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Title: Hydrologic Data for the Great and Denbow Heaths in Eastern Maine, October 1981 through October 1982*

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Contents: 29 page report

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CONVERSION FACTORS

For use of readers who prefer to use metric units, conversion factors for terms used in this report are listed below.

Multiply	To Obtain	By
inch (in)	millimeter (mm)	25.40
	centimeter (cm)	2.540
	meter (m)	.0254
foot (ft)	meter (m)	.3048
mile (mi)	kilometer (km)	1.609
square mile (mi^2)	square kilometer (km^2)	2.590
cubic feet (ft^3)	cubic meter per second (m^3/s)	.02832
cfs-days	cubic meter (m^3)	2447
cubic feet per second (ft^3/s)	liters per second (L/s)	28.32
tons (short)	megagram (metric ton)	.9072

Temperatures given in degrees Celsius (°C) can be converted to degrees Fahrenheit by the equation: $°F = 1.8°C + 32$.

National Geodetic Vertical Datum of 1929 (NGVD of 1929): A geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, called NGVD of 1929, is referred to as sea level in this report.

HYDROLOGIC DATA FOR THE GREAT AND DENBOW HEATHS IN EASTERN MAINE, OCTOBER 1981 THROUGH OCTOBER 1982

by William J. Nichols, Jr.

ABSTRACT

Hydrologic data collected on the Great and Denbow Heaths, Maine, from October 1981 through October 1982, include precipitation, pan evaporation, air temperatures, streamflow, and ground-water levels. These data were collected for a peat-bog hydrology study conducted in cooperation with the Maine Geological Survey.

The data network consisted of climate information from three rain gages, an evaporation pan, and two maximum-minimum thermometers; surface-water information from two continuous gaging stations and nineteen partial record sites; ground-water information from an observation well equipped with a continuous recorder and one hundred and six piezometers.

Methods used for the collection and analyses of data included standard Survey techniques modified for the unique hydrologic environment of the study area.

INTRODUCTION

Peat resources in Maine represent a potentially significant ecomomic resource. However, little information is available about the impact the resource development will have on the peat bogs and their watersheds.

The MGS (Maine Geological Survey) and U.S. Geological Survey began a joint study in April 1980 to describe the hydrology of two Maine peat bogs. The results of this study will help resource managers to make sound decisions on the development of the resource.

Purpose and Scope

The purpose of this report is to make data available to those interested in Maine's peat resource, to those assessing water resources that may be affected by peat mining, and to supplement an interpretive report to be published at the completion of the study. The data presented in this report were collected from October 1981 through October 1982, by the U.S. Geological Survey with assistance from MGS personnel and field observers.

The two bogs studied were the Great Heath and Denbow Heath in eastern Maine. The Great Heath, which has not been mined, is the largest sphagnum peat bog in the state with an estimated peat resource of seven million short tons. The Denbow Heath, which is being mined for horticultural peat, has peat resources estimated at two and three-quarter million short tons. (Cameron, 1980)

The data-collection program included measurement of streamflow, precipitation, pan-evaporation, air temperatures, and ground-water levels.

Acknowledgments

The authors extend their thanks to Jonathan Bedard of Columbia, and Peter Grant of Deblois, Maine, for serving as field observers. Their assistance made possible the collection of valuable climatologic data.

LOCATION OF STUDY AREA

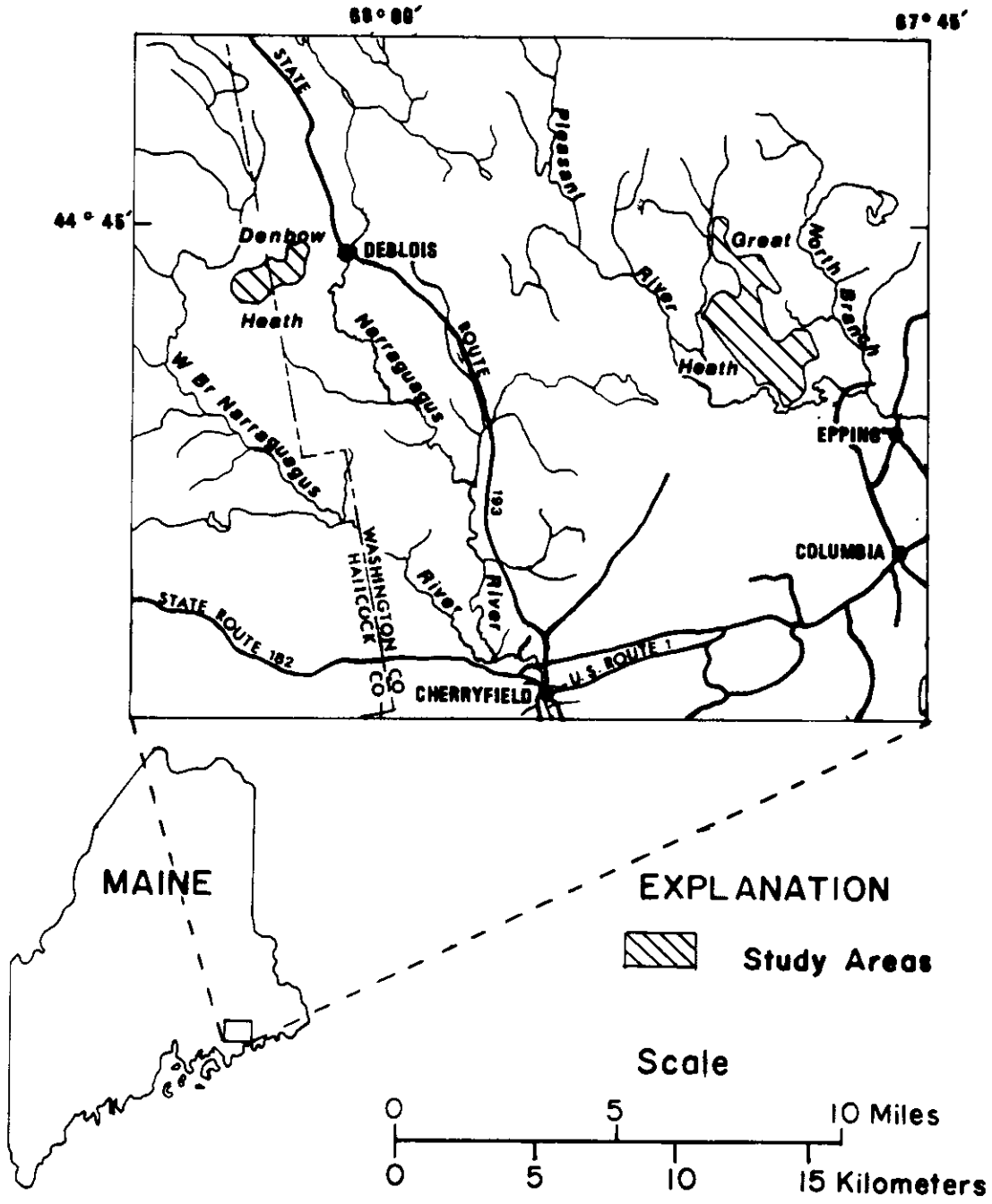
The Great and Denbow Heaths are located in the coastal counties of Washington and Hancock, Maine (fig. 1). The Great Heath study area (fig. 2) lies within the region bounded by 67°47' and 67°52' west longitude and 44°41' and 44°45' north latitude and is located within the townships of Columbia, T18MD, and T19MD. It is approximately 6 miles northeast of Cherryfield and about 8 miles east of Deblois. The Denbow Heath (fig. 3) lies within 68°02' and 68°05' west longitude and 44°43' and 44°45' north latitude and is located within the townships of Deblois and T16MD. It is approximately one mile west of the town center of Deblois.

DATA-COLLECTION SITE NUMBERING SYSTEM

Piezometers

Great Heath

The system of numbering piezometers was adapted from Cameron (1980). It consists of local identifiers, which are one-or two-digit numbers, that are unique to the site. At each site the unique number is followed by a sequence number, which indicates the relative depth of a piezometer to others in the same cluster. The sequence number ranges from one to four with one being the deepest piezometer in the cluster. Sites located along the perimeter of the heath have a letter designation of "M" preceding the local number. In addition, sites G-C and G-P are arbitrarily identified with letters and numbers. Piezometer G-C is installed in clay and G-P is in peat.



Base from U.S. Geological Survey 1:250,000 quadrangles: Bangor, Eastport 1956.

Figure 1.- Location of the Great and Denbow Heaths.

