

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

New Jersey Geological and Water Survey
Open-File Map 111
2016

pamphlet with table 1 to accompany map

Table 1.—Selected wells and borings reporting thickness of surficial material. All depths are in feet below land surface.

Well Number	Identifier ¹	Depth to base of surficial material ²	Depth to base of saprolite ³	Total depth	Comments ⁴
1	24-19521	60		200	
2	24-17159	55		300	
3	24-13430	16		123	
4	24-11628	5		100	
5	24-21543	62		260	
6	24-21288	70		147	
7	24-13545	105		240	
8	24-24416	6	20	285	
9	24-14160	20		200	
10	24-23794	5		320	
11	24-9148	54		329	
12	24-9197	45		95	
13	24-6598	10	20	545	
14	24-8915	10		150	
15	24-6042	20		76	
16	24-19533	150		340	
17	24-18813	37		170	
18	24-15206	25		146	
19	24-15652	13	55	148	
20	24-20860	40		160	
21	24-16091	23		335	
22	24-21416	54		175	
23	24-6507	41		125	
24	24-14770	15		345	
25	24-21417	12	40	186	
26	24-16065	13		350	
27	24-16092	68		72	
28	24-14868	13		148	
29	24-15484	10		125	
30	24-21886		45	198	

Well Number	Identifier ¹	Depth to base of surficial material ²	Depth to base of saprolite ³	Total depth	Comments ⁴
31	24-23508		41	173	
32	24-14425	30		175	
33	24-18836	>85		85	cased to 80, yield 8 gpm
34	24-18476	>105		105	cased to 100, yield 20 gpm
35	24-17108	8	155	205	
36	24-14928	115		130	
37	24-10103	>85		85	cased to 80, 20 gpm
38	24-13163	74		197	
39	24-14174	10		148	
40	24-20209	20		250	
41	N 24-14-984	50		NR	
42	24-12201	8		95	
43	24-21109	22		305	
44	24-14047	5	15	200	
45	24-11670	5		248	
46	24-13591	8		148	
47	24-11668	8	15	197	
48	24-16548	16		550	
49	24-16547	5		275	
50	24-13592	8		198	
51	24-20609	5		275	
52	24-14682	10	57	180	
53	24-12200	8		297	
54	24-13909	18		98	
55	24-12421	24		180	
56	24-22294	>150		150	cased to 146, yield 80 gpm
57	24-12433	7		148	
58	24-12434	72		98	
59	24-12435	58		99	
60	24-12438	68		98	
61	24-12439	58		85	
62	24-15067	13	80	123	
63	24-18306	30		148	
64	24-17530	3		250	
65	24-13368	12		123	
66	24-13206	5		294	
67	24-8618	10		200	
68	24-15555	28		122	
69	24-15357	40		123	
70	24-17655	55	59	96	
71	24-17898	16		413	
72	24-16263	15		300	
73	24-16657	13		35	
74	24-7164	7		280	
75	25-40123	18		230	
76	24-16063	10		200	

Well Number	Identifier ¹	Depth to base of surficial material ²	Depth to base of saprolite ³	Total depth	Comments ⁴
77	24-16713	5		199	
78	24-21968	8		197	
79	25-27281	30		180	
80	25-27021	15		398	
81	25-27520	30		380	
82	25-42968	48		605	
83	25-40389	24	54	748	
84	25-8741	25		267	
85	25-9383	11		87	
86	24-18463	35		70	
87	25-23687	29		198	
88	25-571	8	11	42	
89	25-27732	19		198	
90	25-22320	14	65	198	
91	24-13555	7		199	
92	24-17141	20		150	
93	24-27167	30		160	
94	24-18496	30		100	
95	24-14374	25		275	
96	25-18718	0		129	
97	25-23511	7		498	
98	24-23513	14		496	
99	24-20600	5		447	
100	24-22244	40		300	
101	24-22245	15		300	
102	24-20227	9		198	
103	24-19901	18		198	
104	24-19572	9		248	
105	24-18188	11		98	
106	24-18886	11		198	
107	24-18532	12		148	
108	24-21125	12		148	
109	24-16399	5		273	
110	24-21121	14		98	
111	24-21124	8		273	
112	24-22600	20		500	
113	24-20502	7		198	
114	24-20507	40		300	
115	24-20225	8		198	
116	24-20224	104		148	
117	24-13064	45	60	170	"rotten granite" 85-105
118	24-13061	52	65	110	"rotten" 74-110, cased to 65, yield 20 gpm
119	24-22952	15		300	
120	24-13062	40	>148	148	cased to 122, yield 5-10 gpm
121	24-11659	5	70	221	
122	24-15184	10		400	

