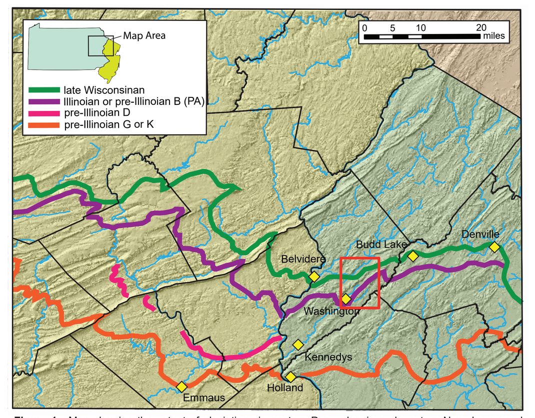
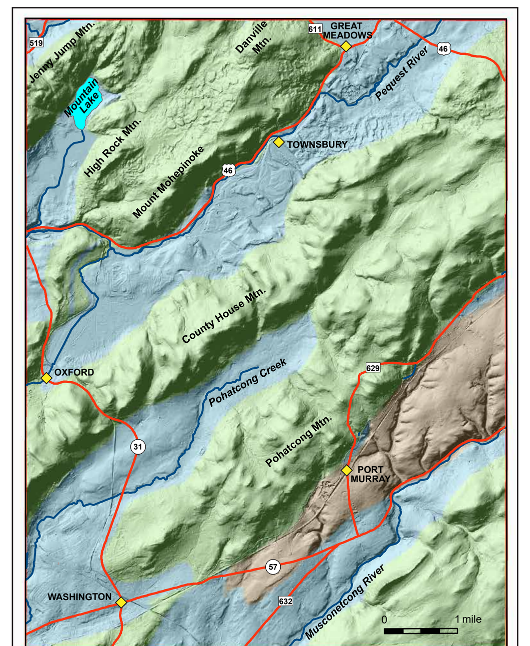
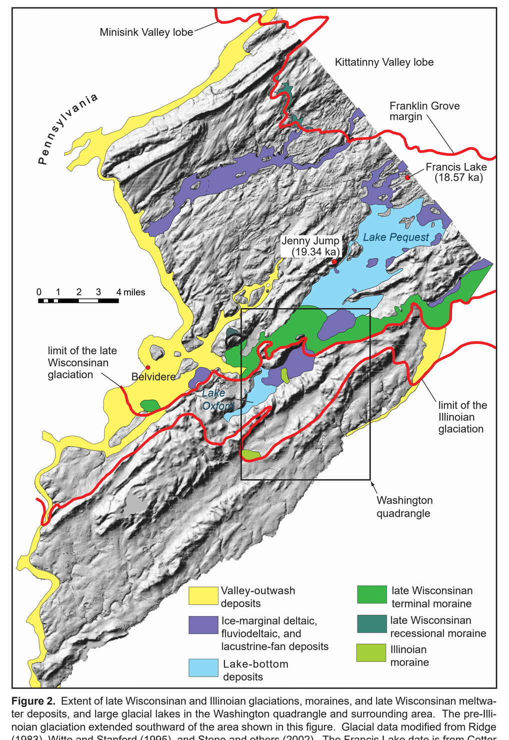
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATER RESOURCES MANAGEMENT
NEW JERSEY GEOLOGICAL AND WATER SURVEY

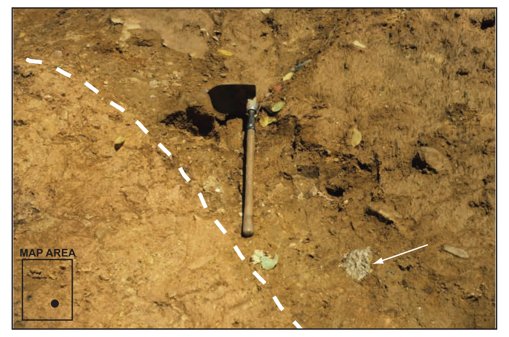
Prepared in cooperation with the
U.S. GEOLOGICAL SURVEY
NATIONAL COOPERATIVE GEOLOGIC MAPPING PROGRAM

