49.18	47.18	44.14	40.62	38.21	35.94	34.50	33.65	33.19	33.14	35.15
19	48.73	49.12	47.08	44.03	40.51	38.11	35.88	34.45	33.64	33.18	33.18	35.22
20	48.90	49.05	47.00	43.90	40.41	38.04	35.82	34.41	33.63	33.17	33.22	35.31
21	49.10	48.96	46.92	43.76	40.32	37.93	35.77	34.38	33.62	33.15	33.25	35.41
22	49.27	48.88	46.85	43.65	40.22	37.85	35.71	34.35	33.61	33.14	33.30	35.63
23	49.46	48.79	46.76	43.55	40.12	37.74	35.66	34.31	33.59	33.13	33.37	35.86
24	49.61	48.72	46.68	43.42	40.03	37.66	35.61	34.26	33.57	33.12	33.45	36.11
25	49.72	48.68	46.60	43.28	39.92	37.58	35.56	34.24	33.56	33.12	33.55	36.32
26	49.78	48.64	46.53	43.17	39.82	37.48	35.50	34.20	33.53	33.10	33.65	36.50
27	49.83	48.60	46.45	43.05	39.72	37.41	35.46	34.18	33.51	33.09	33.77	36.63
28	49.85	48.56	46.37	42.92	39.65	37.33	35.39	34.15	33.49	33.08	33.89	36.72
29	49.87	48.52	46.30	42.82	---	37.25	35.34	34.13	33.46	33.08	34.03	36.79
30	49.89	48.48	46.23	42.71	---	37.17	35.29	34.11	33.44	33.06	34.17	36.86
31	49.88	---	46.13	42.61	---	37.10	---	34.09	---	33.05	34.32	---
MEAN	48.17	49.24	47.34	44.35	41.02	38.36	36.12	34.60	33.73	33.22	33.26	35.41
MAX	49.89	49.85	48.45	46.05	42.48	39.58	37.04	35.23	34.05	33.42	34.32	36.86
MIN	45.70	48.48	46.13	42.61	39.65	37.10	35.29	34.09	33.44	33.05	32.92	34.46

WTR YR 1983 MEAN 39.57 MAX 49.89 MIN 32.92

MARIANA ISLANDS, ISLAND OF GUAM

132644144480871. Local number, 18-2648-02 (formerly 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 southeast of junction of Routes 15 and 10, Mangilao. Owner: Ana P. Diaz.

AQUIFER.--Coralline Limestone, probably Miocene age.

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

DATUM.--Altitude of land-surface datum is 210 ft. Measuring point: Top of casing, 209.90 ft above mean sea level.

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

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

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.56	2.49	2.31	2.27	2.09	2.19	2.45	2.36	2.31	2.56	2.46	2.47
2	2.58	2.49	2.38	2.28	2.07	2.21	2.43	2.33	2.29	2.58	2.46	2.48
3	2.66	2.49	2.34	2.28	2.06	2.21	2.42	2.30	2.29	2.61	2.47	2.53
4	2.80	2.46	2.28	2.28	2.05	2.20	2.41	2.27	2.29	2.63	2.48	2.55
5	2.86	2.47	2.23	2.26	2.02	2.20	2.39	2.24	2.27	2.62	2.50	2.55
6	2.91	2.49	2.20	2.26	1.99	2.21	2.35	2.22	2.25	2.63	2.52	2.60
7	2.90	2.52	2.16	2.25	1.97	2.22	2.31	2.19	2.25	2.64	2.56	2.63
8	2.90	2.52	2.13	2.24	1.95	2.20	2.28	2.18	2.27	2.64	2.57	2.63
9	2.92	2.49	2.11	2.24	1.95	2.18	2.27	2.19	2.28	2.67	2.58	2.62
10	2.89	2.46	2.09	2.23	1.94	2.18	2.25	2.21	2.29	2.71	2.57	2.60
11	2.85	2.45	2.05	2.22	1.93	2.20	2.25	2.23	2.30	2.75	2.58	2.57
12	2.82	2.44	2.03	2.20	1.93	2.22	2.28	2.26	2.31	2.74	2.61	2.55
13	2.79	2.40	2.04	2.19	1.96	2.24	2.31	2.29	2.33	2.74	2.63	2.53
14	2.79	2.39	2.05	2.19	2.00	2.25	2.32	2.34	2.34	2.74	2.64	2.51
15	2.78	2.37	2.05	2.19	2.03	2.26	2.32	2.35	2.36	2.74	2.63	2.49
16	2.78	2.35	2.07	2.18	2.04	2.29	2.35	2.34	2.39	2.74	2.61	2.49
17	2.77	2.34	2.08	2.16	2.05	2.31	2.38	2.32	2.40	2.71	2.58	2.48
18	2.74	2.31	2.12	2.15	2.06	2.33	2.39	2.34	2.42	2.70	2.52	2.49
19	2.71	2.29	2.13	2.15	2.07	2.33	2.38	2.35	2.43	2.69	2.43	2.49
20	2.72	2.27	2.13	2.18	2.05	2.34	2.38	2.36	2.44	2.68	2.41	2.50
21	2.73	2.27	2.14	2.17	2.03	2.35	2.37	2.38	2.47	2.70	2.39	2.59
22	2.73	2.24	2.17	2.14	2.03	2.36	2.37	2.39	2.48	2.66	2.37	2.61
23	2.71	2.22	2.19	2.11	2.03	2.36	2.37	2.40	2.49	2.64	2.38	2.63
24	2.69	2.20	2.20	2.10	2.02	2.37	2.36	2.41	2.51	2.62	2.40	2.66
25	2.67	2.19	2.20	2.10	2.06	2.35	2.35	2.40	2.52	2.59	2.43	2.66
26	2.67	2.20	2.22	2.11	2.09	2.34	2.34	2.39	2.53	2.57	2.46	2.66
27	2.61	2.24	2.24	2.12	2.12	2.34	2.35	2.38	2.53	2.59	2.46	2.66
28	2.56	2.27	2.26	2.11	2.16	2.37	2.35	2.36	2.53	2.58	2.46	2.66
29	2.52	2.28	2.27	2.10	---	2.41	2.37	2.34	2.54	2.57	2.46	2.66
30	2.50	2.29	2.26	2.11	---	2.43	2.37	2.33	2.54	2.48	2.47	2.65
31	2.48	---	2.27	2.10	---	2.45	---	2.32	---	2.47	2.47	---
MEAN	2.73	2.36	2.17	2.18	2.03	2.29	2.35	2.32	2.39	2.64	2.50	2.57
MAX	2.92	2.52	2.38	2.28	2.16	2.45	2.45	2.41	2.54	2.75	2.64	2.66
MIN	2.48	2.19	2.03	2.10	1.93	2.18	2.25	2.18	2.25	2.47	2.37	2.47

WTR YR 1983 MEAN 2.38 MAX 2.92 MIN 1.93

MARIANA ISLANDS, ISLAND OF GUAM

132824144464271. Local number, 18-2846-01 (formerly 2846541) ACEORP Tunnel.

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

AQUIFER.--Mariana Limestone.

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

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

PERIOD OF RECORD.--October 1954 to December 1959, September 1960 to May 1965, March 1973 to current year.

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

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.30	2.19	2.11	2.06	1.88	2.00	2.27	2.16	2.11	2.36	2.23	2.37
2	2.34	2.20	2.12	2.07	1.84	2.09	2.24	2.13	2.09	2.39	2.23	2.38
3	2.53	2.21	2.07	2.06	1.83	2.08	2.22	2.09	2.10	2.41	2.24	2.40
4	2.60	2.19	2.00	2.05	1.82	2.05	2.20	2.07	2.10	2.42	2.27	2.42
5	2.74	2.20	1.95	2.07	1.80	2.04	2.21	2.04	2.07	2.39	2.29	2.43
6	2.76	2.24	1.89	2.12	1.77	2.03	2.15	2.02	2.04	2.40	2.30	2.46
7	2.74	2.23	1.86	2.12	1.76	2.01	2.09	1.99	2.07	2.41	2.31	2.47
8	2.74	2.19	1.84	2.03	1.76	2.02	2.06	1.98	2.08	2.43	2.36	2.48
9	2.77	2.15	1.86	1.98	1.75	2.03	2.04	1.98	2.09	2.46	2.38	2.47
10	2.70	2.13	1.84	1.95	1.74	2.04	2.02	2.02	2.10	2.50	2.40	2.43
11	2.66	2.13	1.77	1.94	1.72	2.09	2.05	2.05	2.11	2.52	2.41	2.40
12	2.60	2.11	1.74	1.92	1.70	2.10	2.12	2.09	2.13	2.52	2.45	2.37
13	2.55	2.08	1.73	1.96	1.74	2.08	2.16	2.13	2.14	2.53	2.48	2.35
14	2.48	2.08	1.72	1.98	1.78	2.07	2.14	2.16	2.15	2.53	2.50	2.33
15	2.46	2.08	1.76	1.95	1.81	2.10	2.12	2.17	2.18	2.52	2.47	2.32
16	2.42	2.07	1.79	1.92	1.84	2.13	2.14	2.16	2.20	2.50	2.41	2.34
17	2.42	2.07	1.82	1.95	1.86	2.22	2.18	2.15	2.21	2.48	2.36	2.35
18	2.47	2.07	1.85	1.96	1.84	2.24	2.17	2.15	2.22	2.46	2.33	2.38
19	2.57	2.05	1.85	1.94	1.85	2.18	2.17	2.15	2.23	2.44	2.26	2.42
20	2.56	2.02	1.87	1.93	1.83	2.20	2.16	2.17	2.24	2.44	2.21	2.46
21	2.50	1.99	1.91	1.91	1.88	2.23	2.15	2.19	2.26	2.47	2.20	2.55
22	2.47	1.98	1.96	1.87	1.94	2.23	2.16	2.18	2.28	2.44	2.20	2.64
23	2.45	1.95	1.95	1.85	1.89	2.20	2.15	2.21	2.32	2.37	2.22	2.65
24	2.42	1.95	1.93	1.87	1.87	2.17	2.13	2.19	2.33	2.33	2.27	2.64
25	2.40	1.91	1.93	1.89	1.91	2.15	2.12	2.19	2.35	2.33	2.33	2.62
26	2.35	1.92	1.95	1.92	1.93	2.12	2.12	2.19	2.35	2.32	2.32	2.60
27	2.30	1.91	2.01	1.94	1.95	2.13	2.13	2.17	2.34	2.32	2.30	2.62
28	2.24	2.06	2.01	1.92	1.98	2.18	2.15	2.14	2.34	2.28	2.32	2.59
29	2.20	2.06	2.01	1.92	---	2.23	2.17	2.16	2.34	2.27	2.33	2.59
30	2.18	2.07	2.04	1.92	---	2.25	2.17	2.18	2.34	2.24	2.37	2.56
31	2.19	---	2.04	1.89	---	2.28	---	2.15	---	2.23	2.37	---
MEAN	2.49	2.08	1.91	1.96	1.83	2.13	2.15	2.12	2.20	2.41	2.33	2.47
MAX	2.77	2.24	2.12	2.12	1.98	2.28	2.27	2.21	2.35	2.53	2.50	2.65
MIN	2.18	1.91	1.72	1.85	1.70	2.00	2.02	1.98	2.04	2.23	2.20	2.32

WTR YR 1983 MEAN 2.18 MAX 2.77 MIN 1.70

MARIANA ISLANDS, ISLAND OF GUAM

132813144472771. Local number 18-2847-12 (formerly 2847120) Barrigada Well 2 (A-16).

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

AQUIFER.--Mariana Limestone, probably Pliocene age.

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

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

PERIOD OF RECORD.--June 1974 to current year.

