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V.I. - 25

Ground-Water Data from  
St. Thomas, Virgin Islands

By

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## Contents

	<b>Page</b>
<b>Introduction.....</b>	<b>1</b>
<b>Purpose and scope of investigation.....</b>	<b>1</b>
<b>Acknowledgments.....</b>	<b>3</b>
<b>Geography.....</b>	<b>4</b>
<b>Location and setting.....</b>	<b>4</b>
<b>Topography and drainage.....</b>	<b>5</b>
<b>Climate.....</b>	<b>6</b>
<b>Explanation of tables.....</b>	<b>7</b>
<b>Selected references.....</b>	<b>8</b>

## Illustration

	<u>Page</u>
<p>Figure 1. Map of St. Thomas, V. I., showing location of wells, test-hole sites, springs, and weather stations (in three parts)...</p>	Back

## Tables

<p>Table 1. Monthly rainfall and temperature in Turpen- tine Run valley, St. Thomas, V.I., in 1938.....</p>	9
<p>2. Water levels in wells in St. Thomas, V.I.....</p>	10
<p>3. Records of wells in St. Thomas, V. I.....</p>	17
<p>4. Logs of selected wells in St. Thomas, V.I....</p>	27
<p>5. Chemical analyses of water from selected wells and from Turpentine Run, St. Thomas, V.I.....</p>	32
<p>6. Partial chemical analyses and temperatures of water from selected wells in St. Thomas, V. I.....</p>	36

## INTRODUCTION

### Purpose and Scope of Investigation

Water of good quality has been in short supply in St. Thomas, Virgin Islands, throughout the recorded history of the island. The existing supply is obtained largely from rainfall catchments and is generally insufficient to serve the growing population and tourist industry. The perennial water shortage was acute during the severe drought of 1957. The expense of hauling water by barge from Puerto Rico as an emergency measure spurred the search for a supplementary ground-water supply, even though it was recognized that the general geologic and hydrologic conditions were not favorable for large supplies of water of good quality.

Surpentine Run valley, in the eastern part of the island (fig. 1)

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Figure 1. Map of St. Thomas, V.I., showing location of wells, test-hole sites, sinks and weather stations.

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was selected as the most likely area for the development of a ground-water supply. A test-drilling program was planned, therefore, to determine whether a substantial ground-water supply could be developed in the valley. The investigation was requested by the Government of the Virgin Islands, and the U. S. Geological Survey provided matching funds and carried out the technical phase of the work. The Government of the Virgin Islands was to assume the responsibility for arranging and financing the drilling program. The Geological Survey was to select the sites of the test holes, help to prepare specifications for construction of the holes, supervise

the drilling, test pumping, and collection of rock and water samples, and prepare a report interpreting the data in terms of the availability of water.

The sites of the test holes were selected (fig. 1) and the drilling specifications were prepared. When it became apparent that funds for the test drilling could not be made available during the period when the cooperative funds were available, however, the investigation in Turpentine Run valley was modified to a collection of basic ground-water data in the entire island. Most of the basic data collected are tabulated in this report. Some data collected during earlier investigations by McGuinness (1946) and Vaughan and Kidwell (1930) also are included.

The primary goal of the investigation still has not been achieved. The ground-water potential of the Turpentine Run valley cannot be evaluated until an adequate program of test drilling is undertaken.

The investigation was made under the general direction of A. N. Sayre, formerly Chief, Ground Water Branch, U. S. Geological Survey, and under the immediate supervision of Ted Arnow, Project Geologist (GW) of the Ground Water Branch, San Juan, Puerto Rico. D. B. Bogart, Project Hydrologist of the San Juan office, measured the flow of Turpentine Run.

### Acknowledgments

The investigation in St. Thomas was facilitated by many people, including Mr. William Seeley, Coordinator for Essential Public Projects, Mr. Donald Boreham, Commissioner of Public Works, and Miss Enid M. Bee, Chief of Libraries and Museums, all of the Government of the Virgin Islands. Others who provided assistance include Mr. Eric Ronda Henriksen, Mr. Thomas W. Donnelly, Mr. Alberto Hernandez of the U. S. Housing and Home Finance Agency, Mr. Harold Hubler, of the U. S. National Park Service, and Mr. Svendage Mylner, Miss Hilda Rodgers, and Mrs. Edith Thiele. In addition, thanks are expressed to Messrs. Watson Monroe and Jay Brubaker, U. S. Geological Survey, San Juan; Mr. Charles Koch, U. S. Soil Conservation Service, San Juan; and Mr. David Sandley, U. S. Weather Bureau, San Juan; all of whom provided technical equipment and information.

## GEOGRAPHY

### Location and Setting

St. Thomas is about 65 miles east of San Juan, P.R., and about 1,400 miles southeast of New York City. It lies approximately between  $18^{\circ}18'$  and  $18^{\circ}24'$  north latitude and between  $64^{\circ}30'$  and  $65^{\circ}05'$  west longitude. The island is one of the Virgin Islands group of which American-owned St. Thomas, St. John, and St. Croix are among the six largest. St. Thomas is the second largest of the American-owned islands; it is about 13 miles long and 1 to 4 miles wide and has an area of about 32 square miles. It is the most populous of all the American Virgin Islands, and its only city, Charlotte Amalie, where most of the population on the island is concentrated, is the seat of government for all the American Islands. Charlotte Amalie has regular steamship service from San Juan, P.R., and from the United States. Irregular calls are made by merchant ships from many other parts of the world. Daily airplane service connects St. Thomas with San Juan.

## Topography and Drainage

Most of St. Thomas is mountainous. A high central ridge extends from Bordeaux Hill in the west to Banner Hill in the east. (See fig. 1.) The highest point on the island is on the west-central part of this ridge, where Crown Mountain rises to an altitude of 1,556 feet. Throughout the island the hillsides are generally steep, those on the north commonly being steeper than those on the south. Picturesque wave-cut cliffs fringe much of the coastline, particularly where spurs of land project into the sea. Broad, flat valley bottoms are relatively rare, although there are a few, as at Magnus Bay in the north and at Long Bay, east of Bluebeard Hill, in the south.

A large part of eastern St. Thomas is occupied by the drainage basin of Turpentine Run (fig. 1). Although this basin is the largest in St. Thomas, its major stream is quite small and it disappears underground in several places, especially in dry weather. Southeast of Mount Zion, Turpentine Run ordinarily flows above ground in most of its course, as at Mariendal. South of Nadir, however, the stream is dry except during and immediately after periods of rainfall. A measurement of the flow of Turpentine Run south of Mount Zion on June 19, 1938, showed a discharge of 0.088 cubic foot per second, or 57,000 gallons per day.



## Climate

St. Thomas has a mild tropical oceanic climate, and extremes of cold or heat are rare. The mean annual temperature is about 80°F, and the mean monthly temperature ranges only 5 degrees, from about 77° in January to about 82°F in July. Data from the U. S. Weather Bureau (1958, p.142), show that the average annual precipitation at Charlotte Amalie for a 33-year period of record ending in 1950 was about 45 inches. Precipitation data have been collected at several other places in St. Thomas for short periods, and these stations, like the one at Charlotte Amalie, show that almost half the rain falls in the 4-month period from August to November. Two new stations were established in the Torpentine Run basin in 1957 (fig.1), and monthly rainfall and temperature figures for these stations are shown in table 1.

The climate of St. Thomas is not so humid as the rainfall data seem to indicate, for several reasons:

1. Most of the rain falls in light showers and much of the water is quickly evaporated.
2. Evaporation is facilitated by the warm climate and the steady blowing of the trade winds from the east.
3. The absence of a cold winter here in the Caribbean, as elsewhere in the tropics, results in a year-round growing season and a perennial loss of water due to plant transpiration.
4. The steep slopes and abundant rocky surfaces facilitate rapid runoff of the water that is not evaporated or transpired.