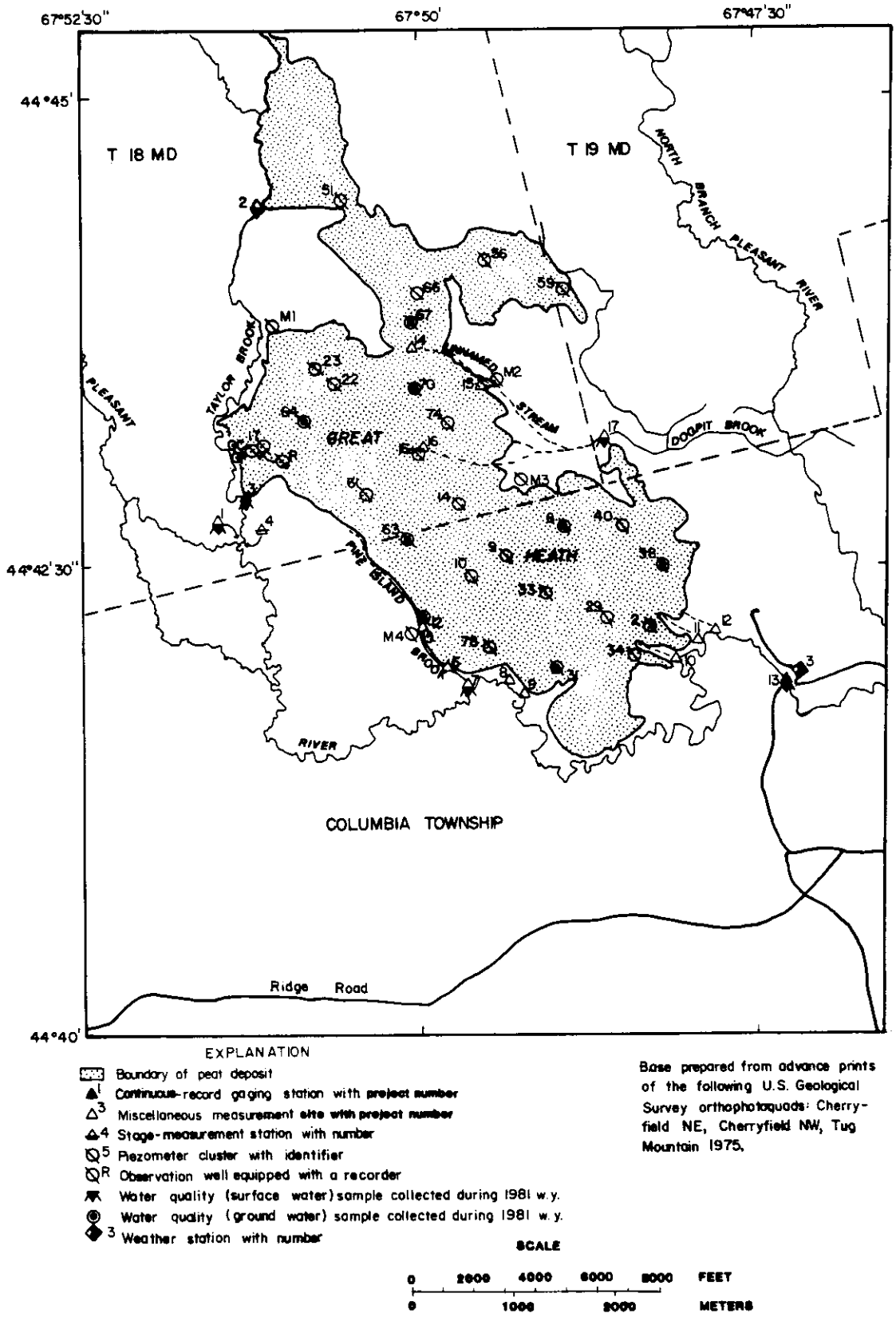


Figure 2.—Location of data collection sites for Great Heath.

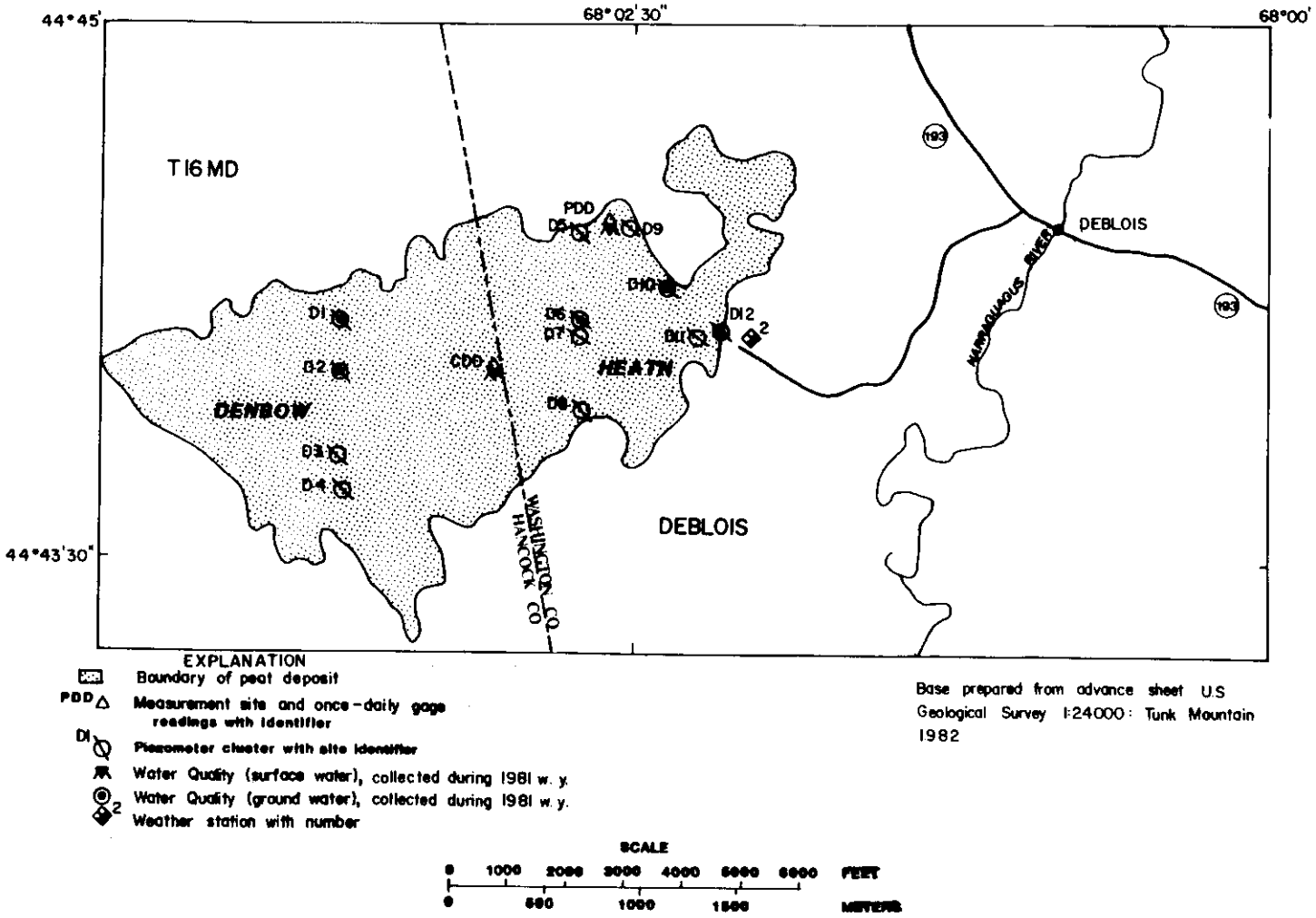


Figure 3.—Location of data collection sites for Denbow Heath.

Denbow Heath

The system of numbering the piezometers is based on pace and compass traverses. Three north-south transects were established on the heath. There are four sites located on each transect. They are labeled "D" for Denbow. Each piezometer cluster is assigned a sequential number, starting with the northwest site. For example, D-1 identifies the northern-most piezometer cluster on the first transect. D-2 identifies the piezometer cluster south of D-1 on transect 1. An exception is piezometer cluster D-12 which is on the eastern section of the heath, north of D-11.

Surface-water sites

On the Great Heath (fig. 2), project numbers 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 mainstream stations are listed before the first mainstream station. The surface-water sites are numbered from 1 through 17, with 1 being the most upstream site. In addition, the two continuous-record gaging stations in this study area have also been assigned Survey station numbers. The project number and U.S. Geological Survey number are both identified in the data tables.

The two Denbow Heath sites are denoted by letters CDD (central drainage ditch) and PDD (perimeter drainage ditch) (fig. 3).

DATA-COLLECTION NETWORK

During the October 1981 through October 1982 period,the data-collection network consisted of two climatological stations, two continuous streamflow gages, 15 miscellaneous streamflow measurement sites, and 106 ground-water level measurement sites (one continuous recorder site). The methods of data collection and the data collected for each part of the network are presented in the following sections.

Climatology

Data for two climate stations are included in this report: Deblois - latitude 44°44'04", longitude 68°02'17"; and Columbia - latitude 44°41'55", longitude 67°47'16". The Columbia and Deblois sites are indicated on figures 2 and 3, respectively.

Mean monthly temperatures (table 1) were computed from the maximum and minimum daily readings at the Columbia and Deblois sites. The temperature data were obtained using maximum and minimum thermometers. The instruments were located approximately 5 feet above sodded ground and were positioned so that they had a northerly exposure.

Table 1. Climatological data, October 1981 to September 1982, Washington County, Maine.

Mean-monthly temperature at the Columbia and Deblois climate stations, (degrees Celsius).

Station number	name	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
2	Deblois	6.7	1.2	-3.7	-13.2	-8.7	-1.3	3.7	12.3	16.0	20.9	17.9	15.2
3	Columbia	7.1	2.5	-3.5	-14.0	-9.5	-2.7	3.4	11.2	14.2	19.0	16.0	13.9

Monthly precipitation at the Deblois, and Columbia climate stations,(inches).

Station number	name	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
2	Deblois	4.92	4.09	6.69	7.56	6.00	3.40	6.61	0.65	4.25	4.03	4.57	2.29
3	Columbia	4.72	4.05	6.79	4.70	3.47	2.87	5.11	0.61	4.37	3.55	3.13	2.01

Monthly pan evaporation** at the Columbia climate station, (inches).

Station number	name	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
3	Columbia	1.59	0.50*						4.99	4.17	6.18	3.65	2.44

* Nov., Partial month of pan readings.
** Pan coefficient not applied.

Monthly precipitation values (table 1) are reported for both sites. The monthly values were computed from daily observer readings. The instruments used were 8-inch diameter nonrecording precipitation gages. During periods of frozen precipitation, the amount collected was melted and then measured. At the Columbia location, the gage orifice was located approximately 3 feet above land surface. At Deblois, the gage orifice was placed 11 inches above land surface.

Monthly evaporation values (table 1) are reported for the Columbia site. A standard National Weather Service 4-foot diameter pan was used. It was exposed over sodded ground with no free air space under it. Daily values were obtained by following the guidelines from the U.S. Department of Commerce, Weather Bureau (1955).

Surface-Water Data

Measurements of streamflow were made periodically by wading or boat, using current meters. A complete explanation of the methodology used to obtain these data is contained in the U.S. Geological Survey Techniques of Water Resources Investigations, Book 3, Chapters A6 (Carter and Davidian, 1965) and A8 (Buchanan and Somers, 1969). All gage heights and flow data for each heath are summarized in tables 2 through 6.

Great Heath

Streamflow information was calculated at the gage on the Pleasant River near Epping, Maine, October 1, 1981 through September 30, 1982 (table 2). A second gage on Taylor Brook has recorded stage from October 1981 to September 1982 (table 3). There are numerous rivulets draining the Great Heath. Some of these converge to form Dogpit Brook, tributary to the North Branch Pleasant River, and Pine Island Brook, tributary to the Pleasant River. The remaining rivulets are unnamed and drain into Taylor Brook or the Pleasant River.

Denbow Heath

This peatland is currently being mined and has many surface drainage ditches to facilitate peat harvesting. Two of these ditches were selected for periodic streamflow measurements. The central drainage ditch drains an area mined approximately 30 years ago, while the perimeter drainage ditch drains an area currently (1983) being mined.