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

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.70	3.47	3.31	3.26	3.03	3.09	3.31	3.21	3.15	3.38	3.28	3.36
2	3.72	3.49	3.33	3.25	3.00	3.13	3.31	3.18	3.13	3.41	3.28	3.37
3	3.80	3.48	3.32	3.26	2.99	3.15	3.29	3.14	3.13	3.43	3.29	3.38
4	3.96	3.47	3.27	3.25	2.98	3.15	3.27	3.12	3.13	3.44	3.30	3.39
5	4.10	3.48	3.22	3.26	2.94	3.15	3.27	3.09	3.12	3.41	3.32	3.41
6	4.13	3.50	3.17	3.29	2.91	3.12	3.23	3.07	3.10	3.42	3.33	3.44
7	4.12	3.52	3.13	3.31	2.91	3.10	3.18	3.03	3.11	3.43	3.34	3.45
8	4.12	3.51	3.10	3.25	2.91	3.10	3.14	3.02	3.12	3.44	3.38	3.45
9	4.15	3.47	3.10	3.21	2.89	3.11	3.12	3.03	3.14	3.46	3.41	3.46
10	4.08	3.44	3.09	3.19	2.87	3.10	3.10	3.04	3.16	3.46	3.42	3.46
11	4.05	3.43	3.04	3.16	2.86	3.12	3.11	3.06	3.17	3.51	3.43	3.41
12	3.99	3.42	3.01	3.14	2.86	3.14	3.16	3.10	3.17	3.53	3.45	3.37
13	3.94	3.39	2.99	3.15	2.89	3.14	3.20	3.14	3.17	3.54	3.47	3.35
14	3.86	3.39	2.98	3.20	2.93	3.14	3.20	3.18	3.18	3.55	3.48	3.35
15	3.82	3.37	2.98	3.15	2.95	3.16	3.19	3.19	3.18	3.54	3.48	3.35
16	3.80	3.35	3.00	3.13	2.96	3.18	3.20	3.19	3.22	3.51	3.45	3.35
17	3.74	3.34	3.03	3.13	2.97	3.23	3.22	3.17	3.23	3.50	3.41	3.36
18	3.73	3.32	3.06	3.13	2.96	3.27	3.23	3.18	3.25	3.48	3.38	3.37
19	3.81	3.31	3.09	3.13	2.97	3.26	3.23	3.18	3.26	3.47	3.32	3.40
20	3.86	3.28	3.09	3.13	2.95	3.27	3.21	3.19	3.27	3.46	3.28	3.43
21	3.83	3.27	3.11	3.10	2.98	3.28	3.21	3.21	3.29	3.51	3.25	3.48
22	3.83	3.25	3.15	3.08	3.02	3.29	3.21	3.21	3.30	3.50	3.24	3.56
23	3.78	3.22	3.15	3.06	3.00	3.27	3.21	3.23	3.34	3.45	3.24	3.58
24	3.74	3.20	3.15	3.05	2.96	3.25	3.20	3.23	3.36	3.41	3.26	3.60
25	3.70	3.19	3.15	3.06	3.00	3.23	3.19	3.22	3.38	3.40	3.30	3.60
26	3.67	3.19	3.17	3.09	3.03	3.21	3.18	3.22	3.38	3.38	3.31	3.58
27	3.62	3.21	3.20	3.10	3.04	3.21	3.19	3.21	3.36	3.36	3.29	3.58
28	3.56	3.26	3.23	3.07	3.06	3.24	3.20	3.18	3.36	3.33	3.32	3.57
29	3.51	3.29	3.23	3.07	---	3.28	3.21	3.18	3.36	3.32	3.31	3.57
30	3.49	3.29	3.24	3.07	---	3.30	3.21	3.19	3.36	3.30	3.34	3.55
31	3.48	---	3.25	3.05	---	3.31	---	3.18	---	3.28	3.35	---
MEAN	3.83	3.36	3.14	3.15	2.96	3.19	3.21	3.15	3.23	3.44	3.35	3.45
MAX	4.15	3.52	3.33	3.31	3.06	3.31	3.31	3.23	3.38	3.55	3.48	3.60
MIN	3.48	3.19	2.98	3.05	2.86	3.09	3.10	3.02	3.10	3.28	3.24	3.35

WTR YR 1983 MEAN 3.29 MAX 4.15 MIN 2.86

MARIANA ISLANDS, ISLAND OF GUAM

133032144491871. Local number, 18-3049-03 (formerly 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. Owner: Public Utility Agency of Guam.

AQUIFER.--Barrigada Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, diameter 8 in, depth reported 288 ft.

DATUM.--Altitude of land-surface datum is 227 ft. Measuring point: Top edge of shelter floor, 228.70 ft above mean sea level.

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

PERIOD OF RECORD.--January 1974 to current year.

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

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.53	2.41	2.32	2.27	2.12	2.24	2.51	2.42	2.39	2.63	2.51	2.55
2	2.55	2.42	2.32	2.28	2.08	2.30	2.50	2.39	2.37	2.65	2.52	2.56
3	2.64	2.43	2.26	2.29	2.07	2.33	2.49	2.36	2.37	2.68	2.53	2.58
4	2.78	2.41	2.21	2.28	2.07	2.31	2.48	2.35	2.38	2.69	2.54	2.60
5	2.94	2.42	2.16	2.30	2.04	2.27	2.48	2.31	2.37	2.68	2.56	2.63
6	2.97	2.46	2.13	2.34	2.01	2.29	2.44	2.29	2.34	2.68	2.56	2.67
7	2.96	2.45	2.08	2.36	2.00	2.26	2.40	2.26	2.35	2.69	2.58	2.68
8	2.96	2.43	2.06	2.30	2.00	2.28	2.36	2.26	2.37	2.71	2.61	2.69
9	2.99	2.41	2.08	2.26	1.99	2.29	2.35	2.26	2.36	2.73	2.65	2.69
10	2.93	2.39	2.06	2.23	1.98	2.28	2.33	2.27	2.37	2.75	2.68	2.67
11	2.89	2.38	2.00	2.21	1.96	2.29	2.34	2.29	2.37	2.78	2.72	2.64
12	2.84	2.36	1.98	2.20	1.94	2.33	2.40	2.32	2.39	2.79	2.78	2.61
13	2.78	2.33	1.96	2.20	1.98	2.32	2.42	2.36	2.40	2.80	2.82	2.60
14	2.71	2.33	1.96	2.23	2.02	2.32	2.42	2.39	2.41	2.80	2.83	2.58
15	2.66	2.33	2.00	2.20	2.05	2.34	2.41	2.41	2.43	2.80	2.81	2.55
16	2.63	2.32	2.03	2.19	2.08	2.37	2.42	2.41	2.45	2.79	2.77	2.54
17	2.62	2.32	2.05	2.19	2.10	2.45	2.46	2.41	2.46	2.78	2.72	2.54
18	2.64	2.32	2.06	2.20	2.08	2.49	2.46	2.41	2.48	2.76	2.68	2.55
19	2.69	2.30	2.08	2.19	2.09	2.46	2.46	2.41	2.49	2.74	2.60	2.59
20	2.69	2.28	2.07	2.19	2.07	2.46	2.43	2.42	2.50	2.75	2.54	2.63
21	2.66	2.24	2.10	2.17	2.12	2.50	2.41	2.44	2.51	2.74	2.51	2.67
22	2.63	2.22	2.13	2.15	2.18	2.49	2.41	2.44	2.52	2.71	2.50	2.74
23	2.61	2.19	2.16	2.14	2.13	2.46	2.40	2.45	2.55	2.66	2.51	2.80
24	2.60	2.18	2.16	2.14	2.11	2.42	2.40	2.45	2.57	2.64	2.50	2.81
25	2.56	2.15	2.16	2.14	2.15	2.39	2.39	2.46	2.59	2.62	2.50	2.80
26	2.52	2.15	2.18	2.18	2.17	2.38	2.39	2.46	2.61	2.62	2.50	2.79
27	2.48	2.13	2.22	2.19	2.18	2.39	2.39	2.44	2.60	2.60	2.49	2.80
28	2.45	2.24	2.23	2.17	2.20	2.42	2.41	2.42	2.60	2.58	2.50	2.78
29	2.42	2.24	2.24	2.16	---	2.47	2.42	2.42	2.61	2.56	2.50	2.78
30	2.40	2.26	2.25	2.16	---	2.49	2.42	2.43	2.61	2.53	2.52	2.75
31	2.41	---	2.27	2.14	---	2.51	---	2.41	---	2.52	2.54	---
MEAN	2.68	2.32	2.13	2.21	2.07	2.37	2.42	2.38	2.46	2.69	2.60	2.66
MAX	2.99	2.46	2.32	2.36	2.20	2.51	2.51	2.46	2.61	2.80	2.83	2.81
MIN	2.40	2.13	1.96	2.14	1.94	2.24	2.33	2.26	2.34	2.52	2.49	2.54

WTR YR 1983 MEAN 2.42 MAX 2.99 MIN 1.94

MARIANA ISLANDS, ISLAND OF GUAM

133047144500171. Local number, 18-3049-05 (formerly 3050400) Well M-11.

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

AQUIFER.--Barrigada Limestone.

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.76 ft above mean sea level, Oct. 2, 1980; lowest, 2.46 ft above mean sea level, Feb. 12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.31	3.11	2.88	2.88	2.67	2.79	3.05	2.95	2.95	3.15	3.11	3.28
2	3.32	3.11	2.90	2.89	2.64	2.84	3.04	2.94	2.91	3.17	3.09	3.28
3	3.35	3.10	2.89	2.90	2.62	2.86	3.03	2.91	2.92	3.19	3.09	3.27
4	3.48	3.09	2.87	2.90	2.60	2.84	3.02	2.88	2.93	3.21	3.11	3.28
5	3.91	3.07	2.81	2.90	2.57	2.83	3.02	2.87	2.92	3.20	3.12	3.29
6	4.30	3.07	2.78	2.95	2.56	2.82	2.98	2.85	2.91	3.20	3.13	3.31
7	4.34	3.07	2.74	2.96	2.55	2.82	2.93	2.83	2.91	3.21	3.14	3.32
8	4.24	3.07	2.71	2.90	2.54	2.82	2.89	2.81	2.92	3.22	3.17	3.32
9	4.14	3.09	2.72	2.85	2.53	2.84	2.86	2.80	2.92	3.24	3.20	3.32
10	4.01	3.10	2.70	2.81	2.52	2.84	2.85	2.83	2.92	3.26	3.23	3.31
11	3.89	3.10	2.66	2.79	2.50	2.86	2.84	2.85	2.92	3.29	3.26	3.29
12	3.80	3.09	2.61	2.78	2.49	2.88	2.88	2.88	2.93	3.30	3.33	3.28
13	3.71	3.06	2.58	2.78	2.53	2.87	2.92	2.90	2.94	3.31	3.38	3.27
14	3.62	3.04	2.57	2.80	2.58	2.87	2.93	2.93	2.95	3.32	3.41	3.25
15	3.54	3.04	2.57	2.80	2.60	2.91	2.92	2.95	2.96	3.32	3.39	3.24
16	3.47	2.99	2.58	2.77	2.63	2.93	2.92	2.96	2.99	3.31	3.33	3.22
17	3.41	2.97	2.60	2.77	2.64	2.97	2.93	2.97	3.00	3.29	3.28	3.20
18	3.43	2.95	2.63	2.78	2.63	3.03	2.95	2.96	3.01	3.27	3.28	3.23
19	3.49	2.92	2.64	2.77	2.65	3.01	2.94	2.96	3.02	3.26	3.26	3.28
20	3.52	2.91	2.64	2.77	2.62	3.01	2.93	2.96	3.03	3.27	3.21	3.34
21	3.54	2.89	2.66	2.76	2.65	3.04	2.93	2.98	3.04	3.26	3.15	3.37
22	3.53	2.86	2.70	2.72	2.72	3.03	2.93	2.98	3.05	3.25	3.13	3.43
23	3.50	2.83	2.74	2.69	2.68	3.02	2.94	2.99	3.07	3.23	3.11	3.61
24	3.47	2.81	2.74	2.69	2.66	2.98	2.94	3.00	3.08	3.20	3.11	3.67
25	3.40	2.78	2.73	2.69	2.70	2.95	2.93	3.00	3.11	3.21	3.11	3.65
26	3.37	2.76	2.75	2.73	2.70	2.94	2.93	3.00	3.12	3.23	3.11	3.60
27	3.31	2.76	2.79	2.74	2.71	2.94	2.93	2.99	3.12	3.22	3.08	3.58
28	3.25	2.80	2.82	2.71	2.73	2.96	2.94	2.98	3.12	3.20	3.09	3.53
29	3.18	2.85	2.84	2.71	---	3.01	2.96	2.97	3.13	3.18	3.18	3.52
30	3.16	2.86	2.86	2.72	---	3.03	2.96	2.97	3.14	3.15	3.25	3.48
31	3.13	---	2.87	2.70	---	3.05	---	2.97	---	3.13	3.27	---
MEAN	3.58	2.97	2.73	2.79	2.61	2.92	2.94	2.93	3.00	3.23	3.20	3.37
MAX	4.34	3.11	2.90	2.96	2.73	3.05	3.05	3.00	3.14	3.32	3.41	3.67
MIN	3.13	2.76	2.57	2.69	2.49	2.79	2.84	2.80	2.91	3.13	3.08	3.20