The net result is that only a small fraction of the annual rainfall enters the ground and reaches the water table.

## EXPLANATION OF TABLES

The wells in the following tables were numbered in the order in which the records were collected. The records with the lowest numbers are therefore the oldest and are the ones most likely to have changed with time, other things being equal. Thus, records for wells T 1 to T 24, which were scheduled in 1945, contain information which may be outdated unless they were revisited in the course of the present study. Information for older wells dated 1957 or 1958 indicates that they were revisited.

Most of the numerical data in the table of well records (table 3) is based on direct measurement. "Depth of well" figures have been rounded off to the nearest foot. Only water-level measurements reported to the nearest hundredth of a foot were made by the Geological Survey. All measurements shown with plus-or-minus signs(<sup>±</sup>) are approximate only, and those followed by a question mark are even more doubtful. The date of a measurement generally indicates its source. Measurements dated 1919—for example for wells T 204 and T 206—were made or reported by Vaughan and Kidwell (1920). Measurements dated 1945, as for example, those for T 1 and T 3 in the same table were made by McGuinness (1946). Measurements dated 1957 or 1958 were made by I. G. Grossman unless otherwise indicated. Almost all of the "Remarks" for water wells in table 3 and the logs in table 4 are from memory.

For some wells the depth as shown in the table of logs (table 4) is slightly greater than the depth as shown in the table of wells (table 3) because the log table generally records the depth of the well when originally constructed whereas the well table indicates the depth at a later date, after some filling in may have taken place.

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Table 1. - Monthly rainfall and temperature in Turpentine Run valley, St. Thomas, V.I. in 1958 (Source: U. S. Weather Bureau)

Month	Rainfall (inches)	Temperature (°F) at Winberg		
	at Estate Port	Average maximum	Average minimum	Average
January	5.39	--	--	--
February	.73	82.6	68.6 1/	73.6 1/
March	1.55	86.1	70.1 1/	78.1 1/
April	2.43	84.6	72.4 1/	78.5 1/
May	7.09	83.6	73.0	78.3
June	5.98	86.9	73.9	80.4
July	6.52	84.5	73.0	78.8
August	2.49	86.4	74.1 1/	80.3 1/
September	4.62	87.3	74.3 1/	80.8 1/
October	5.72	84.6	73.4 1/	79.0 1/
November	3.58	84.7	72.5	78.6
December	.92	83.6	71.6	77.6
Total	47.02			
Average	3.92			
Low	.73			
High	7.09			

1/ One or more observations missing.

**Table 2. - Water levels in wells in St. Thomas, V.I.  
(feet below land-surface datum)**

<b>Well T24; owner, Department of Public Works</b>			
<b>Date</b>	<b>Water Level</b>	<b>Date</b>	<b>Water Level</b>
<b>1956</b>		<b>1958</b>	
Jan. 17	4.84	Apr. 17	6.75
Jan. 29	5.17	Apr. 25	6.36
Feb. 7	5.20	May 2	6.23
Feb. 13	5.74	May 6	4.76
Feb. 17	5.78	May 16	4.92
Feb. 27	5.87	May 22	4.81
Mar. 5	6.50	May 28	5.05
Mar. 11	6.00	June 5	4.84
Mar. 19	6.20	June 11	4.83
Mar. 27	6.45	June 19	5.45
Apr. 2	6.34	June 25	5.86
Apr. 11	6.94		

Table 2. - Water levels in wells in St. Thomas, V.I.--continued  
(feet below land-surface datum)

Well T26: corner, Prudense Spring			
Date	Water Level	Date	Water Level
1957		1958	
Nov. 27	9.90	Mar. 13	4.72
Dec. 4	10.43	Mar. 19	5.06
Dec. 11	10.74	Mar. 26	5.22
Dec. 18	8.95	Apr. 2	4.91
Dec. 25	9.57	Apr. 9	5.56
1958			
Jan. 1	5.41	Apr. 16	3.51
Jan. 3	5.32	Apr. 23	3.18
Jan. 9	5.97	May 2	5.40
Jan. 15	3.99	May 6	3.78
Jan. 23	3.77	May 17	3.66
Jan. 29	3.78	May 28	3.80
Feb. 5	3.86	June 5	3.70
Feb. 12	3.90	June 11	3.76
Feb. 19	4.28	June 19	3.87
Feb. 26	4.47	June 24	3.84
Mar. 5	4.76		

Table 2. - Water levels in wells in St. Thomas, V.I. -- continued  
 (feet below land-surface datum)

Well T35: corner, Louis E. Lindqvist				
Date	Water Level	Date	Water Level	
1957		1958		
Nov. 26	17.50	May 22	9.31	
Apr. 2	12.12	May 28	9.18	1958
Apr. 11	12.90	June 5	9.20	
Apr. 17	12.90	June 11	8.90	
Apr. 23	12.39	June 19	9.16	
May 2	12.50	June 24	9.23	
May 6	11.63			
May 16	10.69			

Table 2. - Water Levels in wells in St. Thomas, V.I. -- continued  
(feet below land-surface datum)

Well T41; owner, Department of Public Works			
Date	Water Level	Date	Water Level
1957		1958	
Dec. 10	3.33	Apr. 11	2.24
Jan. 9	0.66	Apr. 17	3.00
Feb. 7	.25	Apr. 23	1.64
Feb. 13	.25	May 2	1.40
Feb. 19	.95	May 16	.00
Feb. 27	1.25	May 22	---
Mar. 5	1.40	May 28	.44
Mar. 11	1.92	June 11	.29
Mar. 19	2.12	June 19	.91
Mar. 27	3.06	June 24	1.11
Apr. 2	2.87		



Table 2. - Water levels in wells in St. Thomas, V.I. -- continued  
 (feet below land-surface datum)

Well 152; owner, Department of Public Works			
Date	Water Level	Date	Water Level
	1957		1958
Dec. 10	7.99	Apr. 2	7.60
	1958		
Jan. 3	3.12	Apr. 11	7.95
Jan. 9	4.48	Apr. 17	8.20
Jan. 16	2.89	Apr. 23	8.18
Jan. 23	2.95	May 2	8.43
Jan. 29	3.22	May 6	4.25
Feb. 7	3.75	May 16	3.22
Feb. 13	4.10	May 22	4.65
Feb. 19	4.79	May 28	3.37
Feb. 27	5.46	June 5	3.69
Mar. 5	5.94	June 11	2.97
Mar. 11	6.41	June 19	4.15
Mar. 19	6.90	June 24	4.79
Mar. 27	7.35		

Table 2. - Water levels in wells in St. Thomas, V.I.—continued  
(feet below land-surface datum)

Well T 54; owner, Department of Public Works				
Date	Water Level	Date	Water Level	
	1957		1958	
Dec. 12	7.22	Apr. 23	7.51	
Feb. 19	4.06	May 2	8.00	1958
Feb. 27	4.65	May 6	5.27	
Mar. 5	5.15	May 16	3.20	
Mar. 11	5.46	May 22	2.84	
Mar. 19	6.10	May 28	3.10	
Mar. 27	6.64	June 5	3.32	
Apr. 2	6.83	June 11	3.05	
Apr. 11	7.40	June 19	3.68	
Apr. 17	7.70	June 24	4.13	

Table 2. - Water levels in wells in St. Thomas, V. I.--continued  
(feet below land-surface datum)

Well 187; owner, Ramona Johnson				
Date	Water Level	Date	Water Level	
	1958		1958	
Feb. 13	5.80	May 6	4.30	
Mar. 13	6.43	May 16	5.10	
Mar. 19	7.00	May 22	4.48	
Mar. 27	7.19	May 28	5.41	
Apr. 2	7.04	June 5	5.26	
Apr. 11	8.00	June 11	5.32	
Apr. 17	7.76	June 19	5.89	
Apr. 23	6.82	June 24	5.95	
May 2	6.83			

Table 3. - Records of wells in St. Thomas, V.I.