Well Number	Identifier ¹	Depth to base of surficial material ²	Depth to base of saprolite ³	Total depth	Comments ⁴
123	24-19568	30		250	
124	24-19636	10		373	
125	24-16399	5		273	
126	24-19569	30		300	
127	24-19224	30		300	
128	24-16556	16		174	
129	24-17096	8		398	
130	24-17097	13		298	
131	24-15717	8		298	
132	24-13063	35		173	"rotten" 72-83, 135-173
133	24-8955	20		200	
134	24-13361	60	75	123	
135	24-13432	8	24	122	
136	24-17491	20		307	
137	24-9943	75	100	300	
138	24-23048	40		435	
139	24-23073	25		275	
140	24-21385	30		250	
141	24-8180	40	60	118	
142	24-18993	30		200	
143	24-21525	70		120	
144	24-17975	120		175	
145	24-13600	>118		118	cased to 113, yield 30 gpm
146	24-15072	>71		71	cased to 60, yield 18 gpm
147	24-21619	55		280	
148	24-24166	180		200	
149	24-2552	58		152	
150	24-146	>200		200	cased to 175, yield 17 gpm
151	24-8530	5		148	
152	24-13845	80		330	
153	24-8228	32		305	
154	24-8103	35		260	
155	24-8021	20		273	
156	24-7750	35		460	
157	24-8406	10		135	
158	24-8620	10		118	
159	24-8101	30		83	
160	24-13447	70		150	
161	24-19531	130		200	
162	24-19662	10		400	
163	24-5882	95		120	
164	24-20027	145	>155	155	cased to 145, yield 75 gpm
165	24-23066	140		260	
166	24-5733	>130		130	cased to 112, 20 gpm
167	24-24374	35		130	
168	24-1666	58		112	

Well Number	Identifier ¹	Depth to base of surficial material ²	Depth to base of saprolite ³	Total depth	Comments ⁴
169	24-1895	62		102	
170	24-12	55		83	
171	24-15480	58		100	
172	24-1542	85		103	
173	24-23703	80		200	
174	24-42704	41	60	265	
175	24-16149	75		200	
176	24-17997	30		100	
177	24-23120	100		600	
178	24-14624	30		273	"soft" 270-273
179	24-13065	30		423	
180	24-23915	35		500	
181	24-10149	20		320	
182	24-8642	12		72	"soft" 36-44, 68-72
183	24-20682	20	30	80	
184	24-2700	10	50	119	
185	24-20690	70		200	
186	24-15169	35		175	
187	24-20692	30		200	
188	24-20691	44		175	
189	24-17348	47		125	
190	24-17050	20		150	
191	24-19659	6		360	
192	24-12404	50		150	
193	24-18771	29		380	
194	25-22194	40		200	
195	24-19836	36	58	223	
196	24-20391	33		298	
197	24-12810	30		135	
198	24-28432	20		280	
199	24-10497	14		230	
200	24-2622	13		189	
201	24-5473	7		112	
202	24-17706	20		160	
203	24-5537	26	42	66	
204	25-26411	25		300	
205	25-21196	15		200	
206	24-18053	45		520	
207	24-13306	8		360	
208	24-13209	17		235	
209	25-30143	40		200	
210	24-15625	40		125	
211	24-22162	74		200	
212	24-19917	20		200	
213	24-1373	10	79	168	
214	24-23173	4		500	

