SELECTED BOREHOLE GEOPHYSICAL LOGS AND DRILLERS' LOGS, NORTHERN COASTAL PLAIN OF NEW JERSEY

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CONVERSION FACTORS

For use of readers who prefer to use metric (International System) units, rather than the inch-pound terms used in this report, the following conversion facters may be used:

Multiply (Inch-Pound Unit)	By	To Obtain (Metric Unit)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
square mile (mi^2)	2.590	square kilometer (km^2)

Sea level: In this report "sea level" refers to the 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, formerly called "Sea Level Datum of 1929."

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ABSTRACT

This report presents lithologic data compiled during the initial phase of a cooperative study designed to assess the hydrogeology of the Potomac-Raritan-Magothy aquifer system in the northern Coastal Plain of New Jersey. The report includes 109 geophysical logs and 328 drillers' logs that were selected as representative of the Potomac-Raritan-Magothy aquifer system. A description of the Potomac-Raritan-Magothy aquifer system also is given.

INTRODUCTION

The Potomac-Raritan-Magothy aquifer system is the most productive water resource in the northern Coastal Plain of New Jersey. In Middlesex and Monmouth Counties, the middle and upper aquifers of the Potomac-Raritan-Magothy aquifer system are the major sources of ground water. Ground-water withdrawals have resulted in cones of depression that reached 91 feet below sea level in the middle aquifer, and 59 feet below sea level in the upper aquifer in 1983 (Eckel, 1986, p. 16 and 25). Large withdrawals also have caused saltwater intrusion into the aquifers. Chloride concentrations up to 950 mg/L (milligrams per liter) in the middle aquifer, and 660 mg/L in the upper aquifer have been documented for 1977 (Schaefer, 1983, p. 12 and 22). Recently, the New Jersey Department of Environmental Protection has targeted this area for an intensive 5-year study because of the dependence on these aquifers and the threat of saltwater intrusion (Leahy, 1985, p. 5).

The U.S. Geological Survey, in cooperation with the New Jersey Department of Environmental Protection, is currently assessing the ground-water resources of the northern Coastal Plain of New Jersey. This investigation is being funded by the New Jersey Water Supply Bond Issue of 1981 (Leahy and others, 1987, p. 2). The purpose of the investigation is to collect and analyze hydrogeologic data in order to better understand the dynamics of the Potomac-Raritan-Magothy aquifer system. This initial phase of the investigation focuses on defining the hydrogeologic framework of this aquifer system.

Purpose and Scope

This report presents the lithologic data needed to define the hydrogeologic framework of the Potomac-Raritan-Magothy aquifer system in the northern Coastal Plain of New Jersey. One hundred nine geophysical logs and 328 drillers' logs are presented. These borehole logs, which were made at 359 sites, were chosen as representative of data collected, compiled, and reviewed from more than 1,500 sites. A limited drilling program in 1985-87 added lithologic information in areas where existing data were limited.

Location and Extent of Study Area

The study area is located in east-central New Jersey and comprises the northern part of the Coastal Plain physiographic province of New Jersey (fig. 1). It covers about 820 square miles in parts of Mercer, Middlesex, and Monmouth Counties in New Jersey, and Queens and Richmond Counties in New York. The study area extends from the Fall Line in the west to the Atlantic Ocean in the east and includes Raritan Bay.

The northern Coastal Plain deposits of the study area consist of unconsolidated deposits of clay, silt, sand, and gravel that rest unconformably on pre-Cretaceous bedrock. These sediments form a wedge-shaped mass that strikes northeast and dips toward the southeast. The thickness of deposits in the study area increases from a featheredge along the Fall Line to greater than 1,000 feet in southeastern Monmouth County (Farlekas, 1979, p. 5).

Hydrogeology

The sediments of the Potomac Group, and the Raritan and Magothy Formations make up the Potomac-Raritan-Magothy aquifer system (table 1). Generally, this aquifer system is divided into lower, middle, and upper aquifers separated from each other by confining units (Zapecza, 1984, p. 14). However, in the study area this aquifer system consists only of the middle and upper aquifers (fig. 2); the lower aquifer is not present. In the northern part of the study area, the sediments of the Raritan and Magothy Formations have been subdivided into nine distinct units on the basis of economic importance (Ries and others, 1904, p. 166; Barksdale and others, 1943, p. 18). The lithologic subdivision of the Raritan and Magothy Formations and hydrogeologic units in and near the outcrop area are shown in table 2. Locally, the middle aquifer is known as the Farrington aquifer, and the upper aquifer is known as the Old Bridge aquifer (Farlekas, 1979).