Altitude: Approximate altitude from topographic maps.

Type of well: Drl, drilled; Drv, driven.

Method of lift and type of power: B, bucket; C, cylinder; CF, centrifugal; E, electric; G, gasoline; H, hand; N, none; S, suction; T, turbine; W, wind.

Use: B, domestic; O, other; P, public supply; S, stock; T, test hole or observation well; U, unsuccessful well, or use discontinued.

Remarks: Spd, gallons per day; gpm, gallons per minute; (a) partial water analysis in table 6; (b) water analysis in table 5; (c) log of well in table 4; (d) log of well available in San Juan office of U.S. Geological Survey, Water Resources Division; (e) water-level measurements in table 2.

Well No.	Owner or name	Altitude	Depth	Type of well	Material	Use	Date	Water level	Remarks
1	V.I. Housing & Redevelopment Authority	10	20	Dug	Unconsolidated deposits	U	10-8-45	3.02	Drilled 11, 11-83-7185 formerly hooked up to collecting gallery; supplied boiler water for ships. Water became saline; wells abandoned. Wells overflowed after hurricane in 1916. <i>g/</i>
2	Dept. of Public Works	30	13	Dug	Colluvium?	P, U	10-8-45	7.06	Reportedly contaminated by salt water from nearby fire hydrant. <i>g/</i>
3	do.	15-20	12	Dug	do.	P	1-9-50	3.68	Supplies several families. <i>g/</i>
4	do.	30	36	Dug	Alluvium (and bedrock?)	P	10-8-45	6.72	(a) (b).
5	do.	15	17	Dug	Colluvium?	P	10-8-45	9.66	(a) (b).
6	do.	20	15	Dug	do.	P	1-10-58	2.97	(a) (b).
7	do.	15	11	Dug	do.	U	10-8-45	5.54	Formerly supplied public. Sealed when visited 1-10-50. <i>g/</i>
8	do.	15	9	Dug	do.	P	1-10-58	3.08	(a) (b).
9	do.	160	216	Dr1	Decomposed bedrock	U	10-8-45	3.99	Only drilled well on island. Core-ered over when visited on 1-9-50.
10	do.	10	11	Dug	Alluvium & colluvium	U	10-8-45	15.09	Yield 15 gals. per hr. <i>g/</i>
11	do.	15	14	Dug	Colluvium (6 alluvium?)	P	1-14-58	16.53	Location approximately not located in field in 1957. <i>g/</i>

Table 3. - Records of wells in St. Dennis, V.I. -- continued

113	Dept. of Public Works	35	Dug	27				14.2	10-8-43	U	Formerly supplied public. <i>W</i> <i>N</i>
					8	Alluvium		15.93	1-17-50	B, H	Supplies at least three families
114	do.	25	Dug	39		(6 bedrock?)		18.95	10-8-43	P	with water for washing. <i>W</i> <i>N</i>
					8	Colluvium		18.12	1-15-58	B, H	Location approximately not located
115	do.	25	Dug	19		(6 alluvium?)		13.44	10-9-43	U	in field in 1957. <i>W</i>
											Probably contaminated by nearby
116	do.	20	Dug	15		do.		7.32	10-8-43	B, H	salt water fire hydrant. <i>W</i> <i>N</i>
					6	do.		9.65	10-8-43	U	Possibly contaminated by nearby
117	do.	15	Dug	18		do.		10.71	6-12-33	U	salt-water main. <i>W</i> <i>N</i>
											horizontal well of open-joint
											24-in. pipe 100 ft. long & 4 ft. deep. Formerly supplied fish mar-
119	do.	5	Dug	6		Sand		3.38	10-11-45	B, H	kt. <i>W</i>
											Used as observation well in 1945;
121	do.	30			0.5	Alluvium		--	--	U	no longer in existence in 1957.
123	do.	40	Dug	40		do.		7.10	1-3-58	B, H	Yield less than 1 gpm. <i>W</i>
124	do.	15	Dug	14		bedrock		4.84	1-17-58	B, H	Yield about 10 gpm. <i>W</i> <i>N</i>
125	G. E. Lockhart	270	Dug	32		Alluvium		12.12	11-12-57	B, H	Supplies stock occasionally. <i>W</i>
126	Svendmøge									B, S	Observation well. <i>W</i> <i>N</i>
127	Jørgen Fog	10	Dug	17		Clay & boulders		5.97	1-9-58	S, L	
											Supplies water for mixing concrete.
128	V.I. Housing & Redevelopment Authority	16	Dug	16		Unconsolidated deposit		6.89	3-10-58	--	Wells 113 & 134 also on property.
											128-132, 1197 hauled up to collect-
129	do.	16	Dug	15		Sand		6.89	3-11-58	C, E	Dug gallery. Not used in 1957.
130	do.	16	Dug	19		do.		5.36	3-11-58	C, E	See 128, "Remarks".
131	do.	16	Dug	16		do.		5.45	3-11-58	C, E	Do.
132	do.	16	Dug	15		do.		--	--	C, E	Do.
											Do.
											Not in use when visited April 1958.
133	Jørgen Fog	10	Dug	17		Unconsolidated deposit		7	--	H	Will supply water for washing and flushing.
											Converted to storage tank by seal-
134	do.	10	Dug	--		do.		--	--	H	ing with concrete. 127 & 133 also on property.
135	Louis E. Blodgett	120	Dug	16		Clay and boulders		17.50	11-26-57	B, S	Completely dry in dry period of 1957. Observation well. <i>W</i> <i>N</i>

Table 3. - Records of wells in St. Thomas, V.I.--continued

136	Dept. of Pub- Works	8	Dug	11	8	Unconsolidated deposit	6	13-18-14	--	Drawdown 4 ft. after pumping about 2 gpm for about 4 hrs. Yield about 2 gpm. <i>S/ M/</i>
137	H.E. Lockhart, Jr.	20	Dug	23	15	do.	6.58	12-12-57	8, E	Supplies 1 family and 110 head of cattle. <i>M/</i>
138	H.E. Lockhart, Jr.	20	Dug	18	8	Unconsolidated deposit	13.73	11-27-57	8, E	Supplies 2 families, 15 horses, and 6 head of cattle. <i>M/</i>
139	H.E. Lockhart, Jr.	20	Dug	20	5	Sand and gravel	3.33	12-10-57	C, E	Observation well. <i>M/ S/ G/</i>
141	Dept. of Public Works	30	Dug	3	5.5	Unconsolidated de- posit & bedrock	4.96	12-3-57		Flows in springtime. Supplies 2 families, 150 cows, 10 horses. <i>M/</i>
142	H.E. Lockhart, Jr.	180	Dug	9	9	do.	.33	6-4-58	8, E	Formerly supplied stock. Dry when visited 12-3-57.
143	B.V. Strommel-	520	Dug	11	13	do.	--	--	M	Well supplies stock occasionally.
144	Sunny Hartman	150	Dug	3	3.5	Alluvium	.21	12-3-57	B, H	Drawdown 2 ft. in wet season and 8 ft. in dry season after pumping about 5 gpm for 3 hrs. <i>M/</i>
145	do.	150	Dug	12	6	do.	4.19	12-4-57		
146	St. Thomas	175	Dug	24	7	Clay and boulders	3.62	6-4-58	H	
147	do.	150	Dug	31	9	do.	24.20	12-5-57	G	Supplies two families with all water except drinking water. <i>M/ M/</i>
148	do.	160	Dug	17	9	do.	12.73	12-5-57	G, E	Supplies small quantity for water- ing lattices. Dries up in dry season. <i>M/</i>
149	William Christensen	145	Dug	16- 19	11	Unconsolidated de- posit & bedrock	16.26	12-3-57	8, E	Three ft. of bedrock at bottom encountered with pneumatic drill. <i>G/</i>
150	Louis Lind-					Unconsolidated deposit	8.45	12-5-57	C	Water level fluctuates in response to tides in nearby bay. Water be- comes more saline after pumping.
151	Mervyn Estate for Brodman Estate	35	Dug	3	1.5	Alluvium	9.48	12-6-57	8, E	Well dries up in prolonged dry weather. Supplies 2 (formerly 10) people.