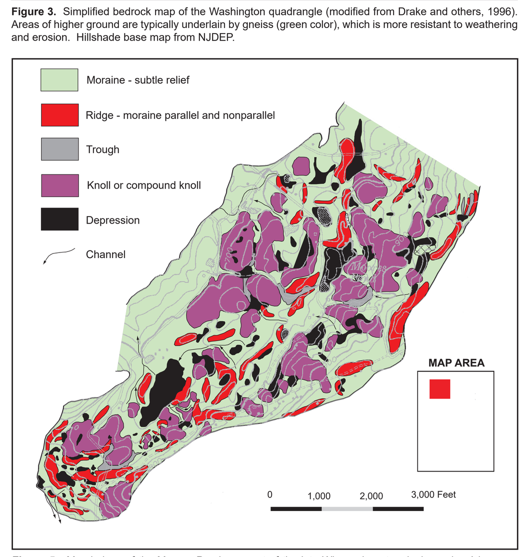
SURFICIAL GEOLOGY OF THE WASHINGTON QUADRANGLE,
WARREN, HUNTERDON, AND MORRIS COUNTIES, NEW JERSEY
OPEN-FILE MAP OFM 144
Pamphlet containing Table 1 to accompany map

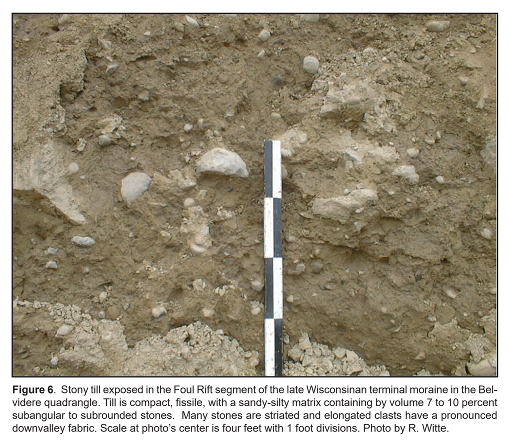


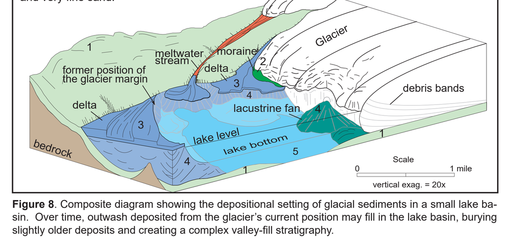


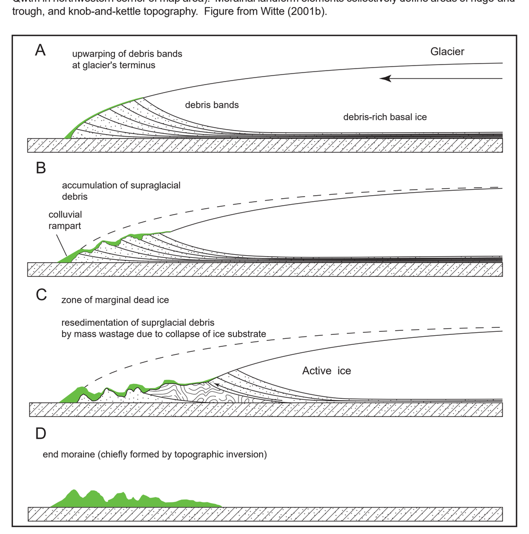


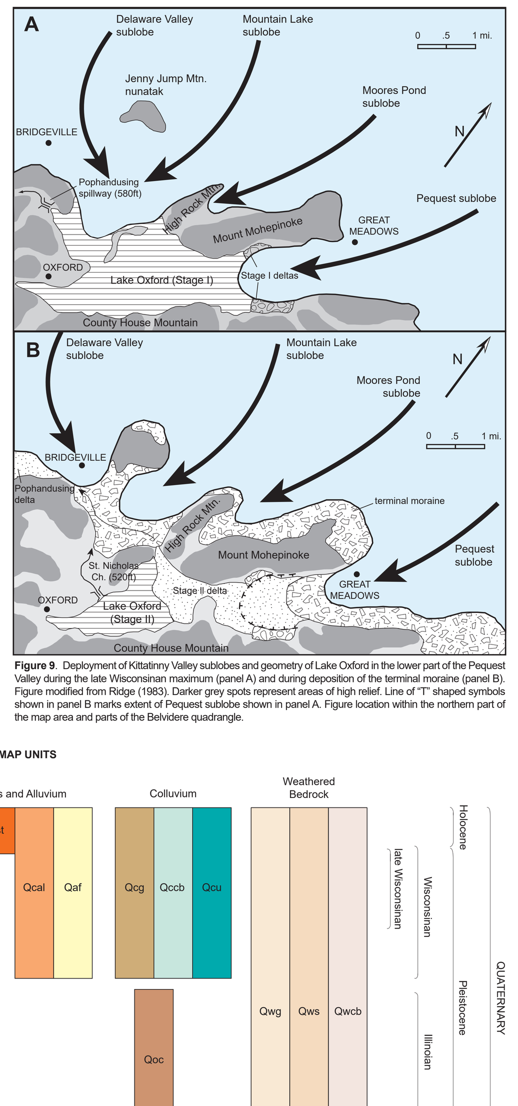




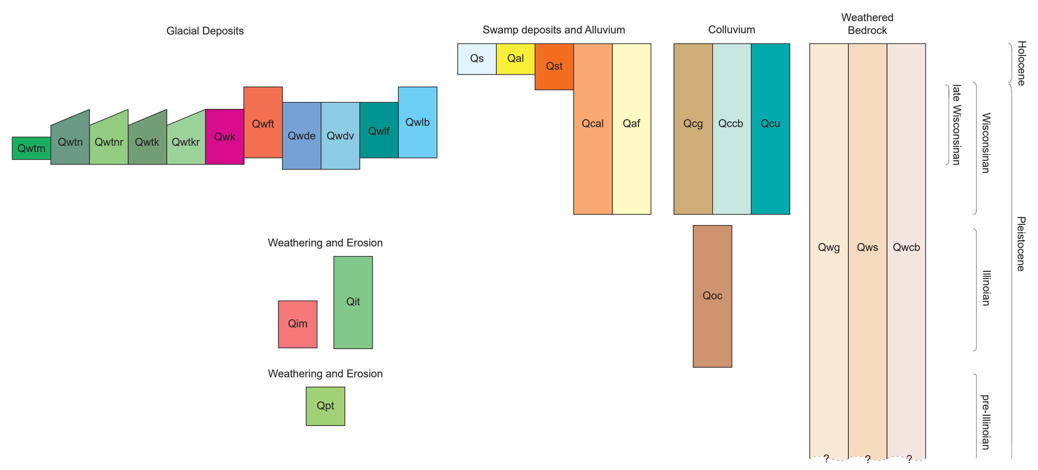


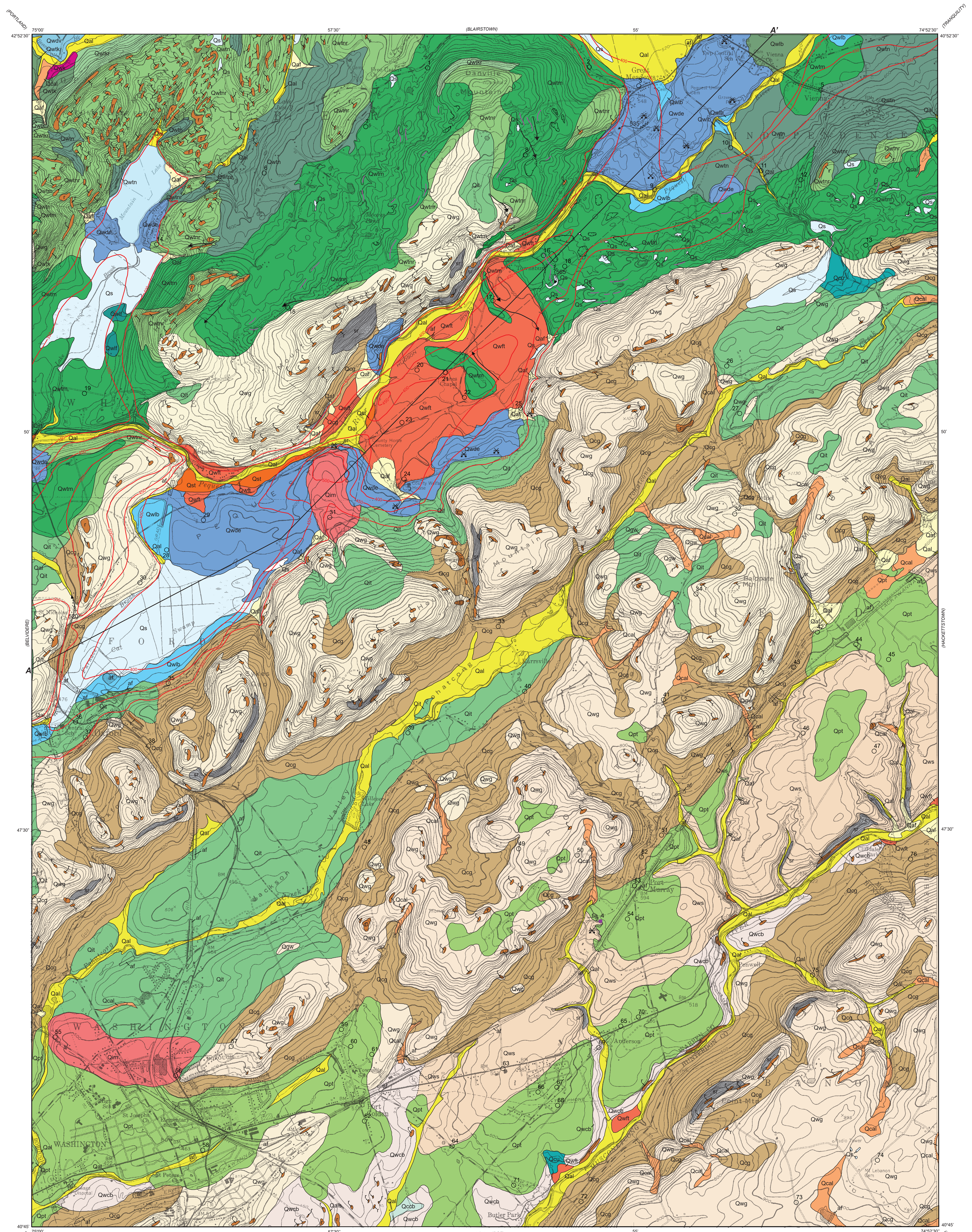






CORRELATION OF MAP UNITS