Locally, in updip parts of the study area the confining unit underlying the middle aquifer can consist of the Raritan fire clay, pre-Cretaceous bedrock, and saprolitic clay. Where present, the fire clay is a massive, multicolored clay that grades transitionally into the saprolitic clay that rests on bedrock (Ries and others, 1904, p. 192). In downdip areas the confining unit underlying the middle aquifer is composed primarily of fine-grained sediments of the Potomac Group.

The middle aquifer is composed of the Farrington Sand Member of the Raritan Formation. In most of the study area, this sand member is characterized by sand, gravel, and lenses of clay. Locally in Monmouth County, the middle aquifer also includes the uppermost sand deposits of the Potomac Group (Farlekas, 1979, p. 9). According to Zapecza (1984, p. 17), the aquifer ranges in thickness from less than 50 feet in the outcrop area to more than 150 feet near the junction of Mercer, Middlesex, and Monmouth Counties.

The confining unit between the middle and upper aquifers is formed chiefly by the Woodbridge Clay Member of the Raritan Formation. The Woodbridge Clay Member is made up of micaceous silt and clay (Owens and Sohl, 1969, p. 239). Locally, it also includes the clayey lithofacies of the Sayreville Sand Member and the South Amboy Fire Clay Member of the

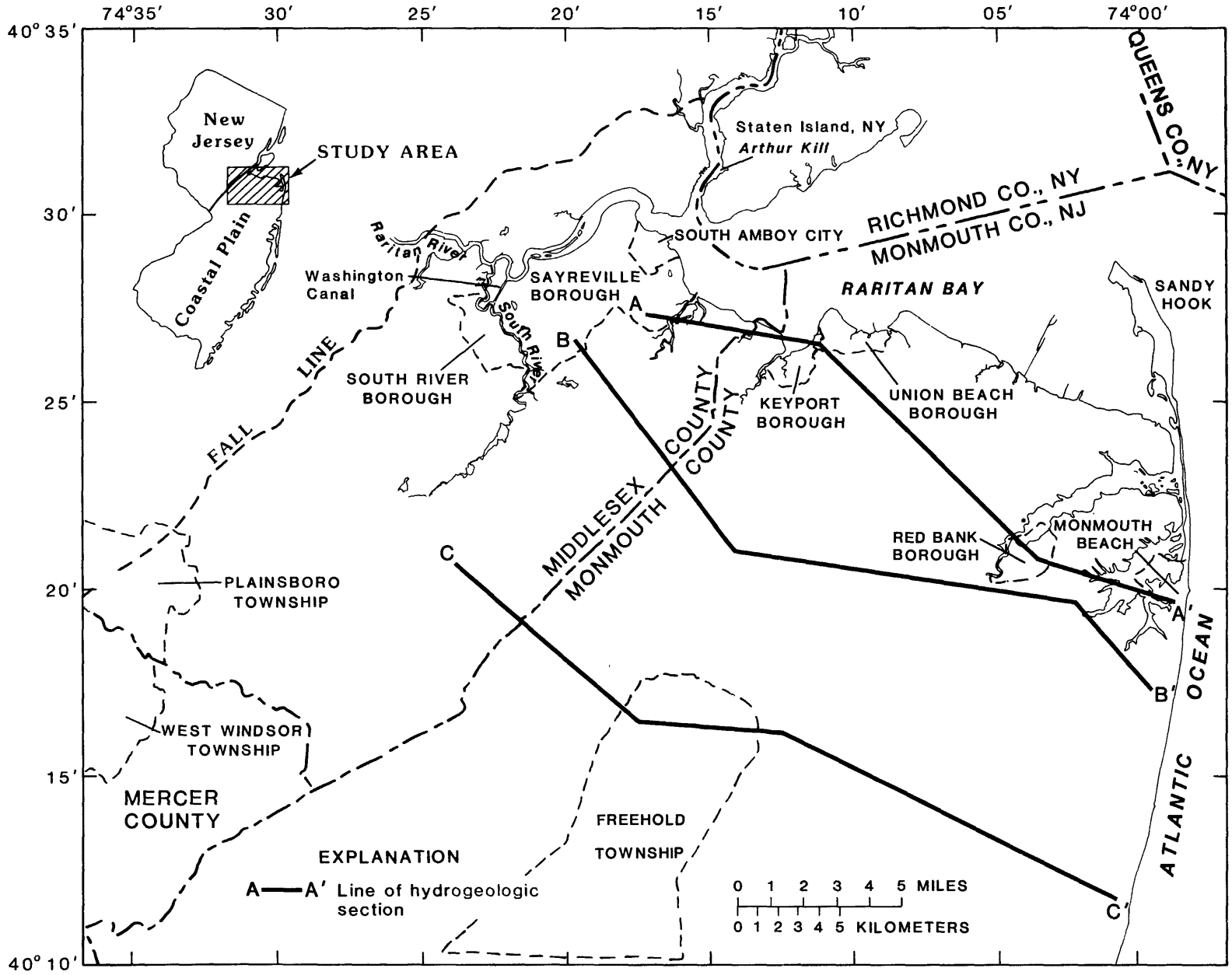

Figure 1.--Location of study area and hydrogeologic sections A-A′, B-B′, and C-C′.