Table 3. - Records of wells in St. Thomas, V.I.--continued

152	Dept. of Public Works	20	Dug	15	10	Sandy clay	7.99	12-10-58	S,N	P	Supplies about 20 people. Dewatered 3 ft. (emptied well) after pumping 50 gpm for 1 hr. <i>b/g</i>
153	Landvisit	15	Dug	6	25	Unconsolidated deposit	--	--	N	U	Well dry when visited on 12-10-57, after rain.
154	Dept. of Public Works	15	Dug	14	3.5	Sand and gravel	7.22	12-12-57	S,E	O	Dewatered about 9 ft. (emptied well) after pumping about 18 gpm for 8 hrs. See 1189 "Remarks." <i>b/g/g</i>
155	Govt. of Virgin Islands	240	Dug	20	9	Unconsolidated deposit	8.28	1-15-58	S	S	Formerly supplied OCC camp containing 200 men. Supplied a few cattle and horses in 1957-58.
156	William Christensen	120	Dug	24	8	Sandy clay	22.40	12-13-57	S,E	O,S	Yield 5 gpm when well was about 18 ft. deep. After completion, drawn down about 9 ft. after pumping about 8 gpm for 9 hrs. <i>S</i>
157	Castle Hotel	20	Dug	17	--	Unconsolidated deposit	14.70	3-10-58	--	--	Never used; water too highly mineralized. Location approximate. Data from Vaughan, 1950. <i>b</i>
158	Dept. of Public Works	110 <sup>+</sup>	Dug	21	5	Clay and boulders	11	6-18-19	N	I	<i>do.</i>
159	do.	110-	Dug	15	5	do.	11	6-18-19	N	I	Reported dry; overgrown with vegetation when visited on 1-16-57.
160	Louis Lindquist	25	Dug	--	--	Unconsolidated deposit	--	--	N	U	Supplies water for showers at bath house.
161	Govt. of Virgin Islands	5	Dug	7	10	Sand	4.50	11-14-58	N	P	Bedrock crops out across highway opposite well.
162	James Robertson	170	Dug	19	9	Unconsolidated deposit	18.50	1-15-58	NT	NT	Formerly supplied 25 head of stock.
163	Clarence Bayne										Dries up in dry season.
164	Augustin Mann	15	Dug	18	8	do.	2.66	1-15-58	N	U	
165	Antilles Export Priests Inc.	10	Dug	13	7	do.	1.70	1-15-58	N	U	
166	Sunny Hartman	20	Dug	20	6	do.	.10	1-16-58	N	U	
167	Ellas Lando	10	Dug	8	10	do.	2.29	1-16-58	S,N	--	Water brackish. Supplies about 20 head of stock.
168	Leah Vennum	15	Dug	13	6.5	Alluvium	4.48	1-16-58	S,N	S	Dry except in rainy weather. Water brackish. Supplies five horses.
T 69	Govt. of V.I.	25	Dug	24	9	Unconsolidated deposit	29.68	1-16-58	CT,E	P	Supplies about 30 people
T 70	Duncan Francis	15	Dug	18	7	do.	6.84	1-17-58	S,N	S	Well has dried up since. Supplies 2 families and 3 cows.
T 71	B.E. Bayne	15	Dug	16	7.5	do.	11.99	1-21-58	N	U	Water slightly brackish. <i>g</i>

Table 3. - Records of Wells in St. Thomas, V.I.--continued

172	Virginia Islands Corp.	20	Dug	11	3.5	Unconsolidated deposit	5.58	1-21-58	B, H	S	Water slightly brackish. Sup- plies 15 cattle, 3 horses and 3 donkeys.
173	West Indies Investment Co.	20	Dug	15	6	do.	14.29	1-22-58	H	U	Water brackish but fit for catching
174	do.	10	Dug	19	8	do.	6.61	1-22-58	B, H	D	Never dry; supplies sole remain- ing resident.
175	Govt. of Virginia Islands	20	Dug	11	8.5	do.	8.17	1-22-58	H	U	has gone dry twice in 25 years. See 177 'Remarks'.
176	Christian Purvisson	80	Dug	21	7.5	do.	11.02	1-22-58	B, H	S	together with 176 supplies 40 head of cattle. Never dry.
177	do.	50	Dug	23	11.5	do.	6.08	1-22-58	B, H	S	Formerly 12 ft. deep; filled in by stream. Dry when visited on 1-22-58.
178	A.N. De Lago Govt. of	560	Dug	3	6	Alluvium	--	--	H	U	Formerly supplied household.
179	Virginia Islands	15	Dug	4	7	do.	.50	1-22-58	H	U	
180	David Palmer Govt. of	400	Dug	9	7	Unconsolidated de- posit & bedrock	6.84	1-23-58	B, H	B, S	Never dry. Supplies 6-12 peopple, 55 cattle, and 3 donkeys.
181	Virginia Islands	320	Dug	14	7	Alluvium	6.44	1-24-58	H	U	
182	James Robert- son	195	Dug	5	10	Unconsolidated de- posit & bedrock	2.84	1-24-58	H	U	1791 also on property.
183	Dept. of Public Works (muni- cipal cemetery)	15	Dug	13	10	Unconsolidated deposit	6.92	1-30-58	B, H	P	Supplies 100+ people with all water except drinking water.
184	A.N. De Lago	10	Dug	4	8	do.	--	--	H	U	Dry when visited on 1-30-58
185	J.C. Werk Norwegian Hils-	490	Dug	11	5-3	do.	--	--	U	U	Dry; never used.
186	alien	15	Dug	8	5	do.	1.67	1-31-58	--	U	Breakdown about 3 ft. (wall emptied) after pumping & gas for 6 hrs. Observation well. b/ g/
187	Thomas John- son	140	Dug	15	6	Stoney clay	5.60	1-18-58	S	S	
188	Govt. of Virginia Islands	25	Dug	9	6	Clay	3.97	1-19-58	B, H	S	has overflowed at least once.



Table 3. - Records of wells in St. Thomas, V.I.--continued

Well No.	Location	Depth (ft)	Drilling Method	Stratigraphy	Water Depth (ft)	Remarks	Notes
189	Water Island, Inc.	5	Dug	Unconsolidated deposit	3.53	16-16-58	Situated on Water Island.
190	do.	10	Dug	do.	5.30	16-16-58	do.
191	V.I. Housing & Redevelopment Authority	10	Drv	Sand, gravel, and silt	5.7	14-56	Test hole for foundation. Data from report by Foundation Engineering Co. of Puerto Rico (1956). <i>sl</i>
192	do.	15	Drv	do.	6.0	14-56	Test hole for foundation. Data from report by Foundation Engineering Co. of Puerto Rico (1956). <i>sl</i>
193	do.	15	Drv	Silt and clay	5.0	14-56	do.
194	do.	10	Drv	Sand, silt, & clay	3.0	14-56	do.
195	do.	10	Drv	Silt & clay	3.0	14-56	do.
196	do.	10	Drv	Sand, gravel, and silt	1.0	14-56	do.
197	do.	10	Drv	Sand	3.8	14-56	do.
198	do.	5	Drv	Sand, gravel, silt, and clay	1.0	14-56	do.
199	do.	10	Drv	Sand, silt, and clay	3.3	14-56	do.
1100	do.	10	Drv	clay	4.5	14-56	do.
1101	do.	10	Drv	Sand, gravel, & clay	4.0	14-56	do.
1102	do.	15	Drv	Gravel, silt, and clay	5.5	14-56	do.
1103	do.	15	Drv	Sand and silt	5.3	14-56	Test hole for foundation. Data from report by Foundation Engineering Co. of Puerto Rico (1956). <i>sl</i>
1104	do.	10	Drv	Sand, gravel, silt, & clay	2.2	14-56	do.
1105	do.	10	Drv	Sand and clay	4.0	14-56	Test hole for foundation. Data from report by Foundation Engineering Co. of Puerto Rico (1956). <i>sl</i>
1106	do.	10	Drv	Sand, silt, & clay	3.3	14-56	do.
1107	do.	5 +	Drv	Sand, gravel, silt, and clay	5.0	14-56	do.
1108	do.	5	Drv	Sand, silt, & clay	3.6	14-56	do.
1109	do.	5 +	Drv	Sand, gravel, and silt	5.0	14-56	do.
1110	do.	5	Drv	Sand, gravel, silt, and clay	1.5	14-56	do.
1111	do.	5 +	Drv	Sand and silt	5.5	14-56	do.
1112	do.	10	Drv	Sand and gravel	3.4	14-56	do.
1113	do.	10	Drv	Sand, silt, & clay	3.5	14-56	Test hole for foundation. Data from report by Foundation Engineering Co. of Puerto Rico (1956). <i>sl</i>
1114	do.	5	Drv	Sand, gravel, silt, & clay	2.8	14-56	do.