Table 2. Streamflow for Pleasant River near Epping, Me. (Site 13, USGS station number 01022260), October 1981 to September 1982

LOCATION.--Lat. 44°41'52", long. 67°47'16", Washington County, Hydrologic Unit 01050002, on right bank at Saco Falls, 100 ft (30 m) upstream from East Base Road bridge in Columbia, 0.6 mi (1.0 km) upstream from the junction of North Branch Pleasant River, and 1.6 mi (2.6 km) northeast of the village of Epping.

DRAINAGE AREA.--60.6 mi² (157 km²).

PERIOD OF RECORD.--July 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 127.02 ft (38.7 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are fair. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 948 ft³/s (26.8 m³/s) Apr. 2, 1982, gage height, 9.82 ft (2.993 m); minimum, 17 ft³/s (0.48 m³/s) Sept. 10, 1980, gage height 4.99 ft (1.521 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 440 ft³/s (12.5 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 05	0745	511	14.5	8.17	2.490	Apr. 05	1815	894	25.3	9.63	2.935
Dec. 08	1945	508	14.4	8.16	2.487	Apr. 09	1845	567	16.1	8.41	2.563
Jan. 22	0730	ice jam		*13.44	4.097	Apr. 20	1900	500	14.2	8.13	2.478
Apr. 02	1915	* 948	26.8	9.82	2.993						

Minimum discharge 28 ft³/s (0.793 m³/s) July 19,20, gage height 5.23 ft (1.594 m).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	262	144	98	84	59	440	377	62	168	71	47
2	160	222	203	97	100	57	748	333	74	145	63	55
3	192	188	312	120	130	56	806	293	148	96	57	96
4	200	164	411	145	250	55	746	257	177	74	51	106
5	208	147	498	200	230	54	815	231	143	62	45	95
6	197	139	472	280	200	54	751	207	109	52	43	72
7	187	159	455	350	175	54	471	187	93	45	42	66
8	174	184	489	310	160	53	410	169	82	44	40	57
9	183	195	488	275	150	54	517	156	76	41	39	52
10	174	186	434	250	140	56	529	141	69	38	47	48
11	168	166	384	230	130	64	444	135	64	36	57	45
12	174	148	339	210	120	85	375	127	61	34	49	43
13	167	136	294	195	115	120	346	121	58	33	50	43
14	151	127	252	180	110	200	341	115	61	33	81	41
15	135	122	219	170	100	260	346	110	75	31	81	39
16	124	126	235	155	96	230	355	106	57	30	64	38
17	120	143	269	150	91	210	359	102	53	29	52	39
18	114	180	270	140	87	200	375	95	63	30	46	37
19	123	215	280	135	83	185	426	80	62	29	43	34
20	155	215	250	130	79	180	491	84	61	31	40	33
21	162	279	210	120	76	210	480	101	64	53	40	33
22	146	295	180	115	73	200	466	99	58	78	41	36
23	130	328	150	110	71	185	458	89	56	101	38	48
24	126	328	140	110	68	180	447	82	69	111	43	54
25	169	293	125	105	66	170	415	84	68	84	96	51
26	187	252	120	99	64	225	379	89	66	65	139	45
27	214	217	110	96	62	310	368	83	61	55	156	42
28	249	192	110	93	59	300	384	75	53	49	148	43
29	283	175	105	90	---	310	418	72	51	83	110	44
30	304	163	100	87	---	270	415	71	116	117	80	42
31	296	---	100	84	---	271	---	65	---	94	55	---
TOTAL	5572	5946	8148	4929	3169	4925	14321	4336	2310	1971	2007	1524
MEAN	180	198	263	159	113	159	477	140	77.0	63.6	64.7	50.8
MAX	304	328	498	350	250	310	815	377	177	168	156	106
MIN	114	122	100	84	59	53	341	65	51	29	38	33
CFSM	2.97	3.27	4.34	2.62	1.87	2.62	7.87	2.31	1.27	1.05	1.07	.84
IN.	3.42	3.65	5.00	3.03	1.95	3.02	8.79	2.66	1.42	1.21	1.23	.94

CAL YR 1981 TOTAL 60862 MEAN 167 MAX 790 MIN 41 CFSM 2.76 IN 37.36
WTR YR 1982 TOTAL 59158 MEAN 162 MAX 815 MIN 29 CFSM 2.67 IN 36.31

Table 3. Gage heights for Taylor Brook at the Great Heath, Me. (Site 3, USGS station number 01022250), October 1981 to October 1982

LOCATION.--Lat 44°42'51", long 67°51'16", Washington County, Hydrologic Unit 010500002, on left bank 1000 ft (305 m) upstream from the mouth and 4.7 mi (7.6 km) north west of Epping.

DRAINAGE AREA.--7.06 mi² (18.3 km²)

PERIOD OF RECORD.--June 1980 to current year.

GAGE.--Water stage recorder. Datum of gage is 151.01 ft (46.028 m) National Geodetic Vertical Datum of 1929. Station discontinued Oct. 28, 1982.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height 7.65 ft (2.332 m) Jan 06, 1982; minimum gage height, 1.71 ft (0.521 m) July 19, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum gage height 7.65 (2.332 m) Jan 06, minimum gage height 2.07 ft (0.631 m) July 16-17.

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

DAY	OCT	NOV	DEC	JAN	FEB	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	4.99	5.50	4.53	4.75	5.34	---	5.91	2.91	5.17	3.17	2.99	3.14
2	4.69	5.29	5.27	4.75	5.42	---	5.79	3.33	4.12	3.07	3.59	3.13
3	5.38	5.04	6.53	5.11	6.13	---	5.68	5.29	3.34	2.91	4.74	3.09
4	5.65	4.80	6.58	5.44	6.70	---	5.57	5.03	3.01	2.77	4.71	3.06
5	5.52	4.55	6.29	6.56	7.15	---	5.45	4.22	2.77	2.65	4.09	3.06
6	5.29	4.46	6.24	7.52	7.27	---	5.29	3.79	2.56	2.64	3.52	---
7	5.13	4.99	6.52	7.54	7.12	---	5.10	3.49	2.48	2.58	3.22	---
8	5.20	5.34	6.49	7.22	6.92	---	4.90	3.29	2.41	2.53	2.98	---
9	5.12	5.34	6.27	6.89	6.79	---	4.71	3.12	2.33	2.55	2.83	---
10	4.98	5.07	6.11	6.64	6.73	---	4.54	3.01	2.27	2.96	2.75	---
11	5.09	4.79	5.97	6.39	6.63	---	4.41	2.90	2.22	2.98	2.68	---
12	5.06	4.60	5.84	6.20	6.51	---	4.21	2.83	2.19	2.75	2.65	---
13	4.82	4.39	5.64	5.99	6.38	---	4.09	2.77	2.21	3.08	2.61	---
14	4.56	4.20	5.47	5.88	6.25	---	3.98	2.94	2.14	3.88	2.56	---
15	4.30	4.14	5.35	5.84	6.09	---	3.91	3.12	2.11	3.43	2.51	---
16	4.17	4.28	5.45	5.84	5.96	---	3.82	2.97	2.09	3.06	2.57	---
17	4.10	4.60	6.09	5.78	5.83	---	3.71	2.98	2.10	2.77	2.49	---
18	3.97	5.20	5.98	5.63	5.69	---	3.59	3.02	2.10	2.63	2.45	---
19	4.40	5.67	5.84	5.47	5.57	---	3.50	2.88	2.11	2.53	2.40	---
20	5.03	5.54	5.63	5.40	5.55	6.15	3.62	2.92	2.18	2.47	2.35	---
21	4.94	5.98	5.45	5.30	5.55	6.14	4.03	2.92	3.16	2.67	2.35	---
22	4.49	6.22	5.40	5.18	5.55	6.19	3.82	2.75	3.51	2.56	2.47	---
23	4.22	6.06	5.32	5.08	5.54	6.15	3.59	2.79	4.39	2.45	2.95	---
24	4.62	5.82	5.32	5.32	5.51	6.08	3.45	3.17	4.03	3.41	2.91	---
25	5.30	5.63	5.29	5.62	5.33	6.01	3.58	3.08	3.33	4.69	2.78	---
26	5.16	5.44	5.03	5.67	5.24	5.96	3.56	3.00	3.02	5.29	2.65	---
27	5.57	5.23	5.00	5.52	5.24	6.04	3.37	2.86	2.81	5.34	2.57	---
28	6.02	5.07	4.91	5.29	5.24	6.18	3.22	2.66	2.67	4.62	2.72	---
29	6.12	4.97	4.93	5.18	---	6.13	3.15	2.66	4.20	3.78	2.86	---
30	5.95	4.78	4.98	5.11	---	6.00	3.08	4.83	4.26	3.35	3.04	---
31	5.71	---	4.65	5.11	---	---	2.93	---	3.55	3.12	---	---
MEAN	5.01	5.10	5.63	5.78	6.06	---	4.18	3.25	2.93	3.18	2.93	---
MAX	6.12	6.22	6.58	7.54	7.27	---	5.91	5.29	5.17	5.34	4.74	---
MIN	3.97	4.14	4.53	4.75	5.24	---	2.93	2.66	2.09	2.45	2.35	---

Table 4.--Summary of hydrologic data for surface-water sites, Great Heath, October 1981 to October 1982

Entries include: site number, site name, location, measurement date, water stage (in feet above sea level), and streamflow measured (in cubic feet per second; ft^3/s).

Site number: A project number assigned to each surface water site. A sequential numbering system is used with the numbers increasing from the most upstream to the most downstream sites. These numbers are used to identify the site location on figure 2.

Location: Identification number (example 444238067512100) which defines site location by use of latitude and longitude; and a description of site location.

1.-- Pleasant River above Taylor Brook, 444238067512100, 10 ft upstream from mouth of Taylor Brook and approximately 4.8 mi northwest of Epping. No information this reporting period.

2.-- Taylor Brook (north lobe). 444424067511100, approximately 0.6 mi south of confluence of Taylor Brook and Bill Smith Brook, and 3.4 mi north of confluence of Taylor Brook and Pleasant River.

Date	Stage	Streamflow
Nov. 17, 1981	165.60	
May 11, 1982	165.21	
July 26, 1982	165.39	
Oct. 04, 1982	166.92	

3.-- Taylor Brook at Great Heath. 444251067511600, 1,000 ft upstream from mouth and 4.7 mi northwest of Epping USGS Station number 01022250 drainage area 7.06 mi^2.