Well Number	Identifier ¹	Depth to base of surficial material ²	Depth to base of saprolite ³	Total depth	Comments ⁴
215	24-13902	30		250	
216	24-11036	15		200	
217	24-23069	20		220	
218	24-19336	30		220	
219	24-17628	4		280	
220	24-15561	30		75	
221	24-10311	34		114	
222	24-16126	75		125	
223	24-18061	30		125	
224	24-9330	72		162	
225	24-23449	68		360	
226	24-18172	4		275	
227	24-12831	5		455	
228	24-21254	30		280	
229	24-18113	20		140	
230	24-17904	4		200	
231	24-22355	20		320	
232	24-23896	4	40	360	
233	24-12043	10		175	
234	24-14102	15		148	
235	24-23788	30	36	298	
236	24-5159	20		300	
237	24-22915	15		120	
238	24-10837	5		500	
239	24-8668	35		150	
240	24-21545	39		120	
241	24-21622	25		250	
242	24-20349	>150		150	cased to 62, yield 20 gpm, anomalous surficial thickness
243	24-24497	8		148	
244	24-21640	18		340	
245	24-18646	8		148	
246	24-19013	10		300	
247	24-14932	37		198	
248	24-20864	30	41	398	
249	24-15289	25		320	
250	24-12809	40		125	
251	24-13007	30		125	
252	24-16546	7	40	125	
253	24-434	35		76	
254	24-22991	10	30	225	
255	24-15288	40		420	
256	24-21974	NR	80	260	
257	24-18653	25		125	
258	24-16212	35		175	
259	24-22026	35		160	

Well Number	Identifier ¹	Depth to base of surficial material ²	Depth to base of saprolite ³	Total depth	Comments ⁴
260	24-10654	37		64	
261	24-24018	60		150	
262	24-11044	30		170	
263	24-14881	20	30	500	
264	24-8547	30		125	
265	24-20763	15		240	
266	24-13028	14		173	
267	24-16228	5		264	
268	24-14667	18		200	
269	24-11551	20		580	
270	24-21881	40		225	
271	24-17457	30		300	
272	24-15456	37		97	
273	24-21502	21		198	
274	24-15432	30		300	
275	24-23240	30		200	
276	24-13123	5		525	
277	24-13433	6		398	
278	24-8084	40		148	
279	24-15285	50		463	
280	24-23124	50		470	
281	24-14629	40		220	
282	24-7778	12		145	
283	24-24352	22		360	
284	24-24204	30		300	
285	24-14688	20		315	
286	24-21192	25		35	
287	24-14605	20		175	
288	24-21139	8		500	
289	24-22327	20		300	
290	24-11187	5	50	165	
291	24-8043	94		118	
292	24-14398	5		173	"soft" 125-130, 155-160, 170-173
293	24-13431	5		349	
294	24-13559	8		250	
295	24-11594	50		275	
296	24-10840	10		125	
297	24-21541	12		197	
298	24-13490	5		225	
299	24-10712	10		150	
300	24-10713	20		275	
301	24-11212	12		148	
302	24-10700	8		125	
303	24-21880	30		400	
304	24-16151	5		300	
305	24-13553	18		123	

Well Number	Identifier ¹	Depth to base of surficial material ²	Depth to base of saprolite ³	Total depth	Comments ⁴
306	24-12801	12		148	
307	24-18520	10		225	
308	24-16501	15		110	
309	24-19490	86		190	
310	24-22653	90		125	
311	24-14895	10		150	
312	24-14702	11		148	
313	24-435	26	55	200	
314	24-18169	36		275	
315	24-20469	10		250	
316	24-7295	30		200	
317	24-9761	20	60	125	
318	24-22601	55		300	
319	24-6354	20	42	72	
320	25-32948	57		400	
321	25-13388	15		113	
322	24-17374	20		125	
323	24-15960	30		200	
324	24-8442	20		95	
325	24-13518	12		73	
326	25-28447	20		160	
327	25-43855	47		160	
328	25-13492	65		118	
329	25-8471	30		129	
330	24-23136	80		90	
331	25-28052	80		450	
332	25-27125	40		440	
333	25-24338	35		165	
334	25-7202	26		172	
335	25-21435	12		177	
336	25-23825	7		277	
337	25-28349	18		280	
338	24-21967	6		298	
339	25-28326	100		250	anomalous surficial thickness
340	25-27045	25		200	
341	24-12173	30		150	
342	24-8034	20		98	
343	24-24007	30		200	
344	24-8560	25		145	
345	24-17158	85		150	
346	24-19859	100		200	
347	24-22602	5		200	
348	24-18275	20		175	
349	24-875	6		90	
350	24-21361	5		400	
351	24-8365	35		125	