Table No. 3. - Records of wells in St. Thomas, V.I.--continued

V.I. Housing & Redevelopment Authority	Well No.	Authority	Depth (ft)	Material	Remarks	Notes
TI15	21	do.	0.2	Sand, silt, and clay	1.6: 4-56	Test hole for foundation. Data from report by Foundation Engineering Co. of Puerto Rico (1956). d/
TI16	21	do.	.2	do.	2.2: 4-56	do.
TI17	29	do.	.2	Sand, silt, and peat	2.2: 4-56	do.
TI18	26	do.	.2	Sand, gravel, silt, & clay	2.2: 4-56	do.
TI19	22	do.	.2	Sand, gravel, and silt	1.1: 4-56	do.
TI20	17	do.	.2	Sand & clay	1.3: 4-56	do.
TI21	25	do.	.2	Sand, gravel, and peat	1.0: 4-56	do.
TI22	21	do.	.2	Sand, silt, and peat	1.5: 4-56	do.
TI23	39	do.	.2	Gravel, silt, and clay	2.2: 4-56	do.
TI24	16	do.	.2	do.	2.5: 4-56	do.
TI25	32	do.	.2	Sand, gravel, silt, & clay	3.5: 4-56	Test hole for foundation. Data from report by Foundation Engineering Co. of Puerto Rico (1956). d/
TI26	95	do.	.2	Gravel & clay	--	do.
TI27	90	do.	.2	Sand & gravel	--	do.
TI28	70	do.	.2	do.	--	do.
TI29	80	do.	.2	do.	--	do.
TI30	85	do.	.2	do.	--	do.
TI31	80	do.	.2	do.	--	do.
TI32	40	do.	.2	do.	--	do.
TI33	40	do.	.2	do.	--	do.
TI34	35	do.	.2	do.	--	do.
TI35	35	do.	.2	Sand, gravel, silt, & clay	.8 4-56	Test hole for foundation. Data from report by Foundation Engineering Co. of Puerto Rico. (1956). d/
TI36	19	do.	.2	Sand, silt, and clay	1.2: 4-56	Test hole for foundation. Data from report by Foundation Engineering Co. of Puerto Rico (1956). d/
TI37	41	do.	.2	do.	1.3: 4-56	do.

Table 3. - Records of wells in St. Thomas, V.I.--continued

TL38	do.	5	Drv	21	0.2	1.5	14-56	N	I	Do.	
TL39	do.	5	Drv	21	.2	1.4	14-56	N	I	Do.	
TL40	do.	5	Drv	31	.2	.0	14-56	N	I	Do.	
TL41	do.	5	Drv	24	.2	1.5	14-56	N	I	Do.	
TL42	do.	20	Drv	5	.2			N	I	Do.	Test hole for foundation. Data from report by Foundation Engineer--Ing. Co. of Puerto Rico (1956). S/
TL43	do.	40	Drv	5	.2			N	I	Do.	Test hole for foundation. Data from report by Foundation Engineer--Ing. Co. of Puerto Rico (1956). S/
TL44	do.	50	Drv	13	.2			N	I	Do.	Test hole for foundation. Data from report by Foundation Engineer--Ing. Co. of Puerto Rico (1956). S/
TL45	do.	60	Drv	5	.2			N	I	Do.	Test hole for foundation. Data from report by Foundation Engineer--Ing. Co. of Puerto Rico (1956). S/
TL46	Simolina Jacobs	10	Dug	12	3.3	6.70	3-10-58	B,H	O		Occasionally supplies water for making concrete.
TL47	Alphonse Bel-										
TL47	Estimate	5	Dug	10	6.3	4.60	3-10-58	--	O	Do.	
TL48	do.	5	Dug	11	11	3.77	3-10-58	N	U	Do.	
TL49	do.	10	Dug	10	6.7	4.58	3-10-58	B,H	B	(b).	
TL50	do.	30	Dug	17	12	24.69	3-10-58	N	U	Formerly supplied dairy.	
TL51	Mariano Lima	20	Dug	10	5	4.58	3-11-58	--	D	New well; pump to be installed.	
TL52	Alphonse Bel-	15	Dug	18	8-5	12.69	3-11-58	E	D,O	Supplies 3-10 people and less than 70 ypd for 2 gardens. S/	
TL53	Alfredo Lima	20	Dug	22	4	13.61	3-11-58	S,E	D	Supplies four families.	
TL54	Alvaro Jacobs	--	Dug	18	--	9.35	3-11-58	--	--		
TL55	Eduardo Corn-										
TL55	airo	10	Dug	11	2.75	1.41	3-11-58	B,H	D,O	Supplies four persons and garden.	
TL56	Robinson O'Neal	10	Dug	15	5	7.65	3-11-58	S,E	D		
TL57	Ray Lindqvist	20	Dug	17	3	12.94	3-11-58	S,E	B,O	Supplies family and garden.	
TL58	West Indian Co.	15	Dug	17	2.5	5.41	3-11-58	B,H	D,S	Supplies 12- goats & 2 persons.	
TL59	J. F. Scott	30	Dug	25	12	23.50	3-11-58	S,E	D,S	Supplies 3 persons and about 800 chickens.	
TL60	Gerril Estrell	25	Dug	24	4	19.30	3-11-58	S,E	D,O	Supplies family and garden.	
TL61	V.L. Hausing & Redevelopment Authority	10	Drv	24	.2	4(-1)	1951	N	U	Test hole for foundation. Data from report by Foundation Engineer--Ing. Co. of Puerto Rico(1951). S/	
TL62	do.	10	Drv	26	.2	4(-1)	1951	N	U	Test hole for foundation. Data from report by Foundation Engineer--Ing. Co. of Puerto Rico (1951). S/	
TL63	do.	10	Drv	31	.2	4(-1)	1951	N	U	Test hole for foundation. Data from report by Foundation Engineer--Ing. Co. of Puerto Rico (1951). S/	
TL64	do.	5 +	Drv	26	.2	4(-1)	1951	N	U	Test hole for foundation. Data from report by Foundation Engineer--Ing. Co. of Puerto Rico (1951). S/	
TL65	do.	10	Drv	25	.2	4(-1)	1951	N	U	Test hole for foundation. Data from report by Foundation Engineer--Ing. Co. of Puerto Rico (1951). S/	
TL66	do.	5 +	Drv	21	.2	4(-1)	1951	N	U	Test hole for foundation. Data from report by Foundation Engineer--Ing. Co. of Puerto Rico (1951). S/	