Date	Stage	Streamflow
Oct. 20, 1981	156.09	25.8
Apr. 19, 1982	157.27	66.6
Apr. 20, 1982	157.19	44.0
Apr. 30, 1982	157.02	38.5
May 12, 1982	155.24	11.3
May 18, 1982	154.61	8.88
July 13, 1982	153.22	2.56
Oct. 28, 1982	154.22	3.23

4.-- Taylor Brook at Great Heath. 444238067512000, at the junction of the Pleasant River and Taylor Brook and approximately 4.6 mi northwest of Epping stage only.

Date	Stage	Streamflow
Oct. 20, 1981	155.97	
Apr. 19, 1982	157.29	
Apr. 20, 1982	157.23	
Apr. 30, 1982	157.11	
May 12, 1982	155.29	
May 18, 1982	154.72	
July 13, 1982	149.54	
Oct. 28, 1982	153.02	

5.-- Pine Island Brook at Great Heath. 4442170675000, approximately 50 ft east of piezometer M_4 at a point 1.0 mi upstream from mouth, approximately 3.5 mi northwest of Epping.

Date	Stage	Streamflow
Oct. 05, 1981	154.31	
Nov. 18, 1981	154.74	
May 11, 1982	154.61	
July 27, 1982	153.24	
Oct. 05, 1982	153.81	

6. Pine Island Brook at Great Heath. 444155067494600, at a point 500 ft upstream from mouth, 3.5 mi northwest of Epping and 3.3 mi east of camp on Schoodic Lake near Columbia. No information this reporting period.

7.-- Pine Island Brook at Great Heath. 444150067493900, at a point 50 ft upstream from mouth near southeastern tip of Pine Island.

Date	Stage	Streamflow
May 18, 1982	147.05	0.54
June 16, 1982	146.59	0.39
Aug. 18, 1982		0.25
Oct. 07, 1982		0.12

8.-- Unnamed tributary to Plasant River at Great Heath. 444152067492200, at a point approximately 20 ft upstream from mouth and about 0.20 mi downstream Pine Island Brook.

Date	Stage	Streamflow
Aug. 18, 1982		0.01

9.-- Unnamed tributary to Pleasant River at Great Heath. 444149067491700, at a point approximately 30 ft upstream from mouth and about 0.35 mi downstream Pine Island Brook.

Date	Stage	Streamflow
June 16, 1982		0.16
Aug. 18, 1982		0.11
Oct. 7, 1982		0.07

10.-- Unnamed tributary to Pleasant River at Great Heath. 444159067490700, at a point approximately 20 ft upstream from mouth and about 0.7 mi upstream gage Pleasant River near Epping.

Date	Stage	Streamflow
June 17, 1982		0.02
Aug. 19, 1982		<0.01
Oct. 07, 1982	(estimated)	<0.01

11.-- Unnamed tributary to Pleasant River at Great Heath. 444209067475700, at a point approximately 50 ft upstream from mouth and about 0.55 mi upstream gage Pleasant River near Epping.

Date	Stage	Streamflow
June 17, 1982		0.14
Aug. 19, 1982		0.11
Oct. 07, 1982		0.03

Table 4.--Summary of hydrologic data for surface-water sites-continued

12.-- Unnamed tributary to Pleasant River at Great Heath. 4442100674900, at a point approximately 30 ft upstream from mouth and about 0.5 mi upstream gage Pleasant River near Epping.

Date	Stage	Streamflow
June 17, 1982		0.03
Aug. 19, 1982		< .01
Oct. 07, 1982	(estimated)	< .01

13.-- Pleasant River near Epping, Maine. 4441520674716, on right bank on road to Columbia, 100 ft upstream from highway bridge, 1.6 mi northeast of Epping, and 0.6 mi upstream from the junction of North Branch Pleasant River and Pleasant River. USGS station number 01022260, drainage area 60.6 mi^2

Date	Stage	Streamflow
Oct. 21, 1981	133.55	156.0
Jan. 25, 1982	136.93	104.0
Feb. 18, 1982	133.46	123.0
Apr. 21, 1982	135.08	493.0
July 14, 1982	132.35	33.3
Aug. 03, 1982	132.64	53.6
Oct. 08, 1982	132.24	29.4

14.-- Unnamed tributary to Dogpit Brook at Great Heath. 444340067500400, approximately 0.2 mi northwest of piezometer site 70. Stage only, no information 1981 water year.

Date	Stage	Streamflow
Nov. 17, 1981	166.92	
July 27, 1982	169.55	

15.-- Unnamed tributary to Dogpit Brook at Great Heath. 444327067492600, about 30 ft west of piezometer site M_2.

Date	Stage	Streamflow
Nov. 17, 1981	159.27	
Oct. 05, 1982	154.93	

16.-- Unnamed tributary to Dogpit Brook at Great Heath. 444350067500000, at piezometer site 16.

Date	Stage	Streamflow
Nov. 17, 1981	171.77	
May 11, 1982	172.49	
July 27, 1982	170.74	

17.-- Dogpit Brook at Great Heath. 444347067484000, at a point 0.7 mi upstream of mouth and 3.3 mi northwest of Epping.

Date	Stage	Streamflow
Oct. 21, 1981	142.71	2.34
May 19, 1982	141.97	.65
July 14, 1982	141.97	.84
Oct. 13, 1982	143.61	.36

Table 5.--Summary of hydrologic data for surface-water sites, Denbow Heath, October 1981 to September 1982.

Entries include: Local identifier, site name, location, remarks, measurement date, water stage (in feet above sea level) and streamflow measured (in cubic feet per second; ft^3/s)

Local identifier: Project code assigned to each surface-water site. These codes are used to identify the site location on figure 3.

Location: Identification number (example 444402008030200) which defines site location by use of latitude and longitude, and sequence number, county, and a description of site location.

Stage: Water level in feet above sea level.

CDD. Central drainage ditch. 444402068030200, Hancock County, vertical enamel staff section located on east-west road about 50 ft north of road where ditch crosses, T16MD.

Date	Stage	Streamflow
Oct. 19, 1981	169.28	0.38
May 17, 1982	169.18	.02
June 14, 1982	0.40	.03
Aug. 16, 1982	0.66	.06
Oct. 06, 1982	0.68	.02

PDD. Perimeter drainage ditch. 444426068023500, Washington County, vertical enamel staff section; take first road going north on east-west road to end; site is approximately 100 ft northwest of turn, township Deblois.

Date	Stage	Streamflow
Oct. 19, 1981	171.28	0.07
May 17, 1982	171.08	<.01
June 14, 1982	171.01	<.01
Aug. 16, 1982	170.94	<.01
Oct. 06, 1982	170.99	<.01

Table 6.--Daily mean gage-height readings, central drainage ditch, Denbow Heath, October 1, 1981 to September 30, 1982.(feet above sea level)

Day	Oct.	Nov.	Dec.	Apr.	May	June	July	Aug.	Sept.
1	169.03	169.13			169.20	168.60	168.38	166.57	166.52
2	169.10	169.09			169.17	168.63	168.36	166.52	166.84
3	169.77	169.06			169.15	168.61	168.33	166.52	166.79
4	169.24	169.04			----	168.59	168.32	166.50	166.65
5	169.19	169.04			169.24	168.60	168.31	166.50	166.61
6	169.07	169.17			----	168.59	168.27	166.51	166.57
7	169.15	169.30			169.30	168.60	168.27	166.50	166.53
8	169.09	169.33			----	168.33	168.27	166.50	----
9	169.04	169.16			169.22	160.32	168.26	166.52	166.52
10	169.03	169.10	169.17		169.23	168.32	168.26	166.57	166.52
11	169.02	169.08	169.15		169.19	168.32	168.25	----	166.51
12	169.01	169.06	169.14		169.16	168.32	168.25	166.50	166.52
13	169.01	169.05			169.19	168.32	168.28	166.57	166.51
14	169.00	169.05			169.23	168.33	168.27	166.52	166.51
15	168.99	169.07			169.15	168.33	168.27	166.52	166.51
16	168.99	----			169.13	168.33	168.27	166.49	166.51
17	168.98	169.35			169.18	168.34	168.27	166.51	166.51
18	168.98	169.89			169.25	168.33	168.27	166.49	166.50
19	169.39	169.63		169.35	169.10	168.32	168.27	166.49	166.50
20	169.10	169.40		169.26	168.90	168.34	168.38	166.49	166.50
21	169.07	169.93		169.47	168.64	168.33	168.33	166.48	166.51
22	169.05	169.58		169.38	168.61	168.32	168.35	166.48	166.52
23	169.05	169.32		169.36	168.61	168.39	168.35	166.48	166.52
24	169.47	169.32		169.22	168.60	168.39	168.33	166.63	166.51
25	169.15	169.18		169.21	168.61	168.39	168.29	166.65	166.50
26	169.61	169.08		169.19	168.62	168.37	168.29	166.77	166.50
27	169.96	169.12		169.71	168.61	168.34	----	166.67	166.52
28	169.93	169.18		169.73	168.60	168.32	----	166.58	166.51
29	169.45	----		169.45	168.60	168.37	----	166.56	166.51
30	169.23	----		169.40	168.60	168.50	166.58*	166.52	166.50
31	169.15				168.60		166.57	166.52	

* Water levels affected by ditching associated with peat harvesting.