Table 1.--Geologic and hydrogeologic units in the Coastal Plain of New Jersey

SYSTEM	SERIES	GEOLOGIC UNIT	LITHOLOGY	HYDROGEOLOGIC UNIT		HYDROLOGIC CHARACTERISTICS
Quaternary	Holocene	Alluvial deposits	Sand, silt, and black mud.	Undifferentiated		Surficial material, commonly hydraulically connected to underlying aquifers. Locally some units may act as confining units. Thicker sands are capable of yielding large quantities of water.
		Beach sand and gravel	Sand, quartz, light-colored, medium-to coarse-grained, pebbly.			
	Pleistocene	Cape May Formation	Sand, quartz, light-colored, heterogeneous clayey, pebbly.			
Tertiary	Miocene	Pensauken Formation				
		Bridgeton Formation		Kirkwood-Cohansey aquifer system		A major aquifer system. Ground water occurs generally under water-table conditions. In Cape May County the Cohansey Sand is under artesian conditions.
		Beacon Hill Gravel	Gravel, quartz, light colored, sandy.			
		Cohansey Sand	Sand, quartz, light-colored, medium to coarse-grained, pebbly; local clay beds.			
		Kirkwood Formation	Sand, quartz, gray and tan, very fine-to, medium-grained, micaceous, and dark-colored diatomaceous clay.	Confining unit		Thick diatomaceous clay bed occurs along coast and for a short distance inland. A thin water-bearing sand is present in the middle of this unit.
				Rio Grande water bearing zone		
				Confining unit		
				Atlantic City 800-foot sand		A major aquifer along the coast.
	Oligocene	Piney Point Formation / Shark River Formation	Sand, quartz and glauconite, fine-to coarse-grained.	Composite confining unit		Poorly permeable sediments.
					Piney Point aquifer	Yields moderate quantities of water.
	Eocene					Poorly permeable sediments.
		Manasquan Formation	Clay, silty and sandy, glauconitic, green, gray and brown, fine-grained quartz sand.			
	Paleocene	Vincentown Formation	Sand, quartz, gray and green, fine-to coarse-grained, glauconitic, and brown clayey, very fossiliferous, glauconite and quartz calcarenite.		Vincentown aquifer	Yields small to moderate quantities of water in and near its outcrop area.
		Hornerstown Sand	Sand, clayey, glauconitic, dark green, fine to coarse-grained.			Poorly permeable sediments.
Cretaceous	Upper Cretaceous	Tinton Sand	Sand, quartz, and glauconite, brown and gray, fine-to coarse-grained, clayey, micaceous.			
		Red Bank Sand			Red Bank sand	Yields small quantities of water in and near its outcrop area.
		Navesink Formation	Sand, clayey, silty, glauconitic, green and black, medium-to coarse-grained.			Poorly permeable sediments.
		Mount Laurel Sand	Sand, quartz, brown and gray, fine-to coarse-grained, slightly glauconitic.	Wenonah-Mount Laurel aquifer		A major aquifer.
		Wenonah Formation	Sand, very fine-to fine-grained, gray and brown, silty, slightly glauconitic.	Marshalltown-Wenonah confining unit		A leaky confining unit.
		Marshalltown Formation	Clay, silty, dark greenish gray, glauconitic quartz sand.			
		Englishtown Formation	Sand, quartz, tan and gray, fine-to medium-grained; local clay beds.	Englishtown aquifer system		A major aquifer. Two sand units in Monmouth and Ocean Counties.
		Woodbury Clay	Clay, gray and black, micaceous silt.	Merchantville-Woodbury confining unit		A major confining unit. Locally the Merchantville Formation may contain a thin water-bearing sand.
		Merchantville Formation	Clay, glauconitic, micaceous, gray and black; locally very fine-grained quartz and glauconitic sand.			
		Magothy Formation	Sand, quartz, light-gray, fine-to coarse-grained. Local beds of dark-gray lignitic clay.	Potomac-Raritan-Magothy aquifer system	Upper aquifer	A major aquifer system. In the northern Coastal Plain, the upper aquifer is equivalent to the Old Bridge equifer and the middle equifer is equivalent to the Farrington equifer. In the Delaware River Valley three aquifers are recognized. In the deeper subsurface, units below the upper aquifer are undifferentiated.
		Raritan Formation	Sand, quartz, light-gray, fine-to coarse-grained, pebbly, arkosic, red, white, and variegated clay.		Confining unit	
					Middle aquifer	
	Lower Cretaceous	Potomac Group	Alternating clay, silt, sand, and gravel.		Confining unit	
					Lower aquifer	
Pre-Cretaceous		Bedrock	Precambrian and lower Paleozic crystalline rocks, metamorphic schist and gneiss; locally Triassic sandstone, shale and Jurassic basalt.	Bedrock confining unit		No wells obtain water from these consolidated rocks, except along Fall Line.