Table 3.- Records of wells in St. Thomas, V.I.--Continued

Well No.	Authority	Depth (ft)	Drill Date	Drill Bit	Drill Rate (ft/hr)	Drill Time (hr)	Drill Bit	Drill Rate (ft/hr)	Drill Time (hr)	Drill Bit	Drill Rate (ft/hr)	Drill Time (hr)	Drill Bit	Drill Rate (ft/hr)	Drill Time (hr)	Notes
T167	V.I. Housing & Redevelopment Authority	54	1951	0.2	Clay & sand (?)	4(-1)	1951									Test hole for foundation. Data from report by Foundation Engineering Co. of Puerto Rico (1951). d/
T168	do.	54	1951	.2	clay, gravel, & sand	4(1)	1951									Do.
T169	do.	5-10	1951	.2	Gravel & clay	4(1)	1951									Do.
T170	do.	10	1951	.2	do.	4(1)	1951									Do.
T171	do.	10	1951	.2	Sand & clay	4(1)	1951									Do.
T172	do.	10	1951	.2	Gravel & clay	4(1)	1951									Do.
T173	do.	54	1951	.2	Sand, gravel, & sand clay	4(1)	1951									Do.
T174	do.	10	1951	.2	Gravel & clay	4(1)	1951									Do.
T175	do.	54	1951	.2	Sand, gravel, & sand clay	4(1)	1951									Do.
T176	do.	54	1951	.2	Gravel, clay, & sand	4(1)	1951									Do.
T177	do.	54	1951	.2	Sand, gravel, & sand clay	4(1)	1951									Do.
T178	do.	54	1951	.2	Gravel & clay	4(1)	1951									Do.
T179	do.	54	1951	.2	do.	4(1)	1951									Do.
T180	do.	54	1951	.2	Sand, gravel, & sand clay	4(1)	1951									Do.
T181	do.	10	1951	.2	Gravel & clay	4(1)	1951									Test hole for foundation. Data from report by Foundation Engineering Co. of Puerto Rico (1951). g/
T182	Mount Indian Co.	10	1915	5	Gravel & clay	10-4	1915									T1, T182-T185 formerly located up to collecting gallery; supplied bottom water for ships. Water became saline; walls shrank. Walls overflowed after hurricane in 1916.
T183	do.	10	1915	5	do.	10-4	1915									Do.
T184	do.	10	1915	5	do.	10-4	1915									Do.
T185	do.	10	1915	5	do.	10-4	1915									Do.
T187	V.I. Housing & Redevelopment Authority	10	1957	6	Unconsolidated deposit	5.47:1-12-57	1957									T187, T189-T192 located up to collecting gallery. Not used in 1957. h/

Table 2. - Records of wells in St. James, V.I.,--continued

Well No.	Owner	Depth	Drill Date	Drill	Remarks	Yield	Notes
T188	St. James Mission	290	Aug	22	Unconsolidated deposit	13.06	Supplies 20 gal to irrigate plants. Overflows after heavy rains.
T189	Dept. of Public Works	15	Aug	7	Sand and clay	6.85	Tapline with T190 connected to T84 by horizontal collecting pipe.
T190	do.	15	Aug	6	do.	3.33	Supplies about 200 gals. in 6 hrs.
T191	James Robertson	190	Aug	10	Clay	3.51	Supplies about 32 gals in 6 hours.
T192	John Palmer	15	Aug	9	do.	5.52	(b).
T193	Office of Territories	15	Dr	14	Sand	2.37	T193, T194, T195 with perforated 4-in. casings connected to common header. Yield inadequate; wells abandoned.
T194	do.	15	Dr	14	do.	--	See T193 "Remarks".
T195	do.	15	Dr	14	do.	--	do.
T196	General Court	5	Aug	6	Clay	4.67	Recessed 2 ft. (emptied well) after pumping 25 gals. in 4 hrs; recovered to non-pumping level in 6 hrs.
T197	John Palmer	15	Aug	6	do.	1.85	Minor breakish.
T198	Demelia Bolegard	30	Aug	30	do.	26.34	Never dry.
T199	Dept. of Public Works	25	Aug	31	Unconsolidated deposit	24.26	Dry in 1957.
T200	Samuel Johnson	35	Aug	26	Clay	18.80	Do.
T201	Alingia Islands Camp	40	Aug	42	Unconsolidated deposit	20.21	Generally dry except after rains.
T202	Dept. of Public Works	25	Aug	19	do.	16.5	Formerly supplied stock.
T203	Local Eastern Hospital	45	Aug	30	do.	14.25	(b).
T204	Dept. of Public Works	10	Aug	12	do.	140	(b).
T205	do.	5-10	Aug	--	Rock	34.55	Formerly supplied water for stock and washing.
T206	do.	5-10	Aug	9	do.	9	Formerly supplied garden. } Do. } Water supply used for drinking only. } Supplies three families. }
T207	Louis Mitchell	10	Aug	10	Unconsolidated deposit	7.09	
T208	Dept. of Public Works	10	Aug	15	do.	6.12	
T209	do.	15-10	Aug	9	do.	4.25	Formerly supplied hotel.
T210	Lawrence Lambert	15	Aug	14	do.	12.75	New well; pump to be installed.
T211	Arthur's Brewery Club	15	Aug	12	do.	9.30	
T212	Govt. of Virginia Islands	200			Alluvium & bed-rock		Spring supplies more than 300 gal per hour. Yield here about 100 gal per hour. Pumping out and about 100 gal per hour. Yield here about 100 gal per hour.

Table 4.-Logs of selected wells in St. Thomas, V. I.

		Thickness (feet)	Depth (feet)
T 10;	North of Hospital, Charlotte Amalie; drilled by Dept. of Public Works about 1927.		
	Soil.....	1	1
	Clay and decayed rock, reddish-brown (Yield 0.25 gpm at 30 ft.).....	29	30
	"Blue Bitch," fresh bluish-gray bedrock, hard (no water)..... Yield 15 gals. per hour.	186	216
T 23;	Banner; dug by Dept. of Public Works in 1945.		
	Soil.....	1	1
	Sand, fine, and gravel; grayish-brown, moist .....	9	10
	Clay, yellowish-brown, with gravel (water-bearing at 25 ft.).....	15	25
	Cobbles, small (water-bearing).....	12	37
	Bedrock, gray..... Yield less than 1 gpm.	3	40
T 24;	Southwest of Coki Bay; dug by Dept. of Public Works in 1945.		
	Clay, reddish-brown, with sand and cobbles .....	8	8
	Sand and gravel (1-inch pebbles) with some clay, reddish-brown (most water here) .....	4f	12f
	Clay, reddish-brown (some water).....	4	16
	Yield about 10 gpm during dewatering when 10 ft. deep on 10-11-45.		
T 41;	North of Nadir; dug by Dept. of Public Works about 1942.		
	Gravel, with leaves .....	5	5
	Clay, yellowish-brown (some water)....	3	8
	Sand, gravel, and muck (most water here)	2	10
	Clay .....	2	12
	Sand and gravel, muddy .....	2	14
Clay, 'greasy' with 1-inch to 2-inch pebbles and cobbles .....	7	21	