Table 6A.--Daily mean gage-height readings, perimeter drainage ditch, Denbow Heath
October 1, 1981 to September 30, 1982 (feet above sea level)

Day	Oct.	Nov.	Dec.	Apr.	May	June	July	Aug.	Sept.
1	168.97	168.84			168.78	169.07	169.15	169.14	169.16
2	168.89	168.87			168.86	169.05	169.15	169.16	168.98
3	168.62	168.87			169.10	169.11	169.15	169.17	169.01
4	168.85	168.88				169.13	169.15	169.17	169.09
5	168.63	168.88			169.16	169.15	169.16	169.17	169.11
6	168.80	168.83			169.28	169.16	169.16	169.17	169.14
7	168.78	168.79				169.15	169.16	169.17	169.15
8	168.81	168.81				169.14	169.17	169.17	
9	168.84	168.87			169.16	169.14	169.17	169.16	169.14
10	168.85	168.88	168.86		169.16	169.15	169.17	169.11	169.15
11	168.85	168.89	168.87		169.11	169.15	169.17	169.11	169.15
12	168.86	168.90	168.87		169.10	169.15	169.17	169.16	169.13
13	168.87	168.87	168.87		169.07	169.13	169.16	169.09	169.15
14	168.88	168.86			169.05	169.12	169.16	169.11	169.15
15	168.88	168.83			169.03	169.10	169.16	169.11	169.16
16	168.89				169.01	169.11	169.16	169.11	169.13
17	168.89	168.73			169.01	169.10	169.17	169.15	
18	168.88	168.55			169.01	169.11	169.17	169.11	
19	168.73	168.77		169.17	169.01	169.11	169.17	169.11	
20	168.87	168.79		169.15	169.03	169.12	169.10	169.17	
21	168.87	168.58		169.13	169.07	169.11	169.05	169.18	169.13
22	168.85	168.77		168.76	169.11	169.11	169.05	169.18	169.16
23	168.85	168.79		168.82	169.09	169.09	169.05	169.17	169.16
24	168.75	168.89		169.16	169.10	169.09	169.10	169.05	169.14
25	168.83			169.18	169.10	169.10	169.13	169.03	169.14
26	168.65	168.87		169.15	169.10	169.11	169.14	169.01	169.13
27	168.54	168.88		168.99	169.10	169.13	169.16	169.09	169.17
28	168.57	168.84		168.96	169.10	169.15	169.15	169.10	169.13
29	168.75	168.87		169.09	169.10	169.11	169.07	169.14	169.14
30	168.79			168.75	169.09	169.06	169.15	169.16	169.13
31	168.81				169.07		169.15	169.16	

Ground-Water Data

Great Heath

Seventy-two piezometers were installed in this peat bog and around its perimeters. Materials used to construct the piezometers were 1-1/2-inch diameter PVC pipe with 1-foot long, 0.006-inch slot-size well screen attached. The piezometers were installed in clusters depending on depth, by driving the screen and pipe into the peat deposit. During piezometer construction, depth of peat deposit was recorded. Descriptions of piezometers and water levels for Great Heath are reported in table 7.

One observation well (number 17-5) consisting of a 4-inch diameter PVC pipe with one-foot well screen (.010-inch slot size) was instrumented with a stage recorder. The analog-digital recorder and float counterweight assembly were installed to provide a continuous record of water-level fluctuations. Daily mean values of these data are presented in table 8.

Denbow Heath

A total of 33 piezometers were installed in this peat bog using the same materials and techniques as described for the Great Heath. Descriptions of piezometers and water levels for Denbow Heath are reported in table 9.

Table 7.--Descriptions of piezometers and water levels for the Great Heath, October 1981 through October 1982

Entries include identification number, location number, type of material the piezometer is finished in, installation date, altitude of the land surface, piezometer depth, total depth of peat at the site, and water-level information.

Identification number: (Example 51-3) A project number assigned to each piezometer. The first portion of the number (51) identifies the location of a cluster of piezometers on figure 2. The second number (-3) denotes relative piezometer depth at that particular cluster (1=deep in clay 2=deep, 3=intermediate, and 4=shallow)

Location number: (Example 444425069503203) Latitude and longitude of each piezometer site. The last two digits are sequential numbers attached to the latitude-longitude used to identify closely spaced wells.

Altitude: Land surface datum at piezometer site in feet above sea level. Determined by differential leveling, except at clusters 23, 9, 78, 33, 34, and 2 which were done to the nearest foot with an altimeter.

Water level: Static water level in feet below land surface. Measurements made by steel tape to 0.01 ft accuracy.

51-3. 444425069503203. Installed in peat June 10, 1980. Land surface 178.19 ft. Well depth 4 ft. Total depth of peat 8 ft.

Oct. 01, 1981	0.05
Nov. 17, 1981	.00
May 12, 1982	- .06
July 26, 1982	- .05
Oct. 04, 1982	.25

51-2. 444425067503202. Installed in peat June 10, 1980. Land surface 178.19 ft. Well depth 8 ft. Total depth of peat 8 ft.

Oct. 01, 1981	0.29
Nov. 17, 1981	.31
May 12, 1982	.31
July 26, 1982	.21
Oct. 04, 1982	.50

66-4. 444357067500004. Installed in peat June 10, 1980. Land surface 180.97 ft. Well depth 6 ft. Total depth of peat 16 ft.

Oct. 01, 1981	0.03
Nov. 17, 1981	- .07
May 12, 1982	.21
July 26, 1982	.40
Oct. 04, 1982	- .11

66-3. 444357067500003. Installed in peat June 10, 1980. Land surface 180.97 ft. Well depth 12 ft. Total depth of peat 16 ft.

Oct. 01, 1981	1.00
Nov. 17, 1981	0.99
May 12, 1982	1.19
July 26, 1982	1.29
Oct. 04, 1982	1.27

66-2. 444357067500002. Installed in peat June 10, 1980. Land surface 180.97 ft. Well depth 16 ft. Total depth of peat 16 ft.

Nov. 17, 1981	0.12
May 12, 1982	.26
July 26, 1982	.44
Oct. 04, 1982	.30

56-4. 444406067492904. Installed in peat June 10, 1980. Land surface 180.55 ft. Well depth 6 ft. Total depth of peat 17 ft.

Oct. 01, 1981	0.24
Nov. 17, 1981	.20
May 12, 1982	.41
July 26, 1982	.67
Oct. 04, 1982	.51

56-3. 444406067492903. Installed in peat June 10, 1980. Land surface 180.55 ft. Well depth 12 ft. Total depth of peat 17 ft.

Oct. 01, 1981	0.05
Nov. 17, 1981	- .03
May 12, 1982	.39
July 26, 1982	.56
Oct. 04, 1982	.33

56-2. 444406067492902. Installed in peat June 10, 1980. Land surface 180.55 ft. Well depth 16 ft. Total depth of peat 17 ft.

Oct. 01, 1981	- 0.05
Nov. 17, 1981	- .01
May 12, 1982	.41
July 26, 1982	.71
Oct. 04, 1982	.28

59-3. 444356067485503. Installed in peat June 10, 1980. Land surface 170.21 ft. Well depth 3 ft. Total depth of peat 6 ft.

Oct. 01, 1981	- 0.17
Nov. 17, 1981	- .17
May 12, 1982	.12
July 26, 1982	- .19
Oct. 04, 1982	.17

59-2. 444356067485502. Installed in peat June 10, 1980. Land surface 170.21 ft. Well depth 6 ft. Total depth of peat 6 ft.

Oct. 01, 1981	- 0.21
Nov. 17, 1981	- .23
May 12, 1982	.08
July 26, 1982	- .14
Oct. 04, 1982	.02

Table 7.-Descriptions of piezometers and water levels.-continued

67-4. 444346067500204. Installed in peat June 11, 1980. Land surface 181.28 ft. Well depth 6 ft. Total depth of peat 21 ft.

Oct. 01, 1981	0.11
Nov. 17, 1981	.16
May 12, 1982	.28
July 26, 1982	.56
Oct. 04, 1982	.38

67-3. 444346067500203. Installed in peat June 11, 1980. Land surface 181.28 ft. Well depth 13 ft. Total depth of peat 21 ft.

Oct. 01, 1981	0.17
Nov. 17, 1981	.18
May 12, 1982	.45
July 26, 1982	.54
Oct. 04, 1982	.45

67-2. 444346067500202. Installed in peat June 11, 1980. Land surface 181.28 ft. Well depth 21 ft. Total depth of peat 21 ft.

Oct. 01, 1981	0.39
Nov. 17, 1981	.34
May 12, 1982	.48
July 26, 1982	.66
Oct. 04, 1982	.51

70.4. 444326067500104. Installed in peat June 11, 1980. Land surface 182.47 ft. Well depth 6 ft. Total depth of peat 23 ft.

Oct. 01, 1981	0.31
Nov. 17, 1981	.29
May 11, 1982	.51
July 27, 1982	.74
Oct. 05, 1982	.66

70.3. 444326067500103. Installed in peat June 11, 1980. Land surface 182.37 ft. Well depth 13 ft. Total depth of peat 23 ft.

Oct. 01, 1981	0.27
Nov. 17, 1981	.15
May 11, 1982	.38
July 27, 1982	.58
Oct. 05, 1982	.59

70-2. 444326067500102. Installed in peat June 11, 1980. Land surface 182.47 ft. Well depth 21 ft. Total depth of peat 23 ft.

Oct. 01, 1981	0.47
Nov. 17, 1981	.44
May 11, 1982	.62
July 27, 1982	.79
Oct. 05, 1982	.83

M2-4 444327067492602. Installed in organic soil-clay July 22, 1980. Land surface 159.27 ft. Well depth 3 ft.

Oct. 01, 1981	0.02
Nov. 17, 1981	.20
May 11, 1982	.25
July 27, 1982	.25
Oct. 05, 1982	.54

M2-1. 444327067492601. Installed in clay July 22, 1980. Land surface 159.27 ft. Well depth 26 ft.

Oct. 01, 1981	- 1.22
Nov. 17, 1981	- 1.40
May 11, 1982	- 1.06
July 27, 1982	- 1.06
Oct. 05, 1982	- 1.02

63-4. 444239067500504. Installed in peat June 6, 1980. Land surface 171.43 ft. Well depth 5 ft. Total depth of peat 16 ft.

Oct. 01, 1981	0.67
Nov. 18, 1981	.30
May 11, 1982	.56
July 27, 1982	.75
Oct. 05, 1982	.67

63-3. 444239067500503. Installed in peat June 6, 1980. Land surface 171.43 ft. Well depth 10 ft. Total depth of peat 16 ft.

Oct. 01, 1981	0.56
Nov. 18, 1981	.35
May 11, 1982	.62
July 27, 1982	.71
Oct. 05, 1982	.68

63-2. 444239067500504. Installed in peat June 6, 1980. Land surface 171.43 ft. Well depth 10 ft. Total depth of peat 16 ft.

Oct. 01, 1981	0.55
Nov. 18, 1981	.34
May 11, 1982	.58
July 27, 1982	.72
Oct. 05, 1982	.73

M3-4. 444257067491401. Installed in organic-mineral soils July 22, 1980. Land surface 167.97 ft. Well depth 4 ft.

Nov. 18, 1981	2.85
May 11, 1982	3.41
July 27, 1982	3.75
Oct. 05, 1982	3.76

M3-3. 444257067491402. Installed in organic soils July 22, 1980. Land surface 167.97 ft. Well depth 5 ft.

Nov. 18, 1981	- 0.87
May 11, 1982	.08
July 27, 1982	.13
Oct. 05, 1982	.15

M4. 444209067500301. Installed in organic soil-clay July 24, 1980. Land surface 154.86 ft. Well depth 3 ft.

Nov. 18, 1981	0.14
May 11, 1982	.92
July 27, 1982	1.11
Oct. 05, 1982	dry

12-3. 444214067493603. Installed in peat June 18, 1980. Land surface 161.65 ft. Well depth 6 ft. Total depth of peat 13 ft.