Modified from Zapecza, 1984, table 1

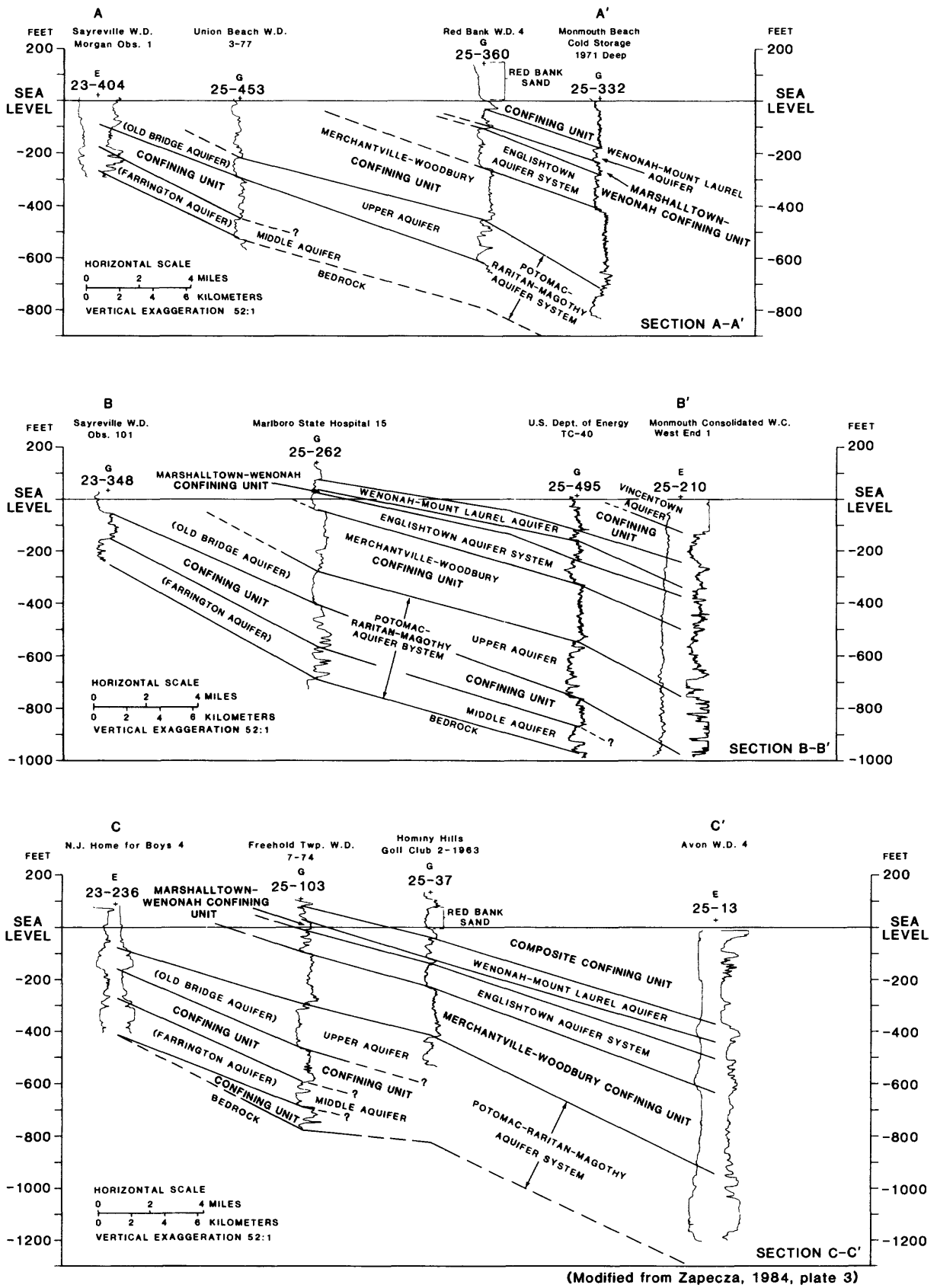

Figure 2.--Hydrogeologic sections A-A', B-B', and C-C' through study area.