Table 4.-Logs of selected wells in St. Thomas, V. I.-Continued

		Thickness (feet)	Depth (feet)
T 49;	Southeast of Tutu; dug in 1957.		
	Topsoil, black .....	2	2
	Subsoil, red .....	3	5
	'Marl', white, sticky .....	2	7
	Rock, crumbled .....	1.5	8.5
	Marl, white .....	2	10.5
	Unconsolidated material, red, stony (water-bearing) .....	6	16.5
	"Blue Bitch" (bedrock), hard (water- bearing) .....	3	19.5
T 54;	South of Nadir; dug by Dept. of Public Works about 1949; deepened in 1957.		
	Clay, yellow .....	2	2
	Sand, brown (water at bottom) .....	4	6
	Clay, yellow, and sand, some cobbles (water-bearing) .....	1.5	7.5
	Gravel, gray (main water-bearing bed) Yield about 18 gpm.	7.5	15
T 56;	Southeast of Tutu; dug in 1954.		
	Soil .....	4	4
	Cobbles, 1-inch, some larger, of weathered rock (no water) .....	4	8
	Clay, sandy, gray (water-bearing below 13 ft.) .....	15	23.5
	Yield 8 gpm.		
T 91;	Frenchtown, Charlotte Amalie; test hole driven by The Foundation Engineering Co. of P. R., Inc., in 1956; data from typewritten report.		
	Gravel, fine, brown, and sand; some silt and shells .....	9	9
	Sand, fine, silty, light-gray, with shells .....	7	16
	Silt, clayey, gray, organic .....	7	23
	Sand, clayey, brown, with trace of gravel .....	6	29
	Sand, clayey, tannish-white, cemented	2	31

Table 4.-Logs of selected wells in St. Thomas, V. I.-Continued

		Thickness (feet)	Depth (feet)
T 103;	Frenchtown, Charlotte Amalie; test hole driven by The Foundation Engineering Co. of P. R., Inc., in 1956; data from typewritten report.		
	Sand, silty, dark-brown, some corals	6	6
	Silt, fine, sandy, dark bluish-gray	6	12
	Sand, clayey, reddish-brown .....	7	19
T 104;	East of Frenchtown, Charlotte Amalie; test hole driven by The Foundation Engineering Co. of P. R. in 1956; data from typewritten report.		
	Sand, fine, light-gray, with shells.	10	10
	Silt, greenish-gray, organic .....	7	17
	Silt, sandy, light-gray, with pebbles	7	24
	Clay, sandy, reddish-brown, some gravel .....	14	38
	Sand, silty, brown, cemented .....	4	42
T 113;	East of Frenchtown, Charlotte Amalie; test hole driven by The Foundation Engineering Co. of P. R. in 1956; data from typewritten report.		
	Fill (sand, brownish-black, bituminous)	5	5
	Silt, black, organic, with shells, little peat .....	15	20
	Silt, clayey, brownish-gray .....	6	26
	Clay, silty, brownish-gray .....	6	32
T 114;	West of Bluebeard Hill, Charlotte Amalie; test hole driven by The Foundation Engineering Co. of P. R. in 1956; data from typewritten report.		
	Fill (sand and gravel) .....	3	3
	Sand, fine, silty, light-gray .....	6	9
	Silt, light-gray .....	4	13
	Clay, sandy, brown, some gravel .....	9	22
	Clay, sandy, reddish-brown; and silt, cemented .....	7	29
T 125;	West of Bluebeard Hill; Charlotte Amalie; test hole driven by The Foundation Engineering Co. of P. R. in 1956; data from typewritten report.		
	Sand, silty, light-gray, with shells..	6	6
	Silt, sandy, dark-gray, organic .....	4	12
	Clay, sandy, tan, with trace of gravel	20	32



Table 4.-Logs of selected wells in St. Thomas, V. I.-Continued

		Thickness (feet)	Depth (feet)
T 135;	West of Frenchtown, Charlotte Amalie; test hole driven by The Foundation Engineering Co. of P. R. in 1956; data from typewritten report.		
	Silt, fine, sandy, light-gray.....	5	5
	Sand, silty, gray, with organic matter, black, some shells .....	7	12
	Silt, sandy, greenish-gray .....	5	17
	Clay, sandy, brown, and gravel .....	10	35
T 141;	West of Frenchtown, Charlotte Amalie; test hole driven by The Foundation Engineering Co. of P.R. in 1956; data from typewritten report.		
	Silt, clayey, grayish-tan .....	4	4
	Silt, gray, organic .....	5	9
	Clay, sandy, reddish-brown .....	8	17
	Clay, sandy, brown .....	7	24
T 152;	North of Pearson Gardens, Charlotte Amalie; dug by Alphonse Melthopp in 1956.		
	Soil and humus, dark (loose) .....	1	1
	Clay, yellowish-brown, with small stones .....	9	10
	Clay, yellowish, tough, with small stones (water at 13 ft.) .....	7	17
	Sand and gravel, brown (most water here)	1	18
T 161;	Pearson Gardens, Charlotte Amalie; test hole driven by The Foundation Engineering Co. of P. R., Inc., in 1956; data from typewritten report.		
	Fill (coral sand, fine, white, loose)	4	4
	Clay, sandy, silty, gray-brown, very soft .....	6	10
	Sand and gravel, coarse, clayey, gray-brown .....	6	16
	Clay, sandy, brown, stiff, and fine gravel	8	24
T 181;	Pearson Gardens, Charlotte Amalie; test hole driven by The Foundation Engineering Co. of P. R., Inc., in 1951; data from typewritten report.		
	Fill (coral sand, fine, white, loose)	5	5
	Clay, sandy, silty, gray-brown, very soft .....	5	10
	Clay, sandy, brown, stiff, and fine gravel .....	10	20

Table 4.-Logs of selected wells in St. Thomas, V. I.-Continued

	Thickness (feet)	Depth (feet)
T 189		
South of Nadir; dug by Dept. of Public Works about 1949.		
Clay, yellow	2	2
Sand, brown (water at bottom) .....	4	6
Clay, yellow, and sand, some cobbles (water-bearing) .....	1.5	7.5

Table 5.- Chemical analyses of water from selected wells and from Turpentine Run, St. Thomas, V.I.

Source of analysis: A, Vaughan and Kibbell (1920); B, U.S. Geol. Survey Quality of Water Laboratory, Coala, Fla.; C, F.R. Aqueduct & Sewer Authority, Chemical Engineering Research Section, San Juan, P.R.; D, V.I. Dept. of Health, Div. of Sanitation.

Well No.	Water-bearing material	Source of analysis	Date of collection	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Dissolved solids	Hardness		Specific conductance (micro-mhos at 25°C)	pH color	
																as CaCO <sub>3</sub>	Non-carbonate			
T3	Colluvium?	A	6-14-19	33	0.37	76	59	2672	97	532	67	274	---	97	---	---	---	---	---	
T4	do.	A	6-13-19	31	.13	64	54	595	398	597	154	498	---	398	---	---	---	---	---	
T5	Alluvium (& bedrock?)	A	6-14-19	37	.18	71	63	496	405	437	130	496	---	405	---	---	---	---	---	
T6	Colluvium?	A	6-13-19	36	.11	122	79	375	352	416	140	447	---	352	---	---	---	---	---	
T7	do.	A	6-11-19	26	.17	71	32	313	122	451	123	278	---	122	---	---	---	---	---	
T8	do.	A	6-10-19	29	.08	140	57	696	419	641	167	866	---	419	---	---	---	---	---	
T9	do.	A	6-11-19	27	.50	114	53	774	27	764	184	979	---	27	---	---	---	---	---	
T13	Alluvium	A	6-7-19	30	1.5	37	33	243	19	615	81	196	---	19	---	---	---	---	---	
T14	Colluvium (& bedrock?)	A	6-7-19	40	.17	68	64	470	238	641	122	432	---	238	---	---	---	---	---	
T16	Colluvium (& alluvium?)	A	6-6-19	35	.10	84	50	389	233	541	96	391	---	233	---	---	---	---	---	
T17	Colluvium (& alluvium?)	A	6-11-19	26	.05	102	64	431	233	619	123	466	---	233	---	---	---	---	---	
T26	Clay & boulders	B	5-26-58	33	.00	66	60	400	4.0	346	50	315	0.9	2.5	1,290	200	0	2,190	6.0	2
T35	do.	B	5-27-58	36	.01	21	20	463	5.8	366	56	270	1.0	3.0	1,290	134	0	2,150	6.1	6
T37	Gravel	C	6-16-51	30	.70	60	54	389	8.5	764	96	298	---	8.5	1,400	371	0	---	7.4	10
T38	Unconsolidated deposits	C	6-16-51	29	.40	39	30	297	133	232	35	118	---	133	1,070	259	29	---	7.1	5
T39	do.	D	7-19-57	---	---	22	9	---	---	---	---	66	---	---	---	128	---	---	---	---
T39	do.	D	7-19-57	---	---	29	9	---	---	---	---	69	---	---	---	148	---	---	---	---
T41	Sand & gravel	B	5-27-58	25	.02	34	36	385	0.5	742	47	330	1.0	2.6	1,230	242	0	2,120	6.2	17
T42	Unconsolidated deposits & boulders	B	5-26-58	29	.02	50	39	385	6.5	772	43	249	1.3	2.9	1,130	286	0	1,890	7.7	8
T42	do.	A	5-24-19	27	.10	49	43	363	5.2	764	46	280	---	---	1,180	299	(69)	---	---	---
T45	Alluvium	B	5-27-58	37	.02	52	35	369	5.8	842	36	235	1.1	.0	1,140	274	0	1,980	6.0	23
T7	Clay & boulders	B	5-27-58	39	.00	42	35	275	5.8	622	62	145	1.2	4.2	989	249	0	1,580	7.9	4
T7	do.	A	5-24-19	43	.39	70	61	348	61	716	42	381	---	14	1,320	423	(0)	---	---	---