WTR YR 1983 MEAN 3.03 MAX 4.34 MIN 2.49

MARIANA ISLANDS, ISLAND OF GUAM

133115144484971. Local number, 18-3148-02 (formerly 3148140) Harmon Well 1 (107).

LOCATION.--Lat 13°31'15" N., long 144°48'49" E., Hydrologic Unit 20100003, 500 ft north of junction of Routes 1 and 16, Dededo. Owner: Government of Guam.

AQUIFER.--Mariana Limestone.

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

DATUM.--Altitude of land-surface datum is 268 ft. Measuring point: Top of casing, 267.96 ft above mean sea level.

PERIOD OF RECORD.--March 1973 to current year.

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

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.33	2.24	2.19	2.16	2.05	h2.20						
2	2.35	2.26	2.21	2.19	2.05							
3	2.44	2.25	2.20	2.21	2.04							
4	2.58	2.23	2.19	2.19	2.04							
5	2.74	2.23	2.16	2.25	2.02							
6	2.77	2.25	2.13	2.28	1.96							
7	2.76	2.25	2.10	2.28	1.94							
8	2.76	2.22	2.06	2.24	1.94							
9	2.80	2.20	2.08	2.17	1.89							
10	2.74	2.19	2.06	2.15	1.88							
11	2.69	2.20	2.02	2.13	1.88							
12	2.63	2.17	1.98	2.08	1.87							
13	2.57	2.17	1.95	2.05	1.91							
14	2.52	2.18	1.93	2.07	1.95							
15	2.46	2.17	1.93	2.06	1.97							
16	2.42	2.13	1.96	2.04	2.00							
17	2.43	2.13	2.00	2.04	2.02							
18	2.52	2.12	2.02	2.05	2.00							
19	2.60	2.11	2.00	2.05	2.01			h2.43				
20	2.59	2.09	1.98	2.05	1.99		h2.42					
21	2.53	2.08	2.03	2.05	2.04							
22	2.48	2.06	2.06	2.07	2.10				h2.58	h2.71		
23	2.46	2.04	2.06	2.08	2.05	h2.48						
24	2.43	2.04	2.06	2.08	2.03						h2.53	
25	2.41	2.00	2.07	2.07	2.07							
26	2.37	2.02	2.12	2.07	2.09							
27	2.32	2.06	2.18	2.10	2.10							
28	2.27	2.15	2.17	2.06	2.12							
29	2.23	2.14	2.17	2.06	---							h2.64
30	2.23	2.17	2.15	2.06	---							
31	2.24	---	2.11	2.06	---							
MEAN	2.51	2.15	2.08	2.11	2.00							
MAX	2.80	2.26	2.21	2.28	2.12							
MIN	2.23	2.00	1.93	2.04	1.87							

h Tape measurement.

MARIANA ISLANDS, ISLAND OF GUAM

133119144491771. Local number, 18-3149-05 (formerly 3149110) Exploratory Well Ex-7.

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

AQUIFER.--Barrigada Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, borehole diameter 8 in, sounded depth 698 ft.

DATUM.--Altitude of land-surface datum is 283 ft. Measuring point: Top of 6-in diameter surface casing, 283.31 ft above mean sea level.

REMARKS.--Water-level recorder installed June 7, 1983.

PERIOD OF RECORD.--
WATER LEVEL: August 1981 to May 1983 (occasional measurements only), June 1983 to current year.
WATER QUALITY: 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.78 ft above mean sea level, Aug. 12, 1981; lowest, 2.78 ft above mean sea level, June 6, 7, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, AUGUST 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 12	3.78	SEP 25	3.75

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
JAN 22	3.50	FEB 10	3.49	APR 24	3.45	MAY 21	3.27	JUL 12	3.33	SEP 1	3.28

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									2.83	3.05	2.94	2.97
2									2.81	3.07	2.95	2.98
3									2.81	3.10	2.96	3.01
4									2.82	3.11	2.97	3.03
5									2.80	3.10	2.98	3.05
6									2.78	3.11	2.99	3.08
7									2.79	3.11	3.00	3.09
8									2.82	3.13	3.03	3.10
9									2.82	3.15	3.06	3.10
10					h3.51				2.82	3.17	3.08	3.08
11	h3.08								2.83	3.20	3.12	3.05
12									2.84	3.21	3.17	3.02
13									2.85	3.22	3.21	3.01
14									2.87	3.22	3.22	2.99
15									2.88	3.22	3.19	2.97
16									2.90	3.21	3.15	2.97
17									2.91	3.19	3.10	2.96
18									2.92	3.18	3.06	2.98
19									2.93	3.16	2.98	3.02
20									2.95	3.16	2.93	3.05
21							h2.82		2.96	3.16	2.89	3.10
22									2.97	3.13	2.89	3.15
23						h2.89			2.99	3.08	2.90	3.20
24									3.01	3.05	2.92	3.20
25								h2.95	3.02	3.04	2.93	3.19
26							h2.89		3.02	3.03	2.94	3.17
27									3.02	3.02	2.92	3.18
28									3.02	3.00	2.93	3.17
29									3.03	2.98	2.93	3.17
30									3.03	2.96	2.96	3.14
31									---	2.94	2.96	---
MEAN									2.90	3.11	3.01	3.07
MAX									3.03	3.22	3.22	3.20
MIN									2.78	2.94	2.89	2.96

h Tape measurement.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	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)
FEB											
10...	1100	290	3460	7.1	27.0	274	88	890	<.10	<1.1	2.70
10...	1130	390	3230	7.0	26.0	280	44	850	<.10	<1.1	2.50
10...	1215	415	11200	6.9	26.5	276	540	3200	.10	<1.1	.960
10...	1300	450	42400	7.0	26.0	206	2200	14000	.20	6.4	<.100
MAY											
09...	1100	290	2630	7.0	28.5	268	89	740	<.10	<1.1	2.70
09...	1215	390	2440	7.0	27.0	275	71	620	<.10	<1.1	2.70
09...	1300	420	33800	7.1	26.5	189	1800	13000	.20	5.4	<.100
09...	1345	450	46600	7.0	26.5	197	2500	20000	.20	7.4	<.100

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

132615144470571. Local number, 18-2647-01 (formerly 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. Owner: Government of Guam.

AQUIFER.--Mariana Limestone.

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

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

PERIOD OF RECORD.--March 1973 to current year.

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

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 4	6.92	APR 21	6.90	JUN 22	6.85	AUG 23	6.48
MAR 23	6.99	MAY 17	6.84	JUL 22	6.99	SEP 29	6.93

132626144471771. Local number, 18-2647-12 (formerly 2647211) Exploratory Well Ex-4.

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

AQUIFER.--Argillaceous member of the Marianas Limestone.

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

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

PERIOD OF RECORD.--
WATER LEVEL: March 1981 to April 1982 (occasional measurements only), May 1982 to current year.
WATER QUALITY: 1981, 1983.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.08 ft above mean sea level, Aug. 17, 1981; lowest, 5.17 ft above mean sea level, June 13-15, 1982.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	7.62	FEB 11	5.38	APR 21	4.97	MAY 17	4.86	AUG 2	4.90	AUG 23	4.82
NOV 29	6.11	MAR 23	5.02	MAY 4	4.84	JUN 22	4.89	5	4.88	SEP 29	5.27
FEB 4	5.06	APR 1	5.03	5	4.83	JUL 22	5.12				

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	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)
FEB											
11...	1245	170	760	7.0	27.0	280	20	140	.20	12	2.50
11...	1315	340	1260	6.8	27.0	291	36	250	.10	9.7	1.50
11...	1400	390	29300	6.6	27.5	230	1400	9200	<.10	10	1.30
MAY											
05...	1245	170	770	6.9	28.0	208	5.6	40	.10	10	1.40
05...	1315	340	2300	6.9	28.5	282	82	530	<.10	8.9	1.20
05...	1415	387	33500	7.0	28.0	222	1700	13000	<.10	8.2	.750
AUG											
02...	1330	170	1110	--	27.0	--	--	45	--	--	--
02...	1400	370	7010	--	27.0	--	--	2000	--	--	--
02...	1430	389	32500	--	27.0	--	--	12000	--	--	--

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

MARIANA ISLANDS, ISLAND OF GUAM

132758144450571. Local number, 18-2745-03 (formerly 2745500) Agana Well 147.

LOCATION.--Lat 13°27'58" N., long 144°45'05" E., Hydrologic Unit 20100003, on Route 4, 0.65 mi south of junction of Routes 1 and 4 in Agana. Owner: Government of Guam.

AQUIFER.--Mariana Limestone.

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

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

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 above mean sea level, Oct. 14, 1955; lowest measured, 6.83 ft above mean sea level, June 20, 1978.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 4	10.79	APR 21	9.67	JUN 22	8.84	AUG 23	8.57
MAR 23	9.96	MAY 17	9.16	JUL 22	8.70	SEP 29	8.57

132742144452971. Local number, 18-2745-07 (formerly 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.--Altitude of land-surface datum is 10 ft. Measuring point: Edge of concrete spillway, 8.80 ft above mean sea level.

PERIOD OF RECORD.--April 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Lowest water level measured, 6.74 ft above mean sea level, Aug. 23, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 4	j	APR 21	8.07	JUN 22	6.99	AUG 23	6.74
MAR 23	8.58	MAY 17	7.62	JUL 22	7.04	SEP 29	7.93

j Water overflowing spillway.

132736144461671. Local number, 18-2746-06 (formerly 2746310) Chochogo Well Ex-1.

LOCATION.--Lat 13°27'36" N., long 144°46'16" E., Hydrologic Unit 20100003, near San Miguel School, Chochogo.

AQUIFER.--Mariana Limestone: Agana argillaceous member.