Table 2.--Lithologic subdivisions of the Raritan and Magothy Formations and hydrogeologic units in and near the outcrop

System	Geologic unit		Lithology	Hydrogeologic unit	
Cretaceous	Magothy Formation	Cliffwood beds	Sand, quartz, light-gray, fine- to coarse-grained; local beds of dark-gray lignitic clay.	Potomac-Raritan-Magothy aquifer system[1]	Confining unit
		Morgan beds			
		Amboy Stoneware Clay Member			Upper aquifer[2]
		Old Bridge Sand Member			
	Raritan Formation	South Amboy Fire Clay Member	Sand, quartz, light-gray, fine to coarse-grained, pebbly, arkosic, red white and variegated clay, and saprolitic clay developed on bedrock.		Confining unit
		Sayreville Sand Member			
		Woodbridge Clay Member			
		Farrington Sand Member			Middle aquifer
		Raritan fire clay			Confining unit
Pre-Cretaceous	Bedrock		Precambrian and lower Paleozoic crystalline rocks, metamorphic shist and gneiss; locally Triassic, sandstone, shale and Jurassic basalt.	Bedrock confining unit	

Modified from Christopher, 1979, figure 2 and Zapecza, 1984, table 2.

[1]To maintain consistent terminology, the aquifer-system name commonly used throughout New Jersey is used in this report. The lower aquifer is not mappable within the study area.

[2]Locally the upper aquifer can include the Sayreville Sand Member where the South Amboy Fire Clay Member is thin or missing

Raritan Formation (Farlekas, 1979, p. 16). This unit thickens from less than 50 feet in the outcrop area to more than 150 feet downdip (Zapecza, 1984, p. 18).

Locally, the upper aquifer includes the Old Bridge Sand Member and the Sayreville Sand Member where the South Amboy Fire Clay Member is thin or missing (Farlekas, 1979, p. 22). It consists chiefly of coarse-grained sand and gravel. Further downdip the upper aquifer coincides closely with the entire Magothy Formation. The thickness of this unit ranges from approximately 50 feet in the outcrop area to more than 200 feet in southeastern Monmouth County (Zapecza, 1984, p. 18, and plate 11).

The confining unit which overlies the upper aquifer of the Potomac-Raritan-Magothy aquifer system is the Merchantville-Woodbury confining unit. It is composed mainly of the Merchantville Formation and the Woodbury Clay. The Merchantville Formation is made up of glauconite beds and beds of micaceous clays and clayey silts (Zapecza, 1984, p. 19), while the Woodbury Clay is made up of massive clayey silt (Owens and Sohl, 1969, p. 242). This confining unit also locally includes the discontinuous Amboy Stoneware Clay Member and the Cliffwood and Morgan beds of the Magothy Formation. The thickness of this confining unit ranges from less than 200 feet near its outcrop to more than 300 feet in the Sandy Hook area (Zapecza, 1984, plate 12).

Well-Numbering System

The well-numbering system used by the U.S. Geological Survey in New Jersey is based on a two-digit county code number: 21 for Mercer, 23 for Middlesex, 25 for Monmouth, 81 for Queens (New York), and 85 for Richmond (New York), and a sequence number for wells located within the county. For example, well number 23-156 represents the 156th well inventoried in Middlesex County (23).

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The authors acknowledge the cooperation with the New Jersey Geological Survey in drilling several test wells and boreholes during this study.

DATA COLLECTION

Sources of Data

Geophysical and drillers' logs are the sources of lithologic information in this report. Logs and records were obtained from various sources. Geophysical and drillers' logs from more than 1,500 sites were reviewed to provide adequate coverage throughout the study area. In addition, test boreholes were drilled to obtain additional lithologic and hydrologic information.

The test-drilling program in 1985-87 entailed locating drilling sites where data were scarce. Two test boreholes were drilled near the Middlesex-Mercer County line (wells 21-241 and 23-791); one test borehole was drilled in South River Borough (well 23-790); two observation wells were installed in the Keyport and Union Beach Borough area (wells 25-565 and 25-568); and one continuous core, test borehole was drilled to 1,320 feet and completed as a 700-foot deep observation well in Freehold Township (well 25-566). Lithologic descriptions, drill cuttings, and geophysical logs were obtained at these sites. Examination of the Freehold core is still in progress.

Wells and test boreholes presented in this report are now part of the U.S. Geological Survey Ground-Water Site Inventory (GWSI) data base. Table 3 presents information selected from this data base on latitude, longitude, altitude, local identifier, municipality, types of logs, and depth logged for each well and test borehole.