Nov. 18, 1981	0.77
May 11, 1982	.79
July 27, 1982	.99
Oct. 05, 1982	.97

12-2. 444214067493602. Installed in peat June 18, 1980. Land surface 161.65 ft. Well depth 13 ft. Total depth of peat 13 ft.

Nov. 18, 1981	0.59
May 11, 1982	.86
July 27, 1982	.91
Oct. 05, 1982	.96

10-4. 444227067493604. Installed in peat June 18, 1980. Land surface 174.98 ft. Well depth 6 ft. Total depth of peat 26 ft.

Nov. 18, 1981	0.15
May 11, 1982	.36
July 27, 1982	.52
Oct. 05, 1982	.60

10-3. 444227067493603. Installed in peat June 18, 1980. Land surface 174.98 ft. Well depth 16 ft. Total depth of peat 26 ft.

Nov. 18, 1981	0.39
May 11, 1982	.51
July 27, 1982	.65
Oct. 05, 1982	.74

10-2. 444227067493602. Installed in peat June 18, 1980. Land surface 174.98 ft. Well depth 26 ft. Total depth of peat 26 ft.

May 11, 1982	0.58
July 27, 1982	.94
Oct. 05, 1982	1.14

M1. 444347067510401. Installed in organic soil-clay June 24, 1980. Land surface 163.51 ft. Well depth 3 ft.

Oct. 01, 1981	0.20
Nov. 17, 1981	.24
May 11, 1982	.15
July 27, 1982	.28
Oct. 05, 1982	.23

17-4. 444308067510904. Installed in peat May 13, 1980. Land surface 171.72 ft. Well depth 5 ft. Total depth of peat 15 ft.

Oct. 01, 1981	0.27
Nov. 17, 1981	.19
May 11, 1982	.27
July 27, 1982	.47
Oct. 05, 1982	.47

17-3. 444308067510903. Installed in peat May 13, 1980. Land surface 171.72 ft. Well depth 10 ft. Total depth of peat 15 ft.

Oct. 01, 1981	0.37
Nov. 17, 1981	.28
May 11, 1982	.47
July 27, 1982	.51
Oct. 05, 1982	.54

17-2. 444308067510902. Installed in peat May 13, 1980. Land surface 171.72 ft. Well depth 15 ft. Total depth of peat 15 ft.

May 11, 1982	1.22
July 27, 1982	1.34
Oct. 05, 1982	1.47

17-5. 444308067510905. Installed in peat October 08, 1980. Land surface 170.31 ft. Well depth 6 ft. Total depth of peat 15 ft.

Continuous recording well (seasonal)

64-4. 444316067505004. Installed in peat May 13, 1980. Land surface 180.32 ft. Well depth 5 ft. Total depth of peat 25 ft.

Oct. 01, 1981	0.25
Nov. 17, 1981	.21
July 27, 1982	.66
Oct. 05, 1982	.73

64-3. 444316067505003. Installed in peat May 13, 1980. Land surface 180.32 ft. Well depth 15 ft. Total depth of peat 25 ft.

Oct. 01, 1981	0.43
Nov. 17, 1981	.43
May 11, 1982	.51
July 27, 1982	.68
Oct. 05, 1982	.68

64-2. 444316067505002. Installed in peat May 13, 1980. Land surface 180.32 ft. Well depth 23 ft. Total depth of peat 25 ft.

Oct. 01, 1981	0.53
Nov. 17, 1981	.53
May 11, 1982	.56
July 27, 1982	.75
Oct. 05, 1982	.78

64-1. 444316067505002. Installed in clay May , 1982. Land surface 180.32 ft. Well depth 31.5 ft. Total depth of peat 25 ft.

Oct. 05, 1982	0.97

74-4. 444315067494604. Installed in peat June 11, 1980. Land surface 177.43 ft. Well depth 6 ft. Total depth of peat 26 ft.

Oct. 01, 1981	- 0.44
Nov. 17, 1981	- .47
May 11, 1982	- .33
July 27, 1982	- .14
Oct. 05, 1982	- .15

74-3. 444315067494603. Installed in peat June 11, 1980. Land surface 177.43 ft. Well depth 16 ft. Total depth of peat 26 ft.

Oct. 01, 1981	- 0.37
Nov. 17, 1981	- .36
May 11, 1982	- .20
July 27, 1982	- .03
Oct. 05, 1982	- .08

Table 7.-Descriptions of piezometers and water levels.-continued

74-2. 444315067494602. Installed in peat June 11, 1980. Land surface 177.43 ft. Well depth 22 ft. Total depth of peat 26 ft.

Oct. 01, 1981	- 0.19
Nov. 17, 1981	- .17
May 11, 1982	- .12
July 27, 1982	- .03
Oct. 05, 1982	- .01

16-4. 444350067500004. Installed in peat June 12, 1980. Land surface 172.39 ft. Well depth 4 ft. Total depth of peat 14 ft.

Oct. 01, 1981	0.36
Nov. 17, 1981	.49
May 11, 1982	.00
July 27, 1982	1.02
Oct. 05, 1982	1.03

16-3. 444350067500003. Installed in peat June 12, 1980. Land surface 172.39 ft. Well depth 9 ft. Total depth of peat 14 ft.

Oct. 01, 1981	0.31
Nov. 17, 1981	.52
May 11, 1982	.22
July 27, 1982	.93
Oct. 05, 1982	.95

16-2. 444350067500004. Installed in peat June 12, 1980. Land surface 172.39 ft. Well depth 14 ft. Total depth of peat 14 ft.

Oct. 01, 1981	0.33
Nov. 17, 1981	.53
May 11, 1982	.13
July 27, 1982	.92
Oct. 05, 1982	1.00

14-4. 444250067494204. Installed in peat June 5, 1980. Land surface 177.65 ft. Well depth 6 ft. Total depth of peat 23 ft.

Oct. 01, 1981	0.27
Nov. 17, 1981	.15
May 11, 1982	- .24
July 27, 1982	.00
Oct. 05, 1982	.05

14-3. 444250067494203. Installed in peat June 5, 1980. Land surface 177.65 ft. Well depth 15 ft. Total depth of peat 23 ft.

Oct. 01, 1981	0.36
Nov. 17, 1981	.22
May 11, 1982	.18
July 27, 1982	.35
Oct. 05, 1982	.47

14-2. 444250067494202. Installed in peat June 5, 1980. Land surface 177.65 ft. Well depth 23 ft. Total depth of peat 23 ft.

Oct. 01, 1981	0.50
Nov. 17, 1981	.32
May 11, 1982	.73
July 27, 1982	.87
Oct. 05, 1982	.85

6-4. 444242067485504. Installed in peat June 8, 1980. Land surface 177.04 ft. Well depth 6 ft. Total depth of peat 28 ft.

Nov. 18, 1981	0.16
May 11, 1982	- .32
July 27, 1982	.67
Oct. 05, 1982	.66

6-3. 444242067485503. Installed in peat June 8, 1980. Land surface 177.04 ft. Well depth 16 ft. Total depth of peat 28 ft.

Nov. 18, 1981	0.47
May 11, 1982	- .19
July 27, 1982	.68
Oct. 05, 1982	.72

6-2. 444242067485502. Installed in peat June 8, 1980. Land surface 177.04 ft. Well depth 28 ft. Total depth of peat 28 ft.

Nov. 18, 1981	0.58
May 11, 1982	.84
July 27, 1982	1.05
Oct. 05, 1982	.86

38-3. 444230067481103. Installed in peat June 19, 1980. Land surface 163.29 ft. Well depth 6 ft. Total depth of peat 13 ft.

Nov. 18, 1981	0.27
May 11, 1982	.51
July 28, 1982	.72
Oct. 05, 1982	.77

38-2. 444230067481102. Installed in peat June 19, 1980. Land surface 163.29 ft. Well depth 13 ft. Total depth of peat 13 ft.

Nov. 18, 1981	0.28
May 11, 1982	.36
July 28, 1982	.65
Oct. 05, 1982	.72

29-4. 444213067483604. Installed in peat June 19, 1980. Land surface 169.65 ft. Well depth 6 ft. Total depth of peat 20 ft.

Nov. 18, 1981	0.03
May 11, 1982	.21
July 27, 1982	.47
Oct. 05, 1982	.53

29-3. 444213067483603. Installed in peat June 19, 1980. Land surface 169.65 ft. Well depth 13 ft. Total depth of peat 20 ft.

Nov. 18, 1981	0.09
May 11, 1982	.27
July 27, 1982	.45
Oct. 05, 1982	.56

29-2. 444213067483604. Installed in peat June 19, 1980. Land surface 169.65 ft. Well depth 20 ft. Total depth of peat 20 ft.

Nov. 18, 1981	0.30
May 11, 1982	.48
July 27, 1982	.62
Oct. 05, 1982	.74

Table 7.-Descriptions of piezometers and water levels.-continued

61-4. 442553067502204. Installed in peat June 12, 1980. Land surface 177.86 ft. Well depth 6 ft. Total depth of peat 24 ft.

Oct. 01, 1981	0.42
Nov. 18, 1981	.22
May 11, 1982	.33
July 27, 1982	.55
Oct. 05, 1982	.61

61-3. 442553067502203. Installed in peat June 12, 1980. Land surface 177.86 ft. Well depth 15 ft. Total depth of peat 24 ft.

Oct. 01, 1981	0.68
Nov. 18, 1981	.46
May 11, 1982	.75
July 27, 1982	.75
Oct. 05, 1982	.88

61-2. 442553067502202. Installed in peat June 12, 1980. Land surface 177.86 ft. Well depth 23 ft. Total depth of peat 24 ft.

Nov. 18, 1981	0.62
May 11, 1982	.67
July 27, 1982	.81
Oct. 05, 1982	.90

31-3. 444157067485803. Installed in peat June 19, 1980. Land surface 154.41 ft. Well depth 2 ft. Total depth of peat 4 ft.

Nov. 18, 1981	- 0.84
May 11, 1982	- .71
July 27, 1982	- .50
Oct. 05, 1982	- .45

31-2. 444157067485802. Installed in peat June 19, 1980. Land surface 154.41 ft. Well depth 4 ft. Total depth of peat 4 ft.

Nov. 18, 1981	- 0.91
May 11, 1982	- .68
July 27, 1982	- .48
Oct. 05, 1982	- .41

22-4. 444328067503604. Installed in peat May 14, 1980. Land surface 187.21 ft. Well depth 5 ft. Total depth of peat 24 ft.