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.52 ft above mean sea level, Sept. 28, 1982; lowest measured, 6.14 ft above mean sea level, June 22, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, NOVEMBER 1980 TO SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 26	8.24	JAN 27	8.04	MAR 31	7.09	APR 21	7.16	MAY 18	7.05	AUG 5	8.71
JAN 7	8.14	FEB 13	7.30	APR 7	7.02	27	7.01	JUN 8	6.83	12	9.32
13	7.72	19	7.58	8	7.02	MAY 5	6.89	22	6.88	SEP 8	9.03
14	7.75	MAR 18	7.23	14	7.00	11	7.22	JUL 1	6.92	15	8.67
21	7.56	24	7.18								

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 16	8.54	DEC 2	9.28	APR 23	7.06	SEP 28	9.52
NOV 2	9.07	FEB 24	7.91	SEP 1	7.85		

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 4	6.78	MAR 31	6.55	APR 21	6.37	MAY 17	6.24	JUL 22	6.44	AUG 9	6.37
22	6.54	APR 15	6.40	MAY 12	6.21	JUN 22	6.14	AUG 2	6.23	SEP 29	7.38
MAR 23	6.56										

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	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)
FEB											
22...	0930	110	690	6.6	27.0	319	8.0	43	.10	6.3	.610
22...	0945	200	1320	6.7	26.5	289	30	240	.10	5.9	.590
22...	1015	340	18500	7.1	26.5	255	940	6700	.40	4.0	.100
22...	1100	400	41500	7.0	26.5	161	2100	16000	.50	3.6	<.100
MAY											
12...	1215	110	799	6.9	28.0	256	18	130	.10	6.0	.590
12...	1245	200	1400	7.1	28.0	248	40	270	.10	5.5	.610
12...	1300	340	19700	7.4	28.0	236	1000	6800	.40	3.9	<.100
12...	1330	400	40400	7.4	28.0	146	2300	17000	.50	3.5	<.100
AUG											
02...	1000	110	768	--	27.0	--	--	65	--	--	--
02...	1030	340	20200	--	26.5	--	--	7000	--	--	--
02...	1110	355	25900	--	26.5	--	--	9200	--	--	--
02...	1145	370	27300	--	26.5	--	--	9900	--	--	--

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

132806144481871. Local number, 18-2848-03 (formerly 2848010) Barrigada Exploratory Well Ex-9.

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

AQUIFER.--Barrigada Limestone.

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

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

PERIOD OF RECORD.--
WATER LEVEL: September 1981 to current year.
WATER QUALITY: 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.45 ft above mean sea level, Oct. 28, 1981; lowest, 2.29 ft above mean sea level, Feb. 18, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, SEPTEMBER 1981

DATE	WATER LEVEL
SEP 24	3.17

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

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	3.45	JAN 29	3.30	FEB 26	3.35	JUL 12	3.15	SEP 27	2.75
DEC 28	3.03	FEB 10	3.33	APR 23	3.20	SEP 1	3.00		

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 7	2.53	MAR 23	2.76	APR 21	2.66	JUN 22	2.85	AUG 4	2.78	SEP 29	2.96
FEB 18	2.29	APR 1	2.76	MAY 6	2.57	JUL 22	3.05	10	2.95		

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	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)
FEB											
18...	1015	260	3290	6.7	28.0	244	39	940	<.10	1.8	1.10
18...	1045	320	2350	6.9	28.0	242	30	590	<.10	2.2	2.10
18...	1115	400	43700	6.7	28.0	211	4600	17000	.10	2.9	<.100
18...	1200	365	22700	6.7	28.0	244	1100	7400	.10	2.7	<.100
MAY											
06...	0900	260	3400	7.2	28.0	214	160	--	<.10	2.3	1.20
06...	0945	320	2500	7.1	28.0	207	37	630	<.10	2.5	2.00
06...	1015	365	32500	7.2	28.0	212	1800	12000	.10	3.1	<.100
06...	1100	400	42500	7.2	28.0	183	2500	17000	<.10	3.1	.120
AUG											
04...	0940	260	3070	--	26.5	--	--	850	--	--	--
04...	1010	350	7390	--	27.0	--	--	2100	--	--	--
04...	1045	355	14400	--	27.0	--	--	4600	--	--	--
04...	1125	370	33700	--	27.0	--	--	12000	--	--	--

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

133034144500871. Local number, 18-3050-05 (formerly 3050300) Macheche Rd. Well Ex-6 (formerly 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 water-table well, uncased hole diameter 12 in, sounded depth 407 ft. Well deepened to 462 ft on Aug. 7, 1981.

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

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

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

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	3.43	MAR 14	3.15	APR 20	3.02	JUN 22	3.17	JUL 22	3.37	AUG 9	3.25
FEB 2	2.61	23	3.06	MAY 18	3.03	JUL 7	2.96	AUG 3	3.15	SEP 29	3.34
25	2.75										

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	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)
OCT												
07...	1620	330	450	--	26.5	1.043	180	8.0	30	.40	<1.1	.920
07...	1650	440	--	--	26.0	1.029	171	5.0	20	.40	<1.1	.850
07...	1720	450	676	--	26.0	.994	183	11	62	.40	<1.1	.850
08...	0900	458	41700	--	25.0	1.019	151	2500	19000	.60	6.8	<.100
FEB												
09...	1215	330	390	7.2	26.0	--	187	<5.0	14	.50	<1.1	1.10
09...	1300	440	400	7.5	26.0	--	186	<5.0	18	.40	<1.1	.990
09...	1330	450	--	7.6	25.5	--	186	11	63	.40	<1.1	.960
09...	1430	458	43500	7.5	27.0	--	147	2400	16000	.60	8.9	--
AUG												
03...	0945	330	427	--	26.5	--	--	--	20	--	--	--
03...	1015	440	392	--	26.0	--	--	--	29	--	--	--
03...	1100	457	45100	--	26.0	--	--	--	17000	--	--	--

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

MARIANA ISLANDS, ISLAND OF GUAM

133120144505471. Local number, 18-3150-10 (formerly 3150250) Ghura-Dededo Monitoring Well.

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

AQUIFER.--Barrigada Limestone.

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

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

PERIOD OF RECORD.--
WATER LEVEL: March 1980 to current year.
WATER QUALITY: 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.36 ft above mean sea level, May 11, 1981, June 12, 1981; lowest measured, 1.40 ft above mean sea level, Dec. 17, 1982.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, MARCH TO SEPTEMBER 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 10	1.98	APR 4	1.96	APR 11	2.04	JUN 20	2.08	AUG 21	1.99
APR 2	1.95	10	2.06	MAY 8	2.11	AUG 6	2.09	SEP 29	2.32

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
OCT 25	2.24	DEC 30	2.12	MAR 10	2.32	MAY 11	2.36
NOV 25	2.20	FEB 2	2.04	APR 14	2.30	JUN 12	2.36

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

DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 3	2.45	AUG 31	2.05

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 30	1.57	JAN 24	1.50	MAR 23	1.87	APR 21	1.82	MAY 12	1.87	AUG 3	1.93
DEC 17	1.40	FEB 18	1.49	30	1.85	MAY 4	1.80	JUN 22	1.98	SEP 29	2.11
JAN 7	1.68	25	1.55	APR 13	1.81	10	1.69	JUL 22	2.17		

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

133120144505471 - 18-3150-10 GHURA-DEDEDO MONITORING WELL--Continued

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	DENSITY (GM/ML AT 20 C)
OCT						
01...	0930	550	42200	--	26.5	1.019
01...	1050	600	48500	--	26.5	1.022
06...	1120	775	48100	--	26.0	1.022
MAY						
10...	0845	400	864	7.1	27.0	--
10...	0930	475	710	7.3	27.0	--
10...	1030	540	39400	7.1	27.0	--
10...	1115	550	46100	7.1	26.5	--
AUG						
03...	1330	400	827	--	28.0	--
03...	1410	520	2000	--	27.0	--
03...	1455	530	6820	--	27.0	--
03...	1530	540	30900	--	27.0	--

DATE	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)
OCT						
01...	259	2400	19000	.50	8.7	<.100
01...	165	2700	20000	.60	8.3	.450
06...	113	2700	21000	.40	4.4	<.100
MAY						
10...	213	25	140	<.10	<1.1	1.10
10...	199	15	85	<.10	<1.1	1.40
10...	244	2200	16000	.50	6.9	<.100
10...	194	2600	19000	.50	7.8	<.240
AUG						
03...	--	--	120	--	--	--
03...	--	--	460	--	--	--
03...	--	--	2000	--	--	--
03...	--	--	12000	--	--	--

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

MARIANA ISLANDS, ISLAND OF GUAM

133224144495271. Local number, 18-3249-02 (formerly 3249250) Finegayan Exploratory Well Ex-10.

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

AQUIFER.--Barrigada Limestone.

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

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

PERIOD OF RECORD.--
WATER LEVEL: September 1981 to current year.
WATER QUALITY: 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.09 ft above mean sea level, Apr. 24, 1982; lowest measured, 1.99 ft above mean sea level, Apr. 21, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, SEPTEMBER 1981

DATE	WATER LEVEL
SEP 24	3.02

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 28	3.01	FEB 16	2.97	JUL 15	2.88
DEC 3	2.93	APR 24	3.09	SEP 1	2.60

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	2.54	FEB 24	2.07	APR 21	1.99	MAY 11	2.36	JUN 22	2.60	AUG 13	2.89
JAN 12	2.08	MAR 23	2.44	MAY 3	2.36	17	2.50	JUL 22	2.78	SEP 29	2.68

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

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

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	DENSITY (GM/ML AT 20 C)
OCT						
11...	1105	365	6730	--	--	.997
FEB						
24...	0900	365	8540	7.0	26.5	--
24...	0945	400	4230	7.0	26.5	--
24...	1030	470	24500	7.2	26.5	--
24...	1115	490	--	7.2	27.0	--
MAY						
11...	1100	365	7520	7.3	28.0	--
11...	1145	400	--	7.3	28.0	--
11...	1230	470	27700	7.3	28.0	--
11...	1330	490	42800	7.4	28.5	--
AUG						
13...	1030	365	5340	--	26.5	--
13...	1110	400	3310	--	26.5	--
13...	1150	470	23600	--	26.5	--
13...	1225	490	48400	--	26.5	--

DATE	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)
OCT						
11...	247	170	2200	<.10	<1.1	.780
FEB						
24...	242	290	2600	<.10	<1.1	1.20
24...	232	120	1200	<.10	<1.1	1.30
24...	164	1200	7700	<.10	4.6	.450
24...	108	2500	18000	.20	8.0	.180
MAY						
11...	235	260	2200	<.10	<1.1	1.40
11...	229	120	1000	<.10	<1.1	1.40
11...	151	1500	10000	<.10	5.8	.500
11...	115	2500	18000	.10	7.9	.230
AUG						
13...	--	--	1600	--	--	--
13...	--	--	920	--	--	--
13...	--	--	9000	--	--	--
13...	--	--	18000	--	--	--

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

MARIANA ISLANDS, ISLAND OF GUAM

133628144513271. Local number, 18-3651-05 (formerly 3651230) Northwest Field Exploratory Well Ex-8.

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

AQUIFER.--Barrigada Limestone.