SCALE 1:24 000

CONTOUR INTERVAL 20 FEET

Surficial geology mapped by J.C. Ridge in 1982-1983 and R.W. Witte in 1995-1996. Digital cartography by R.W. Witte. Assistance in map compilation provided by A.R. Carone and R.S. Pristas.

Research supported by the U. S. Geological Survey, National Cooperative Geologic Mapping Program, under USGS award number 1434-HQ-96-AG-01504. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U. S. Government.

1995 MAGNETIC NORTH
DECLINATION AT CENTER OF MAP

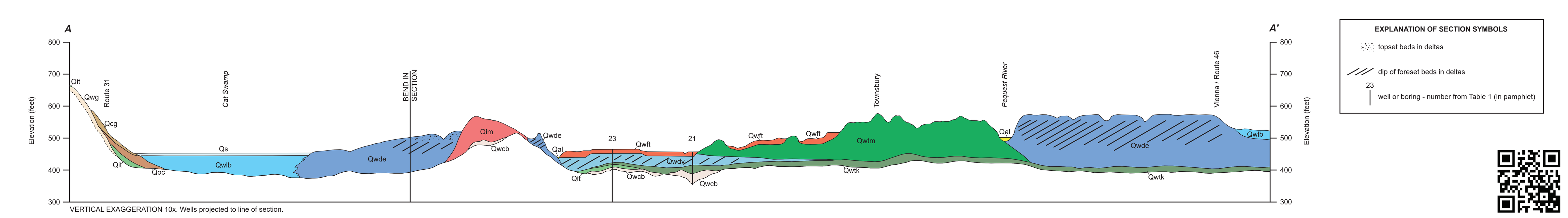
SURFICIAL GEOLOGY OF THE WASHINGTON QUADRANGLE WARREN, HUNTERDON, AND MORRIS COUNTIES, NEW JERSEY

By

Ron W. Witte[1] and John C. Ridge[2]

[1]New Jersey Geological and Water Survey (retired) and [2]Tufts University, Department of Earth and Ocean Science

2021



Surficial Geology of the Washington Quadrangle
Warren, Hunterdon, and Morris Counties, New Jersey

New Jersey Geological and Water Survey
Open-file Map OFM 144
2021

Pamphlet containing Table 1 to accompany map.