Oct. 01, 1981	0.54
Nov. 17, 1981	.49
May 11, 1982	.67
July 27, 1982	.90
Oct. 05, 1982	.91

22-3. 444328067503603. Installed in peat May 14, 1980. Land surface 187.21 ft. Well depth 15 ft. Total depth of peat 24 ft.

Oct. 01, 1981	0.29
Nov. 17, 1981	.36
May 11, 1982	.56
July 27, 1982	.67
Oct. 05, 1982	.70

22-2. 444328067503602. Installed in peat May 14, 1980. Land surface 187.21 ft. Well depth 23 ft. Total depth of peat 24 ft.

Nov. 17, 1981	0.40
May 11, 1982	.58
July 27, 1982	.74
Oct. 05, 1982	.77

22-1. 444328067503603. Installed in clay May , 1982. Land surface 187.21 ft. Well depth 33.0 ft. Total depth of peat 24 feet.

July 27, 1982	2.96
Oct. 05, 1982	2.64

G-C. 444307067511401. Installed in clay November 1980. Land surface 164.32 ft. Well depth 10 ft. Total depth of peat 6 ft.

Oct. 01, 1981	0.99
Nov. 17, 1981	.36
May 11, 1982	1.66
July 27, 1982	.80
Oct. 05, 1982	.55

G-P. 444307067511402. Installed in peat April 1982. Land surface 164.32 ft. Well depth 6 ft. Total depth of peat 6 ft.

May 11, 1982	1.33
July 27, 1982	.61
Oct. 05, 1982	.51

23-4. 444333067504604. Installed in peat May 1981. Land surface 186.35 ft. Well depth 5 ft.

Oct. 01, 1981	0.39
Nov. 17, 1981	.35
May 11, 1982	.52
July 27, 1982	.65
Oct. 05, 1982	.68

9-4. 444233067492204. Installed in peat May 1981. Land surface 171.35 ft. Well depth 5 ft.

Nov. 18, 1981	0.31
May 11, 1982	.24
July 27, 1982	.49
Oct. 05, 1982	.66

78-4. 444204067492804. Installed in peat May 1981. Land surface 180.15 ft. Well depth 5 ft.

Nov. 18, 1981	0.88
May 11, 1982	.82
July 27, 1982	1.17
Oct. 05, 1982	1.25

33-4. 444221067490304. Installed in peat May 1981. Land surface 152.10 ft. Well depth 5 ft.

Nov. 18, 1981	- 0.12
May 11, 1982	- .49
July 27, 1982	.20
Oct. 05, 1982	.28

Table 7.-Descriptions of piezometers and water levels.-continued

34-4. 444201067482404. Installed in peat May 1981. Land surface 155.30 ft. Well depth 5 ft.

Nov. 18, 1981	0.29
May 11, 1982	.57
July 27, 1982	.91
Oct. 05, 1982	.79

40-4. 444243067483004. Installed in peat May 1981. Land surface 171.0 ft. Well depth 5 ft.

Nov. 18, 1981	0.68
May 11, 1982	.34
July 27, 1982	.59
Oct. 05, 1982	.65

2-4. 444210067481604. Installed in peat May 1981. Land surface 162.15 ft. Well depth 5 ft.

Nov. 18, 1981	0.44
May 11, 1982	.55
July 28, 1982	.85
Oct. 05, 1982	.93

Table 8. Water levels in Great Heath observation well 17-5, October 1981 to October 1982

WASHINGTON COUNTY

444308067510905

LOCATION.--Lat. 44°43'08", long 67°51'09", Hydrologic Unit 01050002, in T18MD, about 0.4 mi (0.6 km) northeast of Taylor Branch at The Great Heath gaging station and about 1.9 mi (3.1 km) northwest of Epping.

AQUIFER.--Peat Bog

WELL CHARACTERISTICS.--Augered observation water-table well, diameter 4 in. (0.10 m), depth 5 ft (1.5 m) screened 0 to 5 ft (0 to 1.5 m) with a .01 in. (0.25 mm) mesh.

DATUM.--Elevation of land surface datum is 172.69 ft (52.636 m, National Geodetic Vertical Datum of 1929). Measuring point: Top of casing indicated by black mark, 1.0 ft (0.3 m) above land-surface datum.

PERIOD OF RECORD.--October 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level 0.77 ft (0.23 m) below land-surface datum, Sept. 24, 1981; lowest 2.14 ft (0.65 m) below land-surface datum July 18-19, 1982.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1981 TO OCTOBER 1982
MEAN VALUES

DAY	OCT	NOV	MAY	JUN	JUL	AUG	SEP	OCT
1	1.22	1.08	---	1.71	1.05	1.20	1.30	1.41
2	1.13	1.11	---	1.44	1.13	1.24	1.06	1.43
3	.96	1.14	---	1.08	1.20	1.29	1.00	1.46
4	1.01	1.18	---	1.15	1.27	1.35	1.04	1.48
5	1.06	1.21	---	1.20	1.34	1.40	1.11	---
6	1.11	1.13	---	1.24	1.41	1.42	1.16	---
7	1.08	1.01	---	1.30	1.48	1.47	1.22	---
8	1.09	.97	---	1.35	1.55	1.49	1.28	---
9	1.13	1.02	---	1.41	1.54	1.48	1.33	---
10	1.17	1.07	---	1.47	1.72	1.26	1.37	---
11	1.21	1.10	---	1.53	1.78	1.34	1.41	---
12	1.24	1.12	---	1.58	1.81	1.42	1.40	---
13	1.27	1.16	.90	1.62	1.83	1.19	1.44	---
14	1.30	1.20	.96	1.45	1.88	1.13	1.46	---
15	1.32	1.19	1.00	1.42	1.93	1.21	1.48	---
16	1.33	1.13	1.04	1.45	1.99	1.29	1.48	---
17	1.36	---	1.08	1.43	2.03	1.35	1.50	---
18	1.38	---	1.11	1.44	2.07	1.41	1.53	---
19	1.10	---	1.12	1.51	2.11	1.46	1.57	---
20	1.11	---	1.15	1.45	1.96	1.50	1.61	---
21	1.15	---	1.17	1.48	1.45	1.47	1.54	---
22	1.19	---	1.19	1.55	1.29	1.55	1.39	---
23	1.21	---	1.21	1.46	1.11	1.59	1.24	---
24	1.00	---	1.22	1.37	1.18	1.11	1.24	---
25	1.02	---	1.24	1.41	1.26	1.05	1.30	---
26	.99	---	1.26	1.43	1.34	.94	1.35	---
27	.95	---	1.29	1.48	1.42	1.04	1.36	---
28	.87	---	1.39	1.57	1.39	1.11	1.30	---
29	.95	---	1.61	1.47	1.00	1.16	1.34	---
30	1.01	---	1.47	.97	1.08	1.22	1.39	---
31	1.05	---	1.69	---	1.15	1.26	---	---
MEAN	1.12	---	---	1.41	1.51	1.30	1.34	---
MAX	1.38	---	---	1.71	2.11	1.59	1.61	---
MIN	.95	---	---	.97	1.00	.94	1.00	---

Table 9.--Descriptions of piezometers and water levels for the Denbow Heath, October 1981 through October 1982.

Entries include identification number, location number, type of material the piezometer is finished in, installation date, altitude of the land surface, piezometer depth, total depth of peat at the site, and water level information

Identification number: (Example D1-4) A project number assigned to each piezometer. The first portion of the number (D1) identifies the location of a cluster of piezometers on figure 3. The second number (-4) denotes relative piezometer depth at that particular cluster (0=till, 1=deep in clay, 2=deep, 3=intermediate, and 4=shallow)

Location number: (Example 444410068033804) Latitude and longitude of each piezometer site. The last two digits are sequential numbers attached to the latitude- longitude used to identify closely spaced piezometers.

Altitude: Land-surface datum at piezometer site in feet above sea level. Determined by differential leveling.

Water level: Static water level in feet below land surface. Measurements made by steel tape to 0.01 ft accuracy.

D1-3. 444410068033803. Installed in peat June 05, 1981. Land surface 75.00 ft. Well depth 12 ft. Total depth of peat 20 ft.

Oct. 02, 1981	1.53
Nov. 16, 1981	1.38
May 10, 1982	1.22
July 12, 1982	1.68
Aug. 11, 1982	1.64

D1-2. 444410068033802. Installed in peat June 05, 1981. Land surface 75.15 ft. Well depth 16 ft. Total depth of peat 20 ft.

Oct. 02, 1981	- 0.21
Nov. 16, 1981	- .31
May 10, 1982	- .21
July 12, 1982	.00
Aug. 11, 1982	.06

D1-1. 444410068033801. Installed in clay June 05, 1981. Land surface 77.15 ft. Well depth 20 ft. Total depth of peat 19 ft.

Oct. 02, 1981	- 0.99
Nov. 16, 1981	- 1.12
May 10, 1982	- .89
July 12, 1982	- .66
Aug. 11, 1982	- .63

D2-4. 444401068033804. Installed in peat November 18, 1980. Land surface 78.30 ft. Well depth 4 ft. Total depth of peat 24 ft.

Oct. 02, 1981	0.43
Nov. 16, 1981	.28
May 10, 1982	.49
July 12, 1982	.89
Aug. 11, 1982	.65
Sept.08, 1982	- .28

D2-3. 444401068033803. Installed in peat November 18, 1980. Land surface 78.30 ft. Well depth 15 ft. Total depth of peat 24 ft.

Oct. 02, 1981	0.61
Nov. 16, 1981	.23
May 10, 1982	.48
July 12, 1982	.62
Aug. 11, 1982	.61
Sept.08, 1982	1.37

D2-2. 444401068033802. Installed in peat November 18, 1980. Land surface 78.30 ft. Well depth 24 ft. Total depth of peat 24 ft.

Oct. 02, 1981	0.61
Nov. 16, 1981	.42
May 10, 1982	.57
July 12, 1982	.68
Aug. 11, 1982	.70
Sept.08, 1982	.71

D2-1. 444401068033801. Installed in clay November 18, 1980. Land surface 78.30 ft. Well depth 25 ft. Total depth of peat 24 ft.

Oct. 02, 1981	0.62
Nov. 16, 1981	.44
May 10, 1982	.71
July 12, 1982	.87
Aug. 11, 1982	.90
Sept.08, 1982	1.40

D3-4. 444347068033804. Installed in peat November 18, 1980. Land surface 76.85 ft. Well depth 6 ft. Total depth of peat 24 ft.