Well Number	Identifier ¹	Depth to base of surficial material ²	Depth to base of saprolite ³	Total depth	Comments ⁴
352	24-14471	90		100	
353	24-21284	115		300	"open caverns" 75-115
354	24-23407	35		500	
355	24-23524	40		200	
356	24-2193	13		76	
357	24-2046	85		120	
358	24-7035	35		105	
359	24-11801	60		300	
360	24-263	50		102	
361	24-11622	5		140	
362	24-10652	10		150	
363	24-22139	18		400	
364	24-8469	25		200	
365	24-13506	25		250	
366	24-13918	20		150	
367	24-15798	50		360	
368	24-20634	20		300	
369	24-20632	25		250	
370	N 24-24-675	NR	80	NR	
371	24-16893	20		225	
372	24-9398	10		125	
373	24-9256	10		200	
374	24-14180	48		400	
375	24-13828	10		200	
376	24-12398	40		100	
377	24-18723	7		305	
378	24-11500	8		150	
379	24-8852	25		125	
380	24-9369	80		300	
381	24-21484	56		300	
382	24-8594	94		159	
383	24-15453	80		400	
384	24-8125	20		99	
385	24-20378	40		140	
386	24-21976	30		180	
387	24-17756	20		140	
388	24-16649	40		100	
389	24-7269	34		100	
390	24-12936	5		200	
391	24-15467	60		125	
392	24-12627	30		130	
393	24-20615	15		240	
394	24-8996	6		144	
395	24-8370	60		160	
396	24-7647	55		100	
397	24-8392	60		150	

Well Number	Identifier ¹	Depth to base of surficial material ²	Depth to base of saprolite ³	Total depth	Comments ⁴
398	24-19141	80		110	
399	24-22310	35		300	
400	24-8175	30		200	
401	24-8514	10		125	
402	24-15919	30		200	
403	24-21571	20		350	
404	24-16880	10		340	
405	24-23152	15		500	
406	24-22731	4		900	
407	24-17340	20		225	
408	24-22959	20		500	
409	24-17338	30		200	
410	24-23828	15		540	
411	24-23498	4	40	300	
412	24-23957	15		200	
413	24-17337	25		300	
414	24-17336	20		300	
415	24-13827	20		200	
416	24-18155	16		150	
417	24-9207	10	60	150	
418	24-7451B	61	68	115	"rotten granite" 81-86
419	24-7980	30		173	
420	24-17621	140		165	
421	24-22781	99		129	
422	24-22374	78		105	
423	24-21244	50		125	
424	24-20525	50		100	
425	24-19709	15		95	
426	24-19708	20		125	
427	24-20599	20		100	
428	24-22368	48		63	
429	24-21446	>175		175	cased to 84, yield 20 gpm; "gravel, caverns, boulders" 87-175
430	24-22369	153		200	
431	24-22367	142		175	
432	24-22372	83		180	
433	24-21333	15		255	
434	24-21445	35		77	
435	24-22780	46		123	
436	24-21444	9		275	
437	24-18089	75		95	
438	24-18090	80		100	
439	24-18091	30		65	"rotten rock" 60-65
440	24-18464	55		100	
441	24-5326	6		300	
442	24-16786	80		140	