Table 5.- Chemical analyses of water from selected wells & from Turpentine Run, St. Thomas, V.I.--Continued

Well No.	Water-bearing material	Source of analysis	Date of collection	Silica (SiO <sub>2</sub> )	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Fluoride (F)	Nitrate (NO <sub>3</sub> )	Dissolved solids	Total carbonate (CO <sub>3</sub> )	Hardness as CaCO <sub>3</sub>	Specific conductance (micro-mhos at 25°C)	pH Color		
																				Hardness as CaCO <sub>3</sub>	Non-carbonate
1232	Sandy clay	B	5-27-58	26	0.01	58	65	565	6.8	635	106	590	1.0	4.5	1,890	412	0	3,140	8.0	4	
1234	Sand and gravel	B	5-27-58	26	.02	32	33	350	6.8	685	60	300	1.0	1.8	1,110	216	0	1,920	8.1	5	
1234	do.	B	4-12-58	--	--	--	--	--	--	--	--	515	--	--	--	400	--	2,730	--	--	
1234	do.	B	4-12-58	--	--	--	--	--	--	--	530	--	--	--	--	425	--	2,840	--	--	
1238	Clay & boulders	A	6-14-19	30	.32	56	60	416 $\frac{2}{1}$	4.0	755	55	429	--	14	1,446	386	(43)	--	--	--	
1239	do.	A	6-20-19	30	.75	61	69	414 $\frac{2}{1}$	4.0	741	65	459	--	15	1,510	435	(96)	--	--	--	
1267	Stony clay	B	5-26-58	28	.00	56	56	348	4.0	775	67	275	1.2	44	1,260	362	0	2,110	7.8	3	
1269	Unconsolidated deposits	D	7-1-53	--	--	150	310	--	--	--	--	480	--	--	--	460	--	--	--	--	
1267	do.	C	4-16-51	30	.30	40	40	358	10	776	64	211	--	89	1,200	262	(0)	--	--	7.7	5
1292	Clay	B	5-27-58	31	.01	336	332	915	10	536	400	2900	.5	4.1	3,800	2,410	1,930	8,420	7.7	23	
1202	Unconsolidated deposits	A	6-6-19	23	.17	84	60	344 $\frac{2}{1}$	6.5	532	90	358	--	187	--	--	--	--	--	--	
1203	do.	A	6-16-19	31	.28	50	36	286 $\frac{2}{1}$	6.5	663	42	211	--	9.5	--	--	--	--	--	--	
1204	do.	A	6-14-19	26	.32	92	61	399 $\frac{2}{1}$	6.5	624	168	664	--	197	--	--	--	--	--	--	
1205	Beak	A	6-14-19	27	.12	89	62	349 $\frac{2}{1}$	6.5	640	224	514	--	231	--	--	--	--	--	--	
1206	do.	A	6-14-19	27	.14	78	66	300 $\frac{2}{1}$	6.5	633	211	678	--	279	--	--	--	--	--	--	
	Turpentine Run (at depth of 1 ft.)	B	5-27-58	20	.02	42	41	375	8.5	756	38	315	1.0	2.5	1,230	274	0	2,090	7.9	33	
	Turpentine Run (at depth of 2 ft.)	B	5-27-58	26	.02	44	33	390	8.5	646	47	335	.5	2.7	1,150	246	0	1,990	7.9	17	

$\frac{1}{2}$  Non-carbonate hardness values in parentheses calculated from alkalinity.  
 $\frac{2}{1}$  Computed.  $\frac{2}{2}$  Carbonate = 26.  $\frac{2}{3}$  Carbonate = 9.6.  $\frac{2}{4}$  Reported as uncorrected.  $\frac{2}{5}$  Sample from bottom of well.

**Table 6.-Partial chemical analyses and temperatures of water from selected wells in St. Thomas, V. I.**

Source: A, McGuinness (1946); B, Aucher; C, Vaughan and Kidwell (1920)

Well No.	Date of collection	Total hardness as CaCO <sub>3</sub> (ppm)	Chloride (Cl) (ppm)	Source	Temperature	
					°F	Date
T 1	10-8-45	520	550	A	---	---
T 3	10-8-45	600	1,350	A	81.5	1-10-58
T 4	10-8-45	100	65	A	---	---
T 5	10-8-45	400	---	A	---	---
T 6	10-8-45	400	1,860	A	---	---
T 7	10-8-45	310	400	A	---	---
T 8	10-8-45	640	2,500	A	---	---
T 9	10-8-45	250	650	A	---	---
T 10	10-8-45	4,000 †	13,000 †	A	---	---
T 11	10-8-45	590	950	A	---	---
T 12	10-8-45	480	775	A	---	---
T 13	10-8-45	160	335	A	---	---
T 14	10-8-45	240	325	A	---	---
T 15	10-8-45	490	1,360	A	---	---
T 16	10-8-45	510	3,400	A	---	---
T 17	10-8-45	540	2,000	A	---	---
T 19	10-11-45	250	750	A	---	---
T 25	5----19	---	38	C,B	78	4-25-58
T 26	---	---	---	B	80	4-23-58
T 35	---	---	---	B	80	4-23-58
T 37	10-8-45	500	375	A	---	---
T 41	---	---	---	B	80	4-23-58
T 42	---	---	---	B	80	4-23-58
T 44	---	---	---	B	77	12-4-57
T 45	---	---	---	B	79.5	4-23-58
T 47	5----19	---	388	C,B	80	5-27-58
T 48	5----19	---	394	C,B	78.5	12-5-57
T 50	---	---	---	B	82.5	5-8-58

**Table 6.-Partial chemical analyses and temperatures of water from selected wells in St. Thomas, V. I.-Continued**

Well No.	Date of collection	Total hardness as CaCO <sub>3</sub> (ppm)	Chloride (Cl) (ppm)	Source	Temperature	
					°F	Date
T 51	---	---	---	B	80	12-11-57
T 52	---	---	---	B	82	4-23-58
T 55	---	---	---	B	75	1-15-58
T 56	---	---	---	B	81	4-25-58
T 62	---	---	---	B	79	5-8-58
T 63	---	---	---	B	79	4-25-58
T 64	---	---	---	B	80	4-25-58
T 65	---	---	---	B	78	1-16-58
T 66	---	---	---	B	80	5-8-58
T 71	5-17-19	---	446	C,B	74	1-21-58
T 77	---	---	---	B	76.5	1-22-58
T 81	---	---	---	B	80	5-8-58
T 82	---	---	---	B	82	5-8-58
T 87	---	---	---	B	78	2-18-58