Table 1. Selected records of wells in the Washington quadrangle, Warren, Hunterdon, and Morris Counties, New Jersey. The listed wells were drilled for private and public water supply and exploration. Wells listed with a NJDEP permit number are on file at the New Jersey Department of Environmental Protection. All other records are from exploratory borings that are on file at the New Jersey Geological and Water Survey. The location of wells listed with NJDEP permit numbers are based on property maps and are generally accurate to within 500 feet of the actual well location. Exploratory borings located in the field. Well/boring number is **bolded** when depicted on cross section A-A' (wells 21 and 23).

Well/Boring Number	NJDEP Permit Number	Discharge Reported by Drillers (gpm)	Depth Below Land Surface (ft)	Driller's Log
1	24-6286	10	0-18 18-61 61-65	clay and gravel very rotten granite granite
2	24-12547	10	0-68 68-69 69-110 110-123	overburden and sand stone quartz and rotten stone granite
3	24-16306	none reported	0-98 98-498	sand granite
4	24-18802	30	0-105	clay, sand, and gravel
5	24-12545	none reported	0-74 74-80 80-92	overburden, sand, clay, and gravel brown limestone limestone with water
6	24-15669	5	0-15 15-180 180-225	overburden sand, clay, and gravel brown and white granite
7	24-21677	30	0-105 105-120	clay and gravel sand and gravel
8	24-15419	none reported	0-45 45-100	clay, sand, gravel, and water granite
9		none reported	0-15 15-34 34-38 38-40	sand, silt, trace of gravel sand, gravel, trace of silt boulders sand, gravel, trace of silt
10	24-18577	70	0-138 138-148	sand, clay, and gravel limestone
11	24-14810	20	0-46 46-70	sand and clay brown sandstone and granite

Well/Boring Number	NJDEP Permit Number	Discharge Reported by Drillers (gpm)	Depth Below Land Surface (ft)	Driller's Log
12	24-13404	35	0-18 18-56 56-99	hardpan brown sandstone granite
13	24-18428	12	0-70 70-105 105-248	sand, clay, and gravel soft sandstone granite
14	24-6529	22	0-67 67-98	clay, sand, and gravel soft granite
15	24-18096	14	0-30 30-50 50-100 100-121 121-126 126-133	sand yellow clay clay and gravel hard clay brown granite water
16	24-20443	10	0-47 47-52 52-125	sand and gravel boulder gravel
17	24-5451	15	0-135 135-142 142-155	sand and gravel clay gravel
18	24-11549	8	0-8 8-140	overburden sand and gravel
19	24-14135	30	0-35 35-91 91-100	hardpan sand, clay, and gravel sand, gravel, and water
20		none reported	0-28 28-50 50-91	clay, sand, and gravel mix of rock and clay hard rock
21		none reported	0-28 28-37 37-40 40-68 68-101 101-104	sand and gravel sand, silt, and gravel boulder clay, rocks, some sand mix of clay, gravel, and rock hard rock
22		none reported	0-52 52-56 56-78 78-104	sand and gravel light brown clay sand and gravel rock
23		none reported	0-25 25-50 50-52 52-61 61-600	sand and gravel clay and gravel cobbles soft, sandy yellow rock carbonate rock
24	24-7192	300	0-147 147-155	silt, gravel, and brown silt large gravel and water
25	24-18319	20	0-120 120-300	clay brown rock