Figures 3-66 show the geophysical logs. Horizontal scales were included on these figures when the information was available. Table 4 lists the drillers' logs. Plate 1 shows the location and distribution of the borehole data presented in this report.

Geophysical Logs and Drillers' Logs

This report contains data for 359 sites; geophysical logs are available for 31 sites, drillers' logs are available for 250 sites, and both geophysical and driller's logs are available for 78 sites. The geophysical logs include electric and gamma-ray logs. Keys and MacCary (1971) describe the theory and application of borehole geophysical logging and interpretation of the resulting logs. Drillers' logs are composed of descriptions of drill cuttings or samples. Davis and DeWeist (1966) describe the recording of geologic logs and cite various considerations related to the collection of those logs.

SUMMARY

One hundred nine geophysical logs and 328 drillers' logs are presented in this report. These logs contain lithologic information from 359 sites that were selected as representative of the Potomac-Raritan-Magothy aquifer system. The data contained in this report represent the data-collection phase of a cooperative program to assess the hydrogeology of the Potomac-Raritan-Magothy aquifer system.

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Table 3.--Records of selected wells and test boreholes
[Locations shown on plate 1]

Well number	Location Latitude	Longitude	Altitude of land surface[1] (ft)	Local identifier	Municipality	Log type[2]	Total depth logged[3] (ft)
21- 1	401347	743052	125	SKEBA 1959	EAST WINDSOR TWP	D	315
21- 4	401408	743114	145	PRINCETON TURF - S.KRISTAL 1973	EAST WINDSOR TWP	D	340
21- 13	401536	742920	120	E WINDSOR MUA TEST-5	EAST WINDSOR TWP	J	597
21- 17	401604	743404	100	CRANSTON 1	EAST WINDSOR TWP	D	220
21- 19	401608	743354	90	E WINDSOR MUA 5	EAST WINDSOR TWP	J	250
21- 22	401702	743106	100	E WINDSOR MUA 3	EAST WINDSOR TWP	D	214
21- 24	401717	743336	100	EAST WINDSOR MUA 3	EAST WINDSOR TWP	D	256
21- 25	401717	743352	100	HIGHTSTOWN RUG - KENTILE 1	EAST WINDSOR TWP	D	235
21- 81	401621	743130	95	HIGHTSTOWN WD 1	HIGHTSTOWN BORO	D	214
21- 84	401622	743129	95	HIGHTSTOWN WD 2	HIGHTSTOWN BORO	D	214
21- 85	401625	743131	95	HIGHTSTOWN WD TEST-3	HIGHTSTOWN BORO	DEJ	398
21- 86	401624	743132	95	HIGHTSTOWN WD OBS-4	HIGHTSTOWN BORO	D	365
21- 96	401104	743630	105	POTTS 1-1951	WASHINGTON TWP	D	200
21- 98	401147	743348	120	WILSON 1 (REED SOD FARM)	WASHINGTON TWP	D	464
21- 99	401159	743403	118	ENGLAND 2	WASHINGTON TWP	DJ	439
21- 101	401238	743448	135	PRINCETON MEMORIAL PARK 1	WASHINGTON TWP	DJ	498
21- 104	401344	743236	120	GELLER 1953	WASHINGTON TWP	D	248
21- 110	401433	743434	95	DRAKE 1-1949	WASHINGTON TWP	D	169
21- 130	401902	743630	90	DRUMAND - E HAHN 1	WEST WINDSOR TWP	D	95