Well Number	Identifier ¹	Depth to base of surficial material ²	Depth to base of saprolite ³	Total depth	Comments ⁴
443	24-16787	30		125	
444	24-19479	66		98	
445	24-18719	8		198	
446	24-18720	18		198	
447	24-17942	14		173	
448	24-17271	12		148	
449	24-18717	38		298	
450	24-20922	20		300	
451	24-22513	40		200	
452	24-11592	30		150	
453	N 24-24-882	21		200	
454	24-13143	10		100	
455	B111	39		75	
456	B219	24		58	
457	24-13002	50		125	
458	24-14780	92		123	
459	24-6635	40		120	
460	24-22111	45		173	
461	24-19822	106		285	
462	B154	29		55	
463	B294	7		25	
464	B183	37		81	
465	B124	8		29	
466	B230	24		52	
467	B151	8		48	
468	B114	25		45	
469	N11	16		51	drilled before construction of dam
470	N10	13		38	drilled before construction of dam
471	N4	11		25	drilled before construction of dam
472	N9	12		79	drilled before construction of dam
473	N1	9		19	drilled before construction of dam
474	N7	14		61	drilled before construction of dam
475	D11	24		107	
476	D3	46		100	
477	D12	20		31	drilled before construction of dam
478	D21	23		79	drilled before construction of dam
479	D22	25		149	drilled before construction of dam
480	D23	26		110	drilled before construction of dam
481	D25	16		35	
482	B274	5		20	
483	WX4	12	39	149	0-12 Qal, 7-39 Qwcb
484	SF3	6	25	30	0-6 Qpt, 6-25 Qwcb
485	SF7	19		24	0-19 Qpt
486	SF10	5	10	15	0-5 Qpt, 5-10 Qwcb
487	SF1	7	17	29	0-7 Qpt, 7-17 Qwcb
488	GW1	6		75	

Well Number	Identifier ¹	Depth to base of surficial material ²	Depth to base of saprolite ³	Total depth	Comments ⁴
489	SF8	3	9	14	0-3 Qpt, 3-9 Qwcb
490	PW1	35	85	199	0-35 Qpt, 35-85 Qwcb
491	GW5	>85		85	
492	GW6	37		65	
493	GW3	18		60	
494	OW1	30	133	172	0-30 Qpt, 30-133 Qwcb
495	24-21491	18		305	
496	24-19355	40		300	
497	VB3.2	15		22	
498	VB3.3	>100		100	
499	VB2.4	10		20	
500	VB2.2	>220		220	
501	VB7	10		30	
502	VB9	40	190	200	
503	VB4.1	>100		100	

¹Identifiers of the form 24-xxxxx and 25-xxxxx are well permit numbers issued by the N. J. Department of Environmental Protection. Identifiers of the form N 24-xx-xxx are N. J. Atlas Sheet coordinates of well logs in the N. J. Geological Survey permanent note collection. Identifiers prefixed by “D” and “N” are from: Shanklin, G. R., 1958, Spruce Run-Round Valley reservoir project: N. J. Department of Conservation and Economic Development, Division of Water Policy and Supply, Special Report 15, 86 p. plus appendices. Identifiers prefixed by “B” are from: Converse, Ward, Davis, Dixon, Inc., 1980, Report of soils and foundation investigation, Exxon new facilities project, Clinton Township, New Jersey: prepared for Hallmuth, Obata, and Kassabaum, architects, 821 p. Identifiers prefixed by “WX”, “GW”, “SF”, “PW”, and “OW” are from: Jason M. Cortell and Associates, Inc., 1980, Geologic and groundwater investigation, ER&E research facilities and headquarters project, Clinton Township, New Jersey, 24 p. plus appendices. Identifiers prefixed by “VB” are borings for a proposed dam on file at the N. J. Geological and Water Survey.

²Described by drillers as “overburden”, “drift”, “soil”, “dirt and stones”, “loose rock”, “stony overburden”, “hardpan”, “clay and boulders”, “clay and gravel”, “clay, sand, boulders”, “clay”, “sand and clay”, “sandy hardpan”, and “stony hardpan”.

³Described by drillers as “sandstone”, “rotten rock”, “rotten granite”, “decayed granite”, “rotten limestone”, “decayed limestone”, “decomposed limestone”, and “soft sandstone”. No entry in this column indicates that the well log does not record saprolite separately from other surficial material. Any saprolite present is included in the thickness cited in the previous column.

⁴Noteworthy materials or observations as reported in drillers’ logs are in quotation marks, followed by the depth range, in feet below land surface, to which they refer. For wells completed in weathered rock, the depth to which the well is cased and the yield of the well in gallons per minute (gpm) is listed. The depth of any weathered zones encountered below the first occurrence of unweathered rock is also listed. Where log information is of sufficient detail, the depth range of the indicated map unit is listed. For example: “0-6 Qpt 6-25 Qwcb” indicates that pre-Illinoian till extends from the surface to a depth of 6 feet and overlies weathered carbonate rock, which extends to a depth of 25 feet and overlies unweathered rock.