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

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

PERIOD OF RECORD.--
WATER LEVEL: September 1981 to current year.
WATER QUALITY: 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.76 ft above mean sea level, Oct. 28, 1981, Feb. 12, and Apr. 24, 1982; lowest measured, 1.88 ft above mean sea level, Feb. 28, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, SEPTEMBER 1981

DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 17	2.72	SEP 22	2.67

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
OCT 28	2.76	DEC 3	2.72	FEB 12	2.76	APR 24	2.76	JUL 9	2.68	SEP 1	2.37

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 12	1.91	MAR 23	2.26	MAY 3	2.27	MAY 17	2.30	JUL 22	2.58	AUG 16	2.48
FEB 23	1.88	APR 21	2.27	10	2.13	JUN 22	2.42	AUG 15	2.54	SEP 29	2.51

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	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)
FEB											
23...	1100	480	540	6.9	26.0	210	9.4	62	<.10	<1.1	2.00
23...	1130	550	480	6.9	26.0	215	7.5	49	<.10	<1.1	2.30
23...	1230	610	29200	7.2	25.5	199	1600	9900	.20	5.0	<.100
23...	1315	620	42500	7.1	25.5	131	2500	17000	.30	7.0	<.100
MAY											
10...	1330	480	560	7.0	26.5	173	5.3	41	<.10	<1.1	1.90
10...	1415	550	454	7.0	26.5	192	4.0	31	<.10	<1.1	2.10
10...	1500	605	28900	7.4	26.0	196	1800	11000	.20	5.4	<.100
10...	1600	620	42100	7.2	26.0	125	2700	19000	.30	7.9	<.100
AUG											
15...	1635	480	578	--	26.0	--	--	44	--	--	--
15...	1705	550	470	--	26.0	--	--	28	--	--	--
16...	1255	605	19700	--	26.0	--	--	6600	--	--	--
16...	1340	610	30400	--	26.0	--	--	11000	--	--	--
16...	1430	620	42400	--	26.0	--	--	16000	--	--	--

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

GROUND-WATER RECORDS

MARIANA ISLANDS, ISLAND OF GUAM

133121144504871 - 18-3150-14 GURA DEDEDO WELL EX-5A

WATER QUALITY DATA, AUGUST 1983

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
AUG 3, 1983	1300	545	27.0	37

CAROLINE ISLANDS, YAP ISLANDS

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

LOCATION.--Lat 09°32'04" N., long 138°09'59" E., Hydrologic Unit 20100006, 0.75 mi north-northeast of the Tamilang Elementary School and 0.8 mi south of the Coast Guard LORAN Station.

AQUIFER.--Tamil Volcanics.

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

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

PERIOD OF RECORD.--July 1982 to April 1983 (occasional measurements only), May 1983 to current.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.32 ft above mean sea level, Dec. 22, 1982; lowest, 15.67 ft above mean sea level, June 10, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, JULY TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 26	19.43	SEP 1	19.70	SEP 16	19.55	SEP 29	19.25

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	15.89	17.26	19.15	19.19
2								---	15.87	17.28	19.15	19.14
3								---	15.85	17.43	19.16	19.34
4								---	15.84	17.95	19.13	19.43
5								16.27	15.81	18.30	19.27	19.40
6								16.22	15.77	18.38	19.52	19.45
7								16.20	15.73	18.37	19.79	19.36
8								16.18	15.70	18.38	19.83	19.26
9								16.16	15.69	18.39	19.76	19.20
10								16.16	15.70	18.36	19.63	19.17
11								16.13	15.73	18.35	19.53	19.12
12								16.11	15.71	18.52	19.47	19.11
13								16.08	15.68	18.70	19.38	19.06
14								16.04	15.71	18.68	19.29	19.04
15								15.98	15.77	18.61	19.26	19.04
16								15.95	15.79	18.56	19.29	19.13
17								15.93	15.82	18.50	19.39	19.13
18		h18.99						15.92	15.81	18.48	19.64	19.16
19								15.90	15.87	18.43	19.63	19.19
20								15.87	15.98	18.47	19.57	19.15
21					h17.63			15.86	16.09	19.01	19.44	19.20
22			h20.32					15.82	16.27	19.33	19.34	19.55
23								15.78	16.74	19.24	19.27	19.54
24								15.77	17.16	19.31	19.19	19.44
25								15.90	17.29	19.34	19.37	19.38
26								15.93	17.33	19.46	19.40	19.52
27				h18.32				15.92	17.32	19.38	19.34	19.48
28	h19.06							15.89	17.31	19.28	19.27	19.44
29								15.87	17.30	19.23	19.23	19.48
30						h16.53		15.89	17.28	19.21	19.25	19.39
31								15.90	---	19.13	19.24	---
MEAN								---	16.19	18.62	19.39	19.28
MAX								---	17.33	19.46	19.83	19.55
MIN								---	15.68	17.26	19.13	19.04

h Tape measurement.

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

LOCATION.--Lat 09°29'19" N., long 138°04'57" E., Hydrologic Unit 20100006, 800 ft southwest of the Communication Station and 800 ft northwest of the U.S. Weather Bureau Station.

AQUIFER.--Tamil Volcanics.

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

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

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

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

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, JULY TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 29	29.38	SEP 1	30.44	SEP 30	29.63

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	28.15	FEB 22	19.30	APR 18	14.10	JUL 28	29.02	AUG 19	30.10	SEP 23	32.09
NOV 18	26.30	MAR 30	15.85	25	13.59	AUG 8	30.73	25	29.96	28	30.09
DEC 22	27.08	APR 4	15.46	MAY 13	12.24	11	30.36	29	29.26		
JAN 27	22.99	11	14.70	JUN 29	19.07	17	30.05	SEP 9	28.98		

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

LOCATION.--Lat 09°29'18" N., long 138°04'54" E., Hydrologic Unit 20100006, 1,000 ft southwest of the Communication Station and 1,000 ft northwest of the U.S. Weather Bureau Station.

AQUIFER.--Tamil Volcanics.

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

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

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

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

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, JULY TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 29	27.59	SEP 1	28.53	SEP 30	28.03

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	26.77	FEB 22	19.23	APR 18	13.88	JUL 28	27.18	AUG 19	28.08	SEP 23	28.07
NOV 18	25.43	MAR 30	15.75	25	13.40	AUG 8	28.75	25	28.06	28	28.11
DEC 22	25.98	APR 4	15.28	MAY 13	12.04	11	28.31	29	27.27		
JAN 27	22.64	11	14.49	JUN 29	18.68	17	28.19	SEP 9	27.06		

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

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

AQUIFER.--Tamil Volcanics.

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 38.10 ft above mean sea level, Sept. 1, 1982; lowest measured, 13.60 ft above mean sea level, May 13, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, JULY TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 29	34.30	SEP 1	38.10	SEP 30	35.22

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	33.14	JAN 27	25.39	APR 4	17.04	APR 25	15.02
NOV 18	29.79	FEB 22	21.22	11	15.78	MAY 13	13.60
DEC 22	31.07	MAR 30	17.05	18	15.52		

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

LOCATION.--Lat 09°29'18" N., long 138°05'01" E., Hydrologic Unit 20100006, 600 ft south of the Communication Station and 300 ft west of the U.S. Weather Bureau Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in, depth reported 80 ft.

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

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.12 ft above mean sea level, Aug. 8, 1983; lowest measured, 32.41 ft above mean sea level, Sept. 30, 1982.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 1	34.01	SEP 30	32.41

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 8	37.12	AUG 19	35.53	SEP 9	33.06
11	36.05	25	35.16	23	35.33
17	35.28	29	33.23	28	35.39

092616138050670. Local number 25-2905-03 Timlang Well 3, Yap

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

AQUIFER.--Tamil Volcanics.

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

DATUM.--Altitude of land-surface datum is 43 f. Measuring point: Top of casing, 44.22 ft above mean sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.03 ft above mean sea level, July 29, 1982; lowest measured, 12.76 ft above mean sea level, May 13, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, JULY 1982

DATE	WATER LEVEL
JUL 29	37.03

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	35.61	JAN 27	29.40	APR 4	16.15	APR 25	14.35
NOV 18	33.17	FEB 22	23.62	11	15.30	MAY 13	12.76
DEC 22	34.42	MAR 30	17.12	18	14.91	JUN 29	31.14

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

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

AQUIFER.--Tamil Volcanics.

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

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

PERIOD OF RECORD.-December 1981 to current year.

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

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, DECEMBER 1981 TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 18	31.11	MAR 15	27.70	JUN 2	27.93	JUL 19	31.38	SEP 17	31.99
31	30.60	APR 5	27.40	8	33.40	AUG 3	29.20	18	31.71
JAN 21	28.10	23	25.22	17	30.00	25	30.90	30	31.00
FEB 12	30.55	MAY 3	25.67	JUL 6	31.00	SEP 14	32.30		

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19	30.56	DEC 29	27.43	MAR 14	14.43	MAY 27	9.90	JUL 27	28.90	SEP 9	27.80
NOV 10	27.80	JAN 17	24.27	30	14.00	JUN 29	17.08	AUG 9	29.21	23	28.65
25	25.88	FEB 4	21.50	APR 20	11.98	JUL 8	21.84	25	27.72	28	28.79
DEC 13	28.91	22	18.43	MAY 10	10.72						

093144138055170. Local number, 25-3105-01 Magaf-Dalipebinau 4-in Well, Yap.

LOCATION.--Lat 09°31'44" N., long 138°05'51" E., Hydrologic Unit 20100006, 0.6 mi north of Dalipebinau Elementary School and 2.5 mi northwest of Colonia.

AQUIFER.--Metamorphic rocks of the Yap formation.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 4 in, depth reported 70 ft.

DATUM.--Altitude of land-surface datum is 10 ft. Measuring point: Top of casing, about 11 ft above mean sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.05 ft above mean sea level, Sept. 1, 1982; lowest measured, 1.37 ft above mean sea level, Nov. 18, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, AUGUST TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 3	2.10	SEP 1	3.05	SEP 30	2.27

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	1.74	NOV 18	1.37

093159138095870. Local number 25-3109-01 Monguch Well 1, Gagil-Tamil.

LOCATION.--Lat 09°31'59" N., long 138°09'58" E., Hydrologic Unit 20100006, 0.65 mi north-northeast of the Tamilang Elementary School and 1.0 mi south of the Coast Guard LORAN Station.

AQUIFER.--Tamil Volcanics.

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level overflowing casing for many days each year; lowest measured, 18.19 ft above mean sea level, May 12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, JULY TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 26	j	SEP 1	j	SEP 16	j	SEP 29	21.21

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	20.98	JAN 27	20.15	MAY 12	18.19	AUG 10	21.38	SEP 9	21.08
NOV 18	20.74	FEB 21	19.52	JUN 28	19.01	19	j	23	j
DEC 22	20.98	MAR 30	19.69	JUL 25	21.00	26	21.23	28	j

j Water overflowing casing.

093159138095870. Local number, 25-3109-02 Monguch Well 2, Gagil-Tamil.

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

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in, depth reported 95 ft.

DATUM.--Altitude of land-surface datum is 24 ft. Measuring point: Top of casing, 26.47 ft above mean sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.72 ft above mean sea level, Sept. 1, 1982; lowest measured, 20.19 ft above mean sea level, May 12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, JULY TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 26	23.50	SEP 1	24.72	SEP 16	24.63	SEP 29	24.15

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	23.81	JAN 27	22.77	MAY 12	20.19	AUG 10	24.42	SEP 9	24.02
NOV 18	23.50	FEB 21	21.97	JUN 28	21.10	19	24.37	23	24.43
DEC 22	23.89	MAR 30	20.87	JUL 25	23.89	26	24.32	28	24.41

093157138095670. Local number, 25-3109-03 Thilung Well 1 (Monguch 3), Gagil-Tamil.

LOCATION.--Lat 09°31'57" N., long 138°09'56" E., Hydrologic Unit 20100006, 0.6 mi north of the Tamilang Elementary School and 1.1 mi south of the Coast Guard LORAN Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in, depth reported 115 ft.

DATUM.--Altitude of land-surface datum is 26 ft. Measuring point: Top of casing, 28.16 ft above mean sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.58 ft above mean sea level, Sept. 1, 1982; lowest measured, 23.29 ft above mean sea level, Feb. 21, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, JULY TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 26	26.42	SEP 1	26.58	SEP 16	26.46	SEP 29	25.81

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	25.39	NOV 18	25.03	DEC 22	25.53	JAN 27	24.19	FEB 21	23.29

093154138095370. Local number, 25-3109-04 Thilung Well 2 (Monguch 4), Gagil-Tamil.

LOCATION.--Lat 09°31'54" N., long 138°09'53" E., Hydrologic Unit 20100006, 0.5 mi north of the Tamilang Elementary School and 1.1 mi south of the Coast Guard LORAN Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in, depth reported 105 ft.