21- 143	401458	743152	140	CONOVER DAIRY	EAST WINDSOR TWP	J	298
21- 145	401717	743352	100	CARTER WALLACE	EAST WINDSOR TWP	D	235
21- 152	401554	743704	70	W WINDSOR WC 2-1968	WEST WINDSOR TWP	E	150
21- 154	401306	743622	90	MCINTYRE DOM WELL	WASHINGTON TWP	J	275
21- 241	401727	743640	100	USGS - CHAMBERLAIN PARK	WEST WINDSOR TWP	DJ	122
23- 8	401801	743322	90	DAVISON 1-IRR 1955	CRANBURY TWP	D	112
23- 10	401807	743012	115	BARCLAY 1 (FIRESTONE)	CRANBURY TWP	D	180
23- 11	401818	742932	115	CARTER WALLACE 1	CRANBURY TWP	D	290
23- 12	401830	742830	100	COUFTS 1951	MONROE TWP	D	161
23- 13	401841	743355	100	STULTZ 1-1954 (CLIFRD)	CRANBURY TWP	D	180
23- 14	401842	743055	90	CRANBURY TWP WD 1	CRANBURY TWP	J	260
23- 17	401843	743055	98	CRANBURY TWP WD 3	CRANBURY TWP	D	316
23- 20	401848	742902	120	CARTER WALLACE 3A	CRANBURY TWP	D	203
23- 25	401902	742912	120	CARTER WALLACE 6	CRANBURY TWP	DJ	410
23- 30	401916	742921	123	NJ TURNPIKE AUTHORITY 7S-2	CRANBURY TWP	DJ	158
23- 40	402418	742545	125	E BRUNSWICK TWP WD TEST 5-75	EAST BRUNSWICK TWP	DE	261
23- 42	402421	742525	105	E BRUNSWICK TWP WD TEST 4-75	EAST BRUNSWICK TWP	DE	270
23- 44	402416	742453	130	E BRUNSWICK TWP WD TEST 6-75	EAST BRUNSWICK TWP	DE	319
23- 46	402427	742507	100	POLYSAR RUBBER SERV PUMPING WELL	EAST BRUNSWICK TWP	D	265
23- 47	402430	742553	95	E BRUNSWICK TWP WD TEST 7-75	EAST BRUNSWICK TWP	DE	201
23- 48	402431	742214	30	ANHEUSER BUSCH 1-1931	EAST BRUNSWICK TWP	D	305
23- 50	402432	742212	37	ANHEUSER BUSCH 5	EAST BRUNSWICK TWP	DE	270
23- 57	402441	742448	122	E BRUNSWICK TWP WD COLONIAL OAKS	EAST BRUNSWICK TWP	D	241
23- 58	402448	742700	108	MIDDLESEX WC TAMARACK 1-75	EAST BRUNSWICK TWP	DJ	125
23- 59	402456	742442	122	E BRUNSWICK TWP WD 2	EAST BRUNSWICK TWP	DE	220
23- 61	402500	742638	120	NJ TURNPIKE AUTHORITY 8N-1	EAST BRUNSWICK TWP	D	151
23- 65	402520	742609	114	E BRUNSWICK TWP WD 1-69	EAST BRUNSWICK TWP	DJ	160
23- 66	402516	742408	120	COLLINS	EAST BRUNSWICK TWP	D	221
23- 67	402531	742823	97	BAIRD 1	EAST BRUNSWICK TWP	D	58
23- 71	402237	742830	90	SMITH 1	SOUTH BRUNSWICK TWP	D	172
23- 72	402635	742402	80	SMITH 2-1972	EAST BRUNSWICK TWP	D	150
23- 73	402649	742524	80	PREMIUM PLASTIC 1	EAST BRUNSWICK TWP	D	82
23- 77	402755	742300	6	HERBERT SAND CO 2	EAST BRUNSWICK TWP	D	74
23- 79	402807	742302	5	HERBERT SAND CO 1	EAST BRUNSWICK TWP	D	69
23- 82	402836	742404	40	BORGESE 1	EAST BRUNSWICK TWP	D	109
23- 94	402239	742530	60	HELMETTA WC 5-1962 (OLD#2)	HELMETTA BORO	D	206
23- 97	402247	742503	39	DUHERNAL WC OBS 49F	HELMETTA BORO	D	320
23- 100	402053	742603	45	NJ WATER CO JAMESBURG 7	JAMESBURG BORO	D	142
23- 101	402030	742115	50	MOLDER FISH 1973	OLD BRIDGE TWP	D	242
23- 107	402252	742246	28	DUHERNAL WC OBS 54F	OLD BRIDGE TWP	DJ	365
23- 114	402319	742246	26	DUHERNAL WC 52F	OLD BRIDGE TWP	DJ	325