Well/Boring Number	NJDEP Permit Number	Discharge Reported by Drillers (gpm)	Depth Below Land Surface (ft)	Driller's Log
26	24-13958	10	0-20 20-55 55-148	clay sand mix of soft and hard granite
27	24-16743	30	0-50 50-165	clay and sand granite
28	24-14474	50	0-60 60-200	overburden limestone
29	24-4871	30	0-58 58-81	clay and sand granite or limestone
30	24-19525	100	0-60 60-375	overburden limestone
31		none measured	0-10 10-20 20-25 25-50 50-61	sand and silt sand, silt, and gravel sand and silt sand, silt, and gravel yellow silt, clay, trace of sand
32	24-16524	15	0-29 29-125	overburden granite
33	24-15090	100	0-10 10-20 20-28 28-82	sand and clay gravel clay gravel and broken stone
34	24-17634	9	0-5 5-20 20-120	clay sandy clay granite
35	24-8554	25	0-26 26-120	overburden and boulders gray granite
36	24-1562	10	0-40 40-73	clay and boulders limestone
37	24-19193	15	0-55 55-75	clay and silt limestone
38	24-18427	none reported	0-40 40-75 75-165	clay and sand sandstone granite
39	24-5838	none reported	0-5 5-25 25-50 50-70	overburden sand and gravel clay and mud gravel and rotten shale
40	24-2808	16	0-126 126-146	clay, boulders, and hardpan sandstone
41	24-17697	25	0-15 15-75	clay and boulders granite

Well/Boring Number	NJDEP Permit Number	Discharge Reported by Drillers (gpm)	Depth Below Land Surface (ft)	Driller's Log
42	24-17318	50	0-10 10-50 50-70	sandy clay and boulders sandy clay brown shale
43	24-18099	15	0-35 35-91 91-148	sandy hardpan sandy clay brown shale
44	24-15931	6	0-30 30-50 50-325	clay shale slate
45	24-17656	14	0-69 69-198	clay, shale, and sand slate
46	24-11116	2	0-28 28-260 260-273	clay and gravel gray shale water at 260 ft and shale
47	24-13187	6	0-8 8-165	overburden shale
48	24-15998	10	0-200 200-250	clay limestone to shale
49	24-17636	15	0-51 51-145	clay and sand granite
50	24-16554	4	0-54 54-248	yellow hardpan granite
51	24-4158	2	0-20 20-54 54-230	clay clay, traces of sand rotten limestone
52	24-18389	20	0-95 95-170	overburden limestone
53	24-16900	15	0-5 5-15 15-200	soil hardpan shale
54	24-15589	27	0-45 45-198	clay gray shale
55	24-8679	20	0-80 80-105	overburden, gravel, water, and clay limestone
56	24-11588	none reported	0-70 70-350	boulders, clay, and gravel limestone
57	24-8198	0 (dry)	0-200	brown and gray granite
58	24-8261	none reported	0-87 87-345	yellow clay and stones limestone
59	24-1718	4	0-84	yellow clay, boulders, and gravel

Well/Boring Number	NJDEP Permit Number	Discharge Reported by Drillers (gpm)	Depth Below Land Surface (ft)	Driller's Log
60	24-5945	15	0-40 40-240 240-260	yellow clayey micaceous soil clay and sand mylonite
61	24-1462	2	0-25 25-44	clay limestone
62	24-15687	100	0-10 10-12 12-50 50-440	clay with broken boulders boulders boulders, broken rock, and clay limestone
63	24-6820	45	0-32 32-248	overburden limestone
64	24-320	30	0-90 90-100 100-223 223-240 240-263	clay clay and limestone black rock black rock and rotten brown rock granite
65	24-6807	30	0-20 20-115	overburden limestone
66	24-11136	15	0-70 70-260	overburden limestone
67	24-5771	5	0-22 22-262	clay hard limestone
68	24-8275	9	0-28 28-173 173-178 178-198	overburden limestone soft seam (decomposed zone) limestone
69	24-15429	20	0-53 53-60 60-79 79-90	overburden with clay and boulders limestone clay, limestone void limestone with clay and water
70	24-1570	2	0-16 16-160	hardpan limestone
71	24-18518	50	0-10 10-95 95-198	clay broken limestone limestone
72	24-18405	2	0-55 55-200	sand and gravel sandstone

Well/Boring Number	NJDEP Permit Number	Discharge Reported by Drillers (gpm)	Depth Below Land Surface (ft)	Driller's Log
73	24-6139	25	0-4 4-16 16-20 20-32 32-49 49-71	overburden brown granite gray granite water seam soft brown granite hard gray granite
74	24-16796	20	0-30 30-330	overburden granite
75	24-14492	16	0-16 16-71 71-80	sand and large gravel brown clay, sand, and gravel large gravel, sand, and water
76	24-1459	10	0-30 30-64	gravel and boulders sandstone