DATUM.--Altitude of land-surface datum is 33 ft. Measuring point: Top of casing, 34.82 ft above mean sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.43 ft above mean sea level, Sept. 1, 1982; lowest measured, 22.95 ft above mean sea level, May 12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, JULY TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 26	29.19	SEP 1	29.43	SEP 16	29.25	SEP 29	28.39

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	27.93	JAN 27	26.44	MAY 12	22.95	AUG 10	28.94	SEP 9	28.49
NOV 18	27.41	FEB 21	25.40	JUN 28	23.72	19	28.83	23	28.90
DEC 22	28.07	MAR 30	24.04	JUL 25	28.00	26	28.79	28	28.93

093217138101270. Local number, 25-3210-01 Mukong Well, Gagil-Tamil.

LOCATION.--Lat 09°32'17" N., long 138°10'12" E., Hydrologic Unit 20100006, 0.6 mi south of the Coast Guard LORAN Station and 1.1 mi north-northeast of the Tamilang Elementary School.

AQUIFER.--Coral formation in the Tamil Volcanics.

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

DATUM.--Altitude of land-surface datum is 24 ft. Measuring point: Top of casing, 25.83 ft above mean sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.19 ft above mean sea level, Sept. 1, 1982; lowest measured, 12.68 ft above mean sea level, May 12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, JULY TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 26	16.05	SEP 1	16.19	SEP 29	15.64

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	15.45	JAN 27	14.46	MAY 12	12.68	AUG 10	15.57	SEP 9	15.47
NOV 18	15.26	FEB 21	13.76	JUN 28	13.50	19	15.58	23	15.53
DEC 22	15.51	MAR 30	13.44	JUL 25	15.02	26	15.44	28	15.65

093210138101270. Local number, 25-3210-02 Dorfay 4-in Well, Gagil-Tamil.

LOCATION.--Lat 09°32'10" N., long 138°10'12" E., Hydrologic Unit 20100006, 0.8 mi south of the Coast Guard LORAN Station, and 0.9 mi north-northeast of the Tamilang Elementary School.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 4 in, depth reported 120 ft.

DATUM.--Altitude of land-surface datum is 28 ft. Measuring point: Top of casing, 29.93 ft above mean sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.70 ft above mean sea level, Sept. 1, 1982; lowest measured, 20.28 ft above mean sea level, Nov. 18, 1982.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, JULY TO SEPTEMBER 1982

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 26	22.12	SEP 1	22.70	SEP 16	21.93	SEP 29	20.80

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	20.37	NOV 18	20.28	DEC 22	20.33

CAROLINE ISLANDS, TRUK ISLANDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

072704151511070 - 30-2650-05 W10 MOEN

DATE	TIME	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
MAR 11...	0925	231	28.0	--	--	--	--	--	--
APR 13...	1100	275	27.5	100	38	18	14	12	20

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)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)
MAR 11...	--	--	--	--	29	--	--	--	--	--
APR 13...	.5	1.1	65	6.8	44	<.10	26	160	.410	40

DATE	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
MAR 11...	--	--	--	--	--	--	--	--	--	--
APR 13...	1	<100	<10	<1	10	<1	15	190	190	4

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LITHIUM TOTAL RECOV-ERABLE (UG/L AS LI)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
MAR 11...	--	--	--	--	--	--	--	--	--	--
APR 13...	8	<10	<10	4	.1	<1	11	<1	<1	20

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

CAROLINE ISLANDS, TRUK ISLANDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

STATION NUMBER	LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	DATE OF SAMPLE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
072517151505770	30-2550-01	07 25 10	151 50 33	83-03-11	0840	183	27.5	10
072504151503370	30-2550-02	07 25 04	151 50 33	83-04-13	1100	4100	28.0	1400
072658151511970	30-2650-01	07 26 46	151 50 56	83-03-11	0945	185	28.0	11
072654151511870	30-2650-02	07 26 50	151 50 55	83-03-11	1005	152	29.5	8.5
072707151512070	30-2650-03	07 26 59	151 50 56	83-03-11	1040	273	29.0	27
072702151512570	30-2651-01	07 26 54	151 51 01	83-03-11	1225	400	28.5	34
072701151512770	30-2651-02	07 26 55	151 51 03	83-03-11 83-04-13	1200 1020	500 2450	28.5 28.0	60 730
072706151512470	30-2651-03	07 26 58	151 51 00	83-03-11	1100	2600	28.0	780
072705151512670	30-2651-04	07 26 58	151 51 02	83-03-11	1240	2350	28.5	710
072708151512170	30-2750-03	07 27 01	151 50 56	83-03-11	1030	236	28.5	15
072710151512570	30-2751-01	07 27 03	151 51 01	83-03-11 83-04-13	1300 1010	233 240	29.0 29.0	17 18

SAMOA ISLANDS, ISLAND OF TUTUILA

141945170435401. Local number, 90-1943-24 Tafunafou Observation Well 1.

LOCATION.--Lat 14°19'45" S., long 170°43'54" W., Hydrologic Unit 20100001, 120 ft northwest of Tafunafou village cross road intersection, and 0.7 mi southeast of High School in Mapusaga. Owner: Government of American Samoa.

AQUIFER.--Basalt lava flows of the Leone Volcanics.

WELL CHARACTERISTICS.--Drilled basal water-table well, casing diameter 4 in, well depth measured 78 ft.

DATUM.--Altitude of land-surface datum is 73 ft. Measuring point: Top of 4-inch casing, 75.18 ft above mean sea level.

REMARKS.--Water level affected by pumping from wells in close proximity.

PERIOD OF RECORD.--October 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest apparent water level 20.38 ft above mean sea level, may be caused by cascading water in the well following heavy rain, May 13, 1977; lowest 7.37 ft below mean sea level, July 13, 1978.

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

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	1.03	DEC 7	5.08	MAR 2	5.45	MAY 3	0.73	JUL 12	0.28	SEP 15	1.72
13	4.11	14	2.28	15	1.92	12	.28	19	.43	20	1.06
19	1.11	21	1.98	22	1.31	18	.83	26	1.03	27	.96
26	1.43	JAN 11	1.78	30	1.03	24	1.58	AUG 3	-.46		
NOV 4	6.43	25	1.43	APR 5	1.29	JUN 7	1.03	9	.38		
9	3.53	FEB 1	1.84	12	1.58	15	.99	16	.17		
16	1.98	8	5.13	19	0.91	28	.18	26	.53		
23	1.68	22	1.21	27	0.38	JUL 6	.31	SEP 8	4.02		

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	0.08	DEC 6	-0.55	FEB 7	-0.23	APR 11	1.47	JUN 20	-2.06	AUG 22	1.60
12	.81	13	.21	14	-.32	18	.81	27	-2.97	29	1.58
18	2.87	20	.11	22	-.37	25	.10	JUL 5	-2.77	SEP 6	1.00
25	1.41	27	.18	28	1.00	MAY 9	-2.43	11	-2.85	12	1.21
NOV 1	.05	JAN 3	.10	MAR 7	.35	16	-2.28	18	-1.70	19	1.12
08	.82	10	1.33	14	.32	23	-2.58	25	-2.64	26	1.06
15	-.10	17	.79	21	.08	31	-2.93	AUG 1	1.28		
22	-.35	24	.46	28	-.13	JUN 6	-2.97	08	1.20		
29	.73	31	.17	APR 4	-.21	13	-1.89	15	1.26		

141948170435701. Local number, 90-1943-28 Tafunafou Observation Well 5.

LOCATION.--Lat 14°19'48" S., long 170°43'57" W., Hydrologic Unit 20100001, 1,000 ft southeast of Tafunafou village, and 1.5 mi west-northwest of Pago Pago International Airport. Owner: Government of American Samoa.

AQUIFER.--Basalt lava flows of the Leone Volcanics.

WELL CHARACTERISTICS.--Drilled basal water-table well, casing diameter 4 in, well depth measured 106 ft.

DATUM.--Altitude of land-surface datum is 83 ft. Measuring point: Top of 4-inch casing, 85.32 ft above mean sea level.

REMARKS.--Water level affected by pumping from wells in close proximity.

PERIOD OF RECORD.--October 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.32 ft above mean sea level, may be caused by cascading water in the well following heavy rain, July 28, 1981; lowest 4.23 ft below mean sea level, Aug. 15, 1977.

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

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	2.84	DEC 7	3.20	MAR 2	2.79	MAY 3	1.07	JUL 12	1.07	SEP 15	2.86
13	2.47	14	2.44	15	1.55	12	1.82	19	.51	20	2.47
19	2.67	21	2.42	22	1.47	18	.42	26	.67	27	2.10
26	2.35	JAN 11	2.62	30	1.02	24	.84	AUG 3	-.53		
NOV 4	3.17	25	2.27	APR 5	0.93	JUN 7	1.35	9	.42		
9	3.12	FEB 1	1.97	12	1.35	15	.62	16	.77		
16	2.59	8	4.57	19	0.87	28	-.22	26	7.52		
23	2.97	22	2.77	27	1.02	JUL 6	.77	SEP 8	3.96		

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	2.13	DEC 6	2.24	FEB 7	-0.68	APR 11	-1.33	JUN 20	-2.06	AUG 22	1.14
12	3.12	13	1.60	14	-.73	18	-1.49	27	-2.27	29	1.10
18	3.26	20	1.40	22	-1.72	25	-1.54	JUL 5	-2.30	SEP 6	1.26
25	1.88	27	1.70	28	-1.08	MAY 9	-2.00	11	-2.13	12	1.32
NOV 1	2.02	JAN 3	2.32	MAR 7	-.72	16	-2.05	18	-2.28	19	1.27
8	1.86	10	-.80	14	-1.50	23	-2.15	25	.63	26	1.26
15	2.08	17	-1.33	21	-1.71	31	-2.39	AUG 1	.79		
22	1.62	24	-1.48	28	-1.64	JUN 6	-2.43	8	.98		
29	1.84	31	-1.38	APR 4	-1.80	13	-2.18	15	-.15		

142057170461501. Local number, 90-2046-02 Puapua Well 47.

LOCATION.--Lat 14°20'57" S., long 170°46'15" W., Hydrologic Unit 20100001, 0.8 mi east of Midkiff School and 1.1 mi west of Futiga village church.

AQUIFER.--Basalt lava flows and sand of the Leone Volcanics underlain by calcareous coastal deposits.

WELL CHARACTERISTICS.--Drilled basal water-table well, casing diameter 6 in, well depth 190 ft.

DATUM.--Altitude of land-surface datum is 144 ft. Measuring point: Top of 6-inch casing, 146.25 ft above mean sea level.

PERIOD OF RECORD.--December 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.25 ft above mean sea level, Aug. 13, 1980; lowest 0.12 ft below mean sea level, Dec. 1, 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	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	3.78	NOV 23	4.47	FEB 8	4.88	APR 12	4.00	JUN 15	2.60	AUG 9	2.83
13	2.68	DEC 7	3.10	22	3.28	19	2.68	28	.55	16	2.55
19	4.65	14	5.46	MAR 2	3.04	27	2.11	JUL 6	.48	26	7.25
26	5.15	21	5.07	15	2.72	MAY 3	1.74	12	1.50	SEP 8	3.70
NOV 4	4.27	JAN 11	2.98	22	2.30	12	2.87	19	2.04	15	3.20
9	5.07	25	3.76	30	2.68	18	2.50	26	2.41	20	2.51
16	4.17	FEB 1	3.22	APR 5	2.58	24	2.46	AUG 3	1.38	27	1.91

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	1.25	DEC 6	2.93	FEB 7	2.05	APR 11	2.75	JUN 20	1.67	AUG 22	1.79
12	1.67	13	2.39	14	2.06	18	2.79	27	1.47	29	1.73
18	2.45	20	2.13	22	1.98	25	2.21	JUL 5	1.60	SEP 6	1.84
25	1.98	27	3.16	28	2.48	MAY 9	2.62	11	1.52	12	1.73
NOV 1	2.79	JAN 3	2.68	MAR 7	2.74	16	1.78	18	1.57	19	1.35
8	2.97	10	2.78	14	3.00	23	1.78	25	1.45	26	1.83
15	2.54	17	2.48	21	2.42	31	1.44	AUG 1	1.52		
22	2.73	24	2.30	28	2.71	JUN 6	1.49	8	1.00		
29	2.54	31	3.25	APR 4	2.15	13	1.50	15	.99		

142102170445601. Local number, 90-2144-12 Iliili test well 115.

LOCATION.--Lat 14°21'02" S., long 170°44'56" W., Hydrologic Unit 20100001, 800 ft northwest of Iliili village church, and 0.5 mi northeast of Futiga village school.