Table 3.--Records of selected wells and test boreholes--Continued
[Locations shown on plate 1]

Well number	Location Latitude	Longitude	Altitude of land surface[1] (ft)	Local identifier	Municipality	Log type[2]	Total depth logged[3] (ft)
23- 127	402330	742258	12	DUHERNAL WC AF	OLD BRIDGE TWP	D	312
23- 131	402334	742231	24	DUHERNAL WC 8	OLD BRIDGE TWP	D	87
23- 132	402335	742136	25	DUHERNAL WC OBS 56F	OLD BRIDGE TWP	DJ	347
23- 133	402350	742051	30	OLD BRIDGE MUA 6	OLD BRIDGE TWP	DE	379
23- 146	402350	741834	80	OLD BRIDGE MUA BROWNTOWN 3	OLD BRIDGE TWP	D	481
23- 154	402354	742212	15	DUHERNAL WC OBS 43F	OLD BRIDGE TWP	D	335
23- 156	402353	742056	30	OLD BRIDGE MUA 10-1972	OLD BRIDGE TWP	DEJ	204
23- 170	402403	742405	60	DUHERNAL WC OBS 53F	OLD BRIDGE TWP	D	337
23- 171	402404	742204	20	DUHERNAL WC BF	OLD BRIDGE TWP	D	317
23- 176	402407	741924	45	OLD BRIDGE MUA OBS 1-1972	OLD BRIDGE TWP	D	456
23- 179	402436	742041	10	OLD BRIDGE MUA OBS 2-1972	OLD BRIDGE TWP	DE	332
23- 191	402530	741701	115	CALIENDO 1	OLD BRIDGE TWP	D	227
23- 194	402536	742018	18	PERTH AMBOY WD RUNYON 1	OLD BRIDGE TWP	DJ	291
23- 197	402543	742010	20	PERTH AMBOY WD 2	OLD BRIDGE TWP	D	281
23- 201	402614	741744	15	OLD BRIDGE MUA MIDTOWN 1	OLD BRIDGE TWP	D	332
23- 202	402625	741611	11	NJ DEPT CONSERV CHEESQUAKE SP1	OLD BRIDGE TWP	D	324
23- 206	402700	741454	60	OLD BRIDGE MUA LAWRENCE HARBOR 9	OLD BRIDGE TWP	D	397
23- 217	401942	742150	55	MOROSE 1972	MONROE TWP	D	150
23- 219	401925	742620	167	MONROE TWP MUA 8-R	MONROE TWP	J	312
23- 230	402012	742703	155	FARINO BROS 1	MONROE TWP	D	204
23- 231	402019	742708	157	FARINO BROS 2-REPLACEMENT	MONROE TWP	D	196
23- 232	402023	742858	130	MONROE TWP MUA FORSGATE 11	MONROE TWP	D	357
23- 236	402038	742345	95	NJ HOME FOR BOYS 4	MONROE TWP	DE	525
23- 238	402038	742755	145	FORSGATE FARMS FARM WELL 4-R	MONROE TWP	D	367
23- 241	402056	742516	80	BICA 1	MONROE TWP	D	106
23- 244	402131	742245	60	REESE 1971	MONROE TWP	D	158
23- 245	402202	742305	55	MONROE TWP MUA RELIABLE 1	MONROE TWP	D	163
23- 255	403046	741827	15	CARBORUNDUM CO 1	PERTH AMBOY CITY	D	76
23- 260	403129	741533	20	MORTON SALT	PERTH AMBOY CITY	D	420
23- 265	403211	741612	14	CHEVRON OIL CO 11	PERTH AMBOY CITY	DJ	94
23- 273	401932	743529	76	NJ WATER POLICY PLAINSBORO POND	PLAINSBORO TWP	D	80
23- 291	402109	743013	107	MONROE TWP MUA OBS 1-1961	SOUTH BRUNSWICK TWP	DJ	212
23- 293	402113	742922	115	FORSGATE WC OBS 3	SOUTH BRUNSWICK TWP	D	246
23- 297	402124	742935	115	QUALITY EGG CO 1 (ABEEL,J.F.)	SOUTH BRUNSWICK TWP	D	207
23- 300	402128	742824	130	BASF-WYANDOTTE 2	SOUTH BRUNSWICK TWP	DJ	301
23- 302	402138	742940	115	S BRUNSWICK MUA FORSGATE 14	SOUTH BRUNSWICK TWP	D	210
23- 315	402204	743024	102	S BRUNSWICK MUA 13	SOUTH BRUNSWICK TWP	D	142
23- 319	402220	742950	93	S BRUNSWICK MUA 12	SOUTH BRUNSWICK TWP	D	138
23- 322	402230	743040	122	S BRUNSWICK MUA 11	SOUTH BRUNSWICK TWP	D	118
23- 327	402309	743134	85	S BRUNSWICK BD ED 1 HIGH SCHOOL	SOUTH BRUNSWICK TWP	D	41
23- 332	402319	742708	105	AHMED 2	SOUTH BRUNSWICK TWP	D	240
23- 352	402605	741958	34	SAYREVILLE WD RECHARGE 1 M	SAYREVILLE BORO	E	298
23- 365	402633	742120	6	DUHERNAL WC DUH SAY 4	SAYREVILLE BORO	DJ	198
23- 369	402630	741949	45	SAYREVILLE WD H	SAYREVILLE BORO	E	115
23- 370	402631	742053	20	HERCULES POWDER 6	SAYREVILLE BORO	D	206
23- 376	402649	742025	41	HERCULES POWDER 3	SAYREVILLE BORO	D	241
23- 377	402654	742043	40	HERCULES POWDER OBS 2	SAYREVILLE BORO	D	254
23- 379	402656	742104	30	DUHERNAL WC OBS 40F	SAYREVILLE BORO	D	