Oct. 02, 1981	0.78
Nov. 16, 1981	.78
May 10, 1982	1.02
July 12, 1982	1.43
Aug. 11, 1982	1.38
Sept.08, 1982	1.10

D3-3. 444347068033803. Installed in peat November 18, 1980. Land surface 76.85 ft. Well depth 15 ft. Total depth of peat 24 ft.

Oct. 02, 1981	0.93
Nov. 16, 1981	.93
May 10, 1982	1.01
July 12, 1982	1.29
Aug. 11, 1982	1.24
Sept.08, 1982	1.25

Table 9.-Descriptions of piezometers and water levels.-continued

D3-2. 444347068033802. Installed in peat November 18, 1980. Land surface 76.85 ft. Well depth 24 ft. Total depth of peat 24 ft.

Oct. 02, 1981	1.00
Nov. 16, 1981	1.00
May 10, 1982	1.10
July 12, 1982	1.36
Aug. 11, 1982	1.39
Sept.08, 1982	1.43

D3-1. 444347068033801. Installed in clay November 18, 1980. Land surface 76.85 ft. Well depth 25 ft. Total depth of peat 24 ft.

Oct. 02, 1981	1.19
Nov. 16, 1981	1.19
May 10, 1982	1.02
July 12, 1982	1.30
Aug. 11, 1982	1.39
Sept.08, 1982	1.43

D4-4. 444341068033704. Installed in peat November 18, 1980. Land surface 67.75 ft. Well depth 3 ft. Total depth of peat 9 ft.

Oct. 02, 1981	- 0.12
Nov. 16, 1981	- .10
May 10, 1981	- .10
July 12, 1982	.44
Aug. 11, 1982	1.63
Sept.08, 1982	0.25

D4-3. 444341068033703. Installed in clayey-peat November 18, 1980. Land surface 67.75 ft. Well depth 10 ft. Total depth of peat 9 ft.

Oct. 02, 1981	0.43
Nov. 16, 1981	.28
May 10, 1982	.34
July 12, 1982	.66
Aug. 11, 1982	1.35
Sept.08, 1982	.63

D5-4. 444425068024204. Installed in peat November 20, 1980. Land surface 72.85 ft. Well depth 5 ft. Total depth of peat 11 ft.

Oct. 02, 1981	0.97
Nov. 16, 1981	.81
May 10, 1982	.85
July 12, 1982	1.12
Aug. 11, 1982	1.11
Sept.08, 1982	1.12

D5-3. 444425068024203. Installed in peat November 20, 1980. Land surface 72.85 ft. Well depth 9 ft. Total depth of peat 11 ft.

Oct. 02, 1981	0.96
Nov. 16, 1981	.86
May 10, 1982	.89
July 12, 1982	1.18
Aug. 11, 1982	1.16
Sept.08, 1982	1.16

D5-1. 444425068024201. Installed in peaty sand clay November 20, 1980. Land surface 72.85 ft. Well depth 13 ft. Total depth of peat 11 ft.

Oct. 02, 1981	1.22
Nov. 16, 1981	1.04
May 10, 1982	1.21
July 12, 1982	1.43
Aug. 11, 1982	1.53
Sept.08, 1982	1.55

D6-4. 444410068024204. Installed in peat November 18, 1980. Land surface 76.05 ft. Well depth 5 ft. Total depth of peat 16 ft.

Oct. 02, 1981	0.89
Nov. 16, 1981	.73
May 10, 1982	.92
July 12, 1982	1.39
Aug. 11, 1982	1.28
Sept.08, 1982	1.13

D6-3. 444410068024203. Installed in peat November 18, 1980. Land surface 76.05 ft. Well depth 13 ft. Total depth of peat 16 ft.

Oct. 02, 1981	0.68
Nov. 16, 1981	.48
May 10, 1982	.83
July 12, 1982	.98
Aug. 11, 1982	.95
Sept.08, 1982	1.00

D6-1. 444410068024203. Installed in sandy clay November 18, 1980. Land surface 76.05 ft. Well depth 17 ft. Total depth of peat 16 ft.

Oct. 02, 1981	- 0.21
Nov. 16, 1981	.72
May 10, 1982	.98
July 12, 1982	1.12
Aug. 11, 1982	1.11
Sept.08, 1982	1.20

D7-4. 444407068024204. Installed in peat November 18, 1980. Land surface 75.38 ft. Well depth 6 ft. Total depth of peat 19 ft.

Oct. 02, 1981	0.65
Nov. 16, 1981	.44
May 10, 1982	.51
July 12, 1982	.71
Aug. 11, 1982	.75
Sept.08, 1982	.78

D7-3. 444407068024203. Installed in peat November 18, 1980. Land surface 75.38 ft. Well depth 11 ft. Total depth of peat 19 ft.

Oct. 02, 1981	0.73
Nov. 16, 1981	.71
May 10, 1982	1.42
July 12, 1982	1.57
Aug. 11, 1982	1.53
Sept.08, 1982	1.45

Table 9.-Descriptions of piezometers and water levels.-continued

D7-1. 444407068024201. Installed in clay November 18, 1980. Land surface 75.38 ft. Well depth 22 ft. Total depth of peat 19 ft.

Oct. 02, 1981	0.74
Nov. 16, 1981	.61
May 10, 1982	.72
July 12, 1982	1.00
Aug. 11, 1982	.92
Sept.08, 1982	1.08

D8-4. 444355068024104. Installed in peat November 18, 1980. Land surface 73.40 ft. Well depth 4 ft. Total depth of peat 17 ft.

Oct. 02, 1981	1.30
Nov. 16, 1981	1.08
May 10. 1982	1.27
July 12, 1982	1.67
Aug. 11, 1982	1.73
Sept.08, 1982	1.42

D8-3. 444355068024103. Installed in peat November 18, 1980. Land surface 73.40 ft. Well depth 15 ft. Total depth of peat 17 ft.

Oct. 02, 1981	1.76
Nov. 16, 1981	1.67
May 10, 1982	2.14
July 12, 1982	2.17
Aug. 11, 1982	2.22
Sept.08, 1982	2.15

D9-4. 444426068023004. Installed in peat November 18, 1980. Land surface 76.00 ft. Well depth 5 ft. Total depth of peat 12 ft.

Oct. 02, 1981	1.11
Nov. 16, 1981	.82
May 10, 1982	.18
July 12, 1982	1.70
Aug. 11, 1982	1.62
Sept.08, 1982	1.44

D9-3. 444426068023003. Installed in peat November 18, 1980. Land surface 76.00 ft. Well depth 12 ft. Total depth of peat 12 ft.

Oct. 02, 1981	2.06
Nov. 16, 1981	1.82
May 10, 1982	1.77
July 12, 1982	2.27
Aug. 11, 1982	2.27
Sept.08, 1982	2.20

D10-4. 444415068022104. Installed in peat November 18, 1980. Land surface 85.32 ft. Well depth 6 ft. Total depth of peat 15 ft.

Oct. 02, 1981	- 2.15
Nov. 16, 1981	- 2.33
May 10, 1982	- 2.13
July 12, 1982	- 1.67
Aug. 11, 1982	- 1.77
Sept.08, 1982	- 2.00

D10-3 444415068022103. Installed in peat November 19, 1980. Land surface 85.32 ft. Well depth 15 ft. Total depth of peat 15 ft.

Oct. 02, 1981	5.35
Nov. 16, 1981	5.19
May 10, 1982	5.42
July 12, 1982	5.70
Aug. 11, 1982	5.63
Sept.08, 1982	5.73

D11-4. 444407068021404. Installed in peat November 19, 1980. Land surface 69.87 ft. Well depth 1 ft. Total depth of peat 7 ft.

Oct. 02, 1981	0.22
Nov. 16, 1982	.18
May 10, 1982	- .47
July 12, 1982	- .04
Aug. 11, 1982	.03
Sept.08, 1982	- .18

D11-3. 444407068021403. Installed in peat November 19, 1980. Land surface 69.87 ft. Well depth 6 ft. Total depth of peat 7 ft.

Oct. 02, 1981	0.47
Nov. 16, 1981	.30
May 10, 1982	1.05
July 12, 1982	1.43
Aug. 11, 1982	1.23
Sept.08, 1982	1.08

D12-2. 444408068020802. Installed in peat May, 1981. Land surface 73.50 ft. Well depth 9 ft. Total depth of peat 10 ft.

Oct. 02, 1981	0.84
Nov. 16, 1981	.39
May 10, 1982	.66
July 12, 1982	.95
Aug. 11, 1982	.42
Sept.08, 1982	.61

D12-1. 444408068020801. Installed in clay May, 1981. Land surface 73.50 ft. Well depth 15 ft. Total depth of peat 10 ft.

Oct. 02, 1981	1.02
Nov. 16, 1981	.98
May 10, 1982	1.48
July 12, 1982	1.32
Aug. 11, 1982	1.18
Sept.08, 1982	1.18

D12-0. 444408068020800. Installed in till May, 1981. Land surface 73.50 ft. Well depth 57 ft. Total depth of peat 10 ft.

Oct. 02, 1981	dry
Nov. 16, 1981	dry
May 10, 1982	dry
July 12, 1982	dry
Aug. 11, 1982	dry
Sept.08, 1982	dry

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DEFINITIONS OF TERMS

Definition of terms related to streamflow, water quality, ground water, and other hydrologic data, as used in this report, are defined as follows:

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, about 646,000 gallons, or 2,447 cubic meters.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross-section over a long reach of the channel.

Cubic foot per second per square mile (cfsm) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (CFS, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.2832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily-mean discharges during a specific period.

Instantaneous streamflow is the discharge at a particular instant of time.

Drainage area of a stream at a specific location is that area, measured on a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point.

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

Gage height is the water-surface elevation referred to mean sea level datum. Gage height is often used interchangeably with the general term "stage," although gage height is more appropriate when used with a reading on a gage.

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

Land-surface datum is a datum plane that is approximately at land surface at each ground-water observation well.

Measuring point is a permanent reference point from which the distance to the water surface in a piezometer is measured to obtain the water level.

Miscellaneous site - partial record station is a particular site where limited streamflow and (or) water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Observation well is a well constructed to reflect all pertinent details on lithology, water levels, and water quality.

Piezometer is a well specially designed to measure the hydraulic head within a zone small enough to be considered a point.

Runoff in inches (in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Stage-discharge relation is the relation between gage height (stage) and the 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 flow of a canal, the word "streamflow" uniquely describes 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.

Surface area is that area of a given feature outlined on the latest U.S. Geological Survey topographic map and measured by a planimeter in acres. In localities not covered by topographic maps, the area is computed from the best maps available at the time planimetered.