AQUIFER.--Basalt lava flows of the Leone Volcanics underlain by calcareous coastal deposits.

WELL CHARACTERISTICS.--Drilled basal water-table well, casing diameter 4 in, well depth 243 ft, drilled 1977.

DATUM.--Altitude of land-surface datum is 216 ft. Measuring point: Top of 4-inch casing, 216.94 ft above mean sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.89 ft above mean sea level, June 15, 1982; lowest 2.56 ft above mean sea level, May 31, 1983.

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

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	4.89	DEC 7	5.45	MAR 2	5.57	MAY 3	6.19	JUL 12	5.79	SEP 15	5.38
13	5.08	14	5.24	15	5.94	12	5.19	19	5.89	20	4.84
19	4.97	21	5.52	22	4.59	18	5.69	26	6.09	27	5.29
26	5.09	JAN 11	4.94	30	6.24	24	5.89	AUG 3	5.85		
NOV 4	4.73	25	4.59	APR 5	4.84	31	6.29	9	5.29		
9	5.59	FEB 1	4.79	12	4.89	JUN 15	6.89	16	5.42		
16	5.08	8	4.19	19	4.59	28	5.59	26	6.54		
23	5.21	22	4.59	27	6.34	JUL 6	5.64	SEP 8	5.69		

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	4.91	DEC 6	3.82	FEB 7	3.93	APR 11	3.93	JUN 20	3.70	AUG 22	3.22
12	5.52	13	4.03	14	4.32	18	3.89	27	3.61	29	3.43
18	4.54	20	3.79	22	4.22	25	3.86	JUL 5	3.22	SEP 6	4.06
25	4.76	27	4.89	28	4.83	MAY 9	3.12	11	3.28	12	4.00
NOV 1	4.46	JAN 3	4.80	MAR 7	4.04	16	3.11	18	3.15	19	4.21
8	4.47	10	4.20	14	4.05	23	3.54	25	3.63	26	4.49
15	3.90	17	4.94	21	4.50	31	2.56	AUG 1	3.52		
22	3.66	24	3.77	28	4.43	JUN 6	3.58	8	3.04		
29	3.93	31	4.14	APR 4	4.90	13	3.69	15	3.33		

141945170435301 - 90-1943-06 TAFUNAFOU W33

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT		
05...	0830	106
13...	1045	23
19...	0740	38
26...	0755	91
NOV		
09...	0825	23
16...	0840	30
23...	0740	38
DEC		
07...	0855	30
14...	0820	53
21...	0815	84
JAN		
11...	0820	30
FEB		
01...	0850	68
08...	0915	15
22...	1015	38
MAR		
02...	1015	15
22...	0810	61
30...	0940	76
APR		
05...	0850	61
12...	1120	68
19...	1015	76
27...	0845	91
MAY		
12...	0805	76
18...	1015	84
24...	0900	61
JUN		
07...	0805	61
15...	0920	68
28...	0830	61
JUL		
06...	0820	106
12...	0825	76
19...	0830	76
26...	0855	84
AUG		
03...	0800	98
09...	0850	84
16...	1105	91
26...	0945	23
SEP		
08...	1150	23
15...	0810	38
20...	1115	30
27...	1050	68

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT		
04...	0840	61
12...	0825	38
18...	0830	68
25...	1000	38
NOV		
01...	0805	98
08...	0830	98
15...	1050	91
22...	0845	98
29...	0855	91
DEC		
06...	0905	91
13...	0830	76
20...	0835	84
27...	0810	84
JAN		
03...	0815	91
10...	1035	84
17...	1220	45
24...	1055	61
FEB		
07...	0850	45
14...	1050	68
22...	1225	68
28...	1055	53
MAR		
07...	0835	45
14...	1030	45
21...	1015	61
28...	1145	61
APR		
04...	0855	76
11...	1100	61
18...	1045	61
25...	1020	68
MAY		
09...	0845	84
16...	1015	98
23...	1030	110
31...	1230	110
JUN		
06...	1110	91
13...	1000	98
20...	1130	110
27...	1045	130
JUL		
05...	0955	140
11...	1105	450
18...	0905	550
25...	0805	610
SEP		
06...	0900	520
12...	0740	520
19...	0740	490
26...	0745	520

Chloride records are Hach kit field determination by cooperator.

SAMOA ISLANDS, ISLAND OF TUTUILA

141928170435201 - 90-1943-20 TAFUNAFOU W81

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			MAR			JUL		
13...	1025	15	02...	1000	15	06...	0930	30
19...	0830	15	22...	0920	15	12...	0935	23
26...	0905	15	30...	0925	23	19...	0930	15
NOV			APR			26...	1005	23
04...	0920	15	05...	0945	15	AUG		
09...	0805	15	12...	1105	15	03...	0910	30
16...	0945	15	19...	0955	23	09...	0955	38
23...	0835	15	27...	0945	30	16...	1045	15
DEC			MAY			26...	1045	15
07...	0950	15	12...	0915	30	SEP		
14...	0920	15	18...	1000	15	08...	1130	15
JAN			24...	1010	15	15...	0855	15
11...	0800	15	JUN			20...	0825	15
25...	0920	15	07...	0930	15	27...	1020	15
FEB			15...	0905	15			
01...	0830	23	28...	0930	30			
08...	0855	7.0						
22...	1000	15						

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			FEB			JUN		
04...	0935	23	07...	0950	15	06...	1050	15
12...	0920	15	14...	1025	23	13...	0940	23
18...	0920	15	22...	1320	23	20...	1110	23
25...	1045	15	28...	1035	15	27...	1025	38
NOV			MAR			JUL		
01...	0905	30	07...	0945	15	05...	0935	30
08...	0930	23	14...	1010	15	11...	1035	120
15...	1140	23	21...	0955	15	18...	0845	130
22...	0945	38	28...	1020	23	25...	0905	170
29...	0950	23	APR			AUG		
DEC			04...	0955	23	01...	0845	160
06...	1005	23	11...	1040	15	08...	0835	190
13...	0920	23	18...	1025	15	15...	0900	390
20...	0930	30	25...	1000	15	22...	0810	390
27...	0905	38	MAY			29...	0745	270
JAN			09...	1005	15	SEP		
03...	0910	38	16...	0955	15	06...	0915	300
10...	1015	23	23...	1005	23	12...	0810	330
17...	1200	15	31...	1010	23	19...	0820	300
24...	1030	15				26...	0740	270
31...	1020	15						

Chloride records are Hach kit field determination by cooperator.

141952170440201 - 90-1944-11 TAFUNAFOU W61

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			MAR			JUL		
05...	0850	98	02...	1035	53	06...	0840	110
13...	1105	61	15...	0830	61	12...	0945	91
19...	0800	76	22...	0840	61	19...	0855	110
26...	0815	91	APR			26...	0920	110
NOV			05...	0905	84	AUG		
04...	0950	76	12...	1140	76	03...	0825	120
09...	0845	61	19...	1030	76	09...	0905	110
16...	0905	76	27...	0905	91	16...	1125	110
23...	0800	91	MAY			26...	1005	23
DEC			03...	0905	91	SEP		
07...	0915	61	12...	0830	91	08...	1205	38
14...	0840	84	18...	1040	68	15...	0840	76
21...	0835	84	24...	0925	84	20...	1130	98
JAN			JUN			27...	1105	91
11...	0840	53	07...	0825	91			
25...	0835	76	15...	0940	98			
FEB			28...	0850	91			
01...	0910	76						
22...	1030	53						

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			FEB			JUN		
04...	0855	91	07...	0915	53	06...	1145	120
12...	0855	98	14...	1120	61	13...	1030	120
18...	0850	110	22...	1250	68	20...	1200	120
25...	1015	98	28...	1125	68	27...	1115	140
NOV			MAR			JUL		
01...	0820	110	07...	0900	61	05...	1025	140
08...	0840	98	14...	1100	84	11...	1150	140
15...	1110	98	21...	1040	84	18...	0935	220
22...	0905	120	28...	1110	91	25...	0830	420
29...	0910	110	APR			AUG		
DEC			04...	0920	98	01...	1210	220
06...	0920	110	11...	1125	98	08...	0815	520
13...	0845	91	18...	1110	98	SEP		
20...	0850	98	25...	1040	110	06...	0905	450
27...	0830	98	MAY			12...	0745	490
JAN			09...	0915	110	19...	0755	420
03...	0830	98	16...	1045	130	26...	0755	490
10...	1100	110	23...	1100	140			
17...	1245	91	31...	1100	140			
24...	1120	76						
31...	1125	61						

Chloride records are Hach kit field determination by cooperator.

SAMOA ISLANDS, ISLAND OF TUTUILA

141951170440101 - 90-1944-12 TAFUNAFOU W60

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			MAR			JUL		
05...	0845	91	02...	1030	45	06...	0835	110
13...	1100	61	15...	0825	53	12...	0840	91
19...	0755	76	22...	0835	61	19...	0850	110
26...	0810	91	30...	0955	68	26...	0910	110
NOV			APR			AUG		
04...	0945	76	05...	0900	76	03...	0820	110
09...	0840	61	12...	1135	68	09...	0900	120
16...	0900	61	19...	1025	76	16...	1120	110
23...	0755	76	27...	0900	91	26...	1000	38
DEC			MAY			SEP		
07...	0910	61	03...	0900	84	08...	1200	61
14...	0835	76	12...	0825	91	15...	0825	61
21...	0830	84	18...	1035	76	20...	1125	98
JAN			24...	0920	91	27...	1100	91
11...	0835	53	JUN					
FEB			07...	0820	61			
01...	0905	84	15...	0935	91			
08...	0925	23	28...	0845	98			
22...	1025	53						

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			FEB			JUN		
04...	0850	98	14...	1115	98	06...	1130	140
12...	0845	110	22...	1245	91	20...	1155	110
18...	0845	110	28...	1120	76	27...	1110	130
25...	1010	110	MAR			JUL		
NOV			07...	0855	91	05...	1020	130
01...	0815	110	14...	1050	110	18...	0930	520
08...	0845	140	21...	1035	110	25...	0825	580
15...	1105	140	28...	1105	120	AUG		
22...	0900	140	APR			01...	1200	450
29...	0905	140	04...	0915	140	15...	0910	610
DEC			11...	1120	130	SEP		
06...	0915	130	18...	1105	110	19...	0750	610
13...	0840	110	25...	1035	110			
20...	0845	110	MAY					
27...	0825	120	09...	0910	110			
JAN			16...	1040	130			
03...	0825	98	23...	1055	140			
10...	1055	110	31...	1055	140			
17...	1240	98						
24...	1115	84						
31...	1120	84						

Chloride records are Hach kit field determination by cooperator.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
MAY 6, 1983	1555	1760	26.0	.600	.20	.060

SAMOA ISLANDS, ISLAND OF TUTUILA

141929170441401 - 90-1944-13 MALAEIMI W67

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			MAR			JUL		
05...	0940	15	15...	0925	15	06...	0945	15
13...	1010	15	22...	0940	15	12...	0950	15
19...	0855	15	APR			19...	0950	15
NOV			05...	1005	15	26...	1015	15
04...	0855	7.0	12...	1050	15	AUG		
09...	1100	15	19...	0930	15	03...	0935	15
16...	1000	15	27...	1115	15	09...	1010	15
23...	0900	15	MAY			16...	0945	15
DEC			03...	1005	15	26...	1055	7.0
07...	1005	15	12...	0935	15	SEP		
14...	0940	15	18...	0935	15	08...	1105	15
JAN			24...	1025	15	15...	0915	15
11...	1055	15	JUN			20...	1020	15
25...	0940	15	07...	0950	15	27...	1010	15
FEB			15...	0855	15			
01...	1105	15	28...	0945	15			
22...	0945	15						

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			FEB			JUN		
04...	0940	23	07...	1000	15	06...	1035	15
12...	0955	15	14...	1015	23	13...	0935	15
18...	0925	15	22...	1325	23	20...	1105	23
25...	1105	15	28...	1020	15	27...	1020	15
NOV			MAR			JUL		
01...	0910	30	07...	0955	15	05...	0930	23
08...	0935	15	14...	0950	15	11...	1025	15
15...	1145	23	21...	0945	15	18...	1120	23
16...	0915	8.5	28...	1005	23	25...	0910	23
22...	0950	15	APR			AUG		
29...	0955	15	04...	1010	30	01...	1145	23
DEC			11...	1030	15	08...	0850	15
06...	1015	15	18...	1015	15	15...	0940	23
13...	0930	15	25...	0950	15	22...	0845	33
20...	0940	30	MAY			29...	0825	23
27...	0920	38	09...	1020	15	SEP		
JAN			16...	0945	15	06...	0940	30
03...	0920	38	23...	0955	23	12...	0825	30
10...	1005	23	31...	0955	15	19...	0830	23
17...	1150	15				26...	0830	15
24...	1020	15						
31...	1030	15						

Chloride records are Hach kit field determination by cooperator.

141929170441401 - 90-1944-13 MALAEIMI W67--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV										
16...	0915	180	25.0	12	7.1	14	6.6	50	<5.0	8.5
MAY										
06...	1515	159	26.0	--	--	--	--	--	--	--

DATE[1]	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)
NOV										
16...	<.10	.110	37	--	9.20	--	--	--	240	--
MAY										
06...	--	--	--	.700	--	.30	.050	100	--	<1

DATE	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
NOV									
16...	--	--	--	--	--	--	--	15	--
MAY									
06...	<100	<10	<1	<10	<1	5	50	--	4

DATE	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
NOV									
16	--	--	3	--	--	--	--	--	--
MAY									
06...	<10	<10	--	.4	<1	2	<1	<1	10

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

SAMOA ISLANDS, ISLAND OF TUTUILA

141924170440401 - 90-1944-14 MALAEIMI W69

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			NOV		
19...	0850	270	09...	1105	270

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
AUG			SEP		
01...	1225	45	06...	0935	210
08...	0845	98	12...	0815	230
15...	0930	150	19...	0825	330
22...	0840	160	26...	0820	360
29...	0820	140			

Chloride records are Hach kit field determination by cooperator.

SAMOA ISLANDS, ISLAND OF TUTUILA

142100170441701 - 90-2044-02 ILIILI W84

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			MAR			JUL		
05...	1110	390	02...	0825	300	06...	1110	300
13...	0855	300	15...	1055	270	12...	1125	300
19...	1025	270	22...	1100	270	19...	1055	270
26...	1045	270	30...	0855	270	26...	1135	270
NOV			APR			AUG		
04...	0750	300	05...	1020	300	03...	1100	300
09...	0935	270	12...	0915	300	16...	0825	240
16...	1120	270	MAY			26...	1205	300
23...	1020	300	03...	1125	270	SEP		
DEC			12...	1100	300	08...	1015	270
07...	1120	360	18...	0810	270	15...	1045	210
14...	1115	300	24...	1140	300	20...	0955	300
JAN			JUN			27...	0945	330
11...	0930	270	07...	1050	270			
25...	1040	240	15...	0755	270			
FEB			28...	1105	270			
01...	0950	300						
22...	0830	270						

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			FEB			JUN		
04...	1015	270	07...	1115	270	06...	0925	300
12...	1025	390	14...	0835	240	13...	0830	300
25...	1145	390	22...	1405	240	27...	0905	330
NOV			28...	0905	240	JUL		
01...	0940	330	MAR			05...	0820	300
08...	1000	360	07...	1030	210	11...	0905	520
15...	1200	420	14...	0830	270	18...	1005	520
15...	1215	360	21...	0820	240	25...	1030	610
22...	1015	390	28...	0835	210	AUG		
29...	1030	330	APR			01...	0950	580
DEC			04...	1020	240	08...	1010	610
06...	1100	300	11...	0905	210	15...	1120	760
13...	0955	240	18...	0855	210	SEP		
20...	1015	370	25...	0820	240	06...	0850	610
27...	1135	300	MAY			12...	0950	610
JAN			16...	0820	330			
03...	1000	300	23...	0835	360			
10...	0925	330	31...	0835	330			
17...	1055	240						
24...	0850	300						
31...	0905	270						

Chloride records are Hach kit field determination by cooperator.

142100170441701 - 90-2044-02 ILIILI W84--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	TEMPER-ATURE (DEG C)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY 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)
NOV 15...	1200	1450	26.0	39	39	230	13	65	60	420	.30
MAY 12...	1030	--	27.0	--	--	--	--	--	--	--	--

DATE	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
NOV 15...	.010	41	--	--	14.0	--	--	--	220	11	2
MAY 12...	--	--	<.020	.500	--	<.060	<.10	.080	--	--	--

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

SAMOA ISLANDS, ISLAND OF TUTUILA

142042170463001 - 90-2046-03 MALAELOA W70

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			MAR			JUL		
05...	1015	15	02...	0905	15	06...	1025	15
13...	0940	15	22...	1020	15	12...	1030	15
19...	0930	15	30...	0810	15	19...	1025	15
NOV			APR			26...	1100	15
04...	0825	15	05...	1055	15	AUG		
09...	1020	15	12...	0950	15	03...	1025	15
16...	1035	15	19...	0850	15	09...	1055	15
23...	0930	15	MAY			16...	0905	15
DEC			03...	1045	15	26...	1030	15
07...	1040	15	12...	1020	15	SEP		
14...	1025	15	18...	0855	15	08...	0950	15
JAN			24...	1105	15	15...	1010	15
11...	1020	15	JUN			20...	0925	15
25...	1010	23	07...	1020	15	27...	0905	15
FEB			15...	0825	15			
01...	1015	15	28...	1030	15			
22...	0905	15						

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			FEB			JUN		
04...	1040	30	07...	1030	15	06...	1005	15
12...	1045	30	14...	0925	23	13...	0905	23
25...	1205	45	22...	1420	23	20...	1030	23
NOV			28...	0955	15	27...	0940	38
01...	1005	53	MAR			JUL		
08...	1020	61	07...	1050	15	05...	0855	45
15...	1245	61	14...	0915	15	11...	0950	38
22...	1100	61	21...	0905	15	18...	1040	30
29...	1045	53	28...	0915	15	25...	0955	23
DEC			APR			AUG		
06...	1120	61	04...	1110	23	01...	1055	30
13...	1020	45	11...	0950	15	08...	0930	38
20...	1030	61	18...	0925	15	15...	1035	45
27...	1105	68	25...	0910	15	22...	0935	45
JAN			MAY			29...	0910	38
03...	1025	68	09...	1100	15	SEP		
10...	0925	23	16...	0900	15	06...	0755	61
17...	1035	23	23...	0915	30	12...	0910	61
24...	0935	23	31...	0915	23	19...	0925	38
31...	0950	15				26...	0920	30

Chloride records are Hach kit field determination by cooperator.

142110170444601 - 90-2144-05 ILIILI W62

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			JUN		
05...	1040	68	07...	1035	61
13...	0920	61	15...	0805	61
19...	0950	53	28...	1045	76
NOV			JUL		
09...	1000	38	06...	1040	76
FEB			12...	1050	61
22...	0850	45	19...	1050	61
MAR			AUG		
15...	1025	38	03...	1040	68
22...	1045	38	09...	1115	76
30...	0830	38	16...	0845	61
APR			26...	1145	68
05...	1105	53	SEP		
12...	0935	45	08...	1050	45
19...	0830	61	15...	1025	38
MAY			20...	0940	30
03...	1105	53	27...	0925	45
18...	0835	53			
24...	1130	61			

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			FEB			JUN		
04...	0955	61	07...	1045	38	06...	0950	53
12...	1010	53	14...	0905	53	13...	0850	68
18...	0940	45	22...	1340	53	20...	1015	68
25...	1130	53	28...	0930	53	27...	0925	76
NOV			MAR			JUL		
01...	0925	45	07...	1010	68	05...	0840	76
08...	0945	76	14...	0855	45	11...	0910	110
15...	1200	84	21...	0845	45	18...	1020	98
22...	1035	91	28...	0900	53	25...	1010	110
29...	1010	76	APR			AUG		
DEC			04...	1045	68	01...	1015	110
06...	1040	76	18...	0910	61	08...	0950	130
13...	0940	68	25...	0845	53	15...	1050	180
20...	0950	84	MAY			29...	0925	140
27...	1120	98	09...	1110	53	SEP		
JAN			16...	0845	53	06...	0825	160
03...	0935	98	23...	0900	61	12...	0920	150
10...	0900	84	31...	0900	61	19...	0940	140
17...	1120	68				26...	0935	140
24...	0910	53						
31...	0930	38						

Chloride records are Hach kit field determination by cooperator.

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
MAY 6, 1983	1630	570	27.5	1.10	.60	.070

SAMOA ISLANDS, ISLAND OF TUTUILA

142102170455801 - 90-2145-03 PUAPUA W119

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			APR			AUG		
05...	1005	53	05...	1040	53	03...	1010	76
13...	0925	38	12...	0945	45	09...	1045	76
19...	0915	15	19...	0835	53	16...	0855	61
NOV			MAY			26...	1120	61
04...	0815	38	03...	1035	68	SEP		
09...	1010	15	12...	1005	61	08...	1005	30
DEC			18...	0845	84	15...	1000	30
07...	1025	30	24...	1120	61	20...	1000	30
14...	1015	30	JUN			27...	0920	45
JAN			07...	1010	45			
11...	1005	23	15...	0810	45			
FEB			28...	1015	53			
22...	0855	23	JUL					
MAR			06...	1015	61			
02...	0855	23	12...	1020	61			
15...	0955	45	19...	1015	61			
22...	1035	45	26...	1040	76			
30...	0820	53						

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)	DATE	TIME	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT			FEB			JUN		
04...	1055	68	07...	1020	30	06...	0955	30
12...	1030	53	14...	0910	45	13...	0855	38
25...	1155	45	22...	1410	53	20...	1020	38
NOV			28...	0940	53	27...	0930	53
01...	0950	45	MAR			JUL		
08...	1010	38	07...	1040	45	05...	0845	53
15...	1230	38	14...	0905	30	11...	0935	130
22...	1045	23	21...	0855	30	18...	1025	140
29...	1035	23	28...	0905	38	25...	0940	210
DEC			APR			AUG		
06...	1110	23	04...	1100	45	01...	1025	190
13...	1010	23	11...	0935	30	08...	0915	210
20...	1020	38	18...	0915	30	15...	1010	420
27...	1115	45	25...	0855	38	29...	0845	390
JAN			MAY			SEP		
03...	1010	38	09...	1050	38	06...	0815	420
10...	0910	76	16...	0850	38	19...	0905	390
17...	1050	45	23...	0905	45	26...	0900	420
24...	0915	45	31...	0905	45			
31...	0940	30						

Chloride records are Hach kit field determination by cooperator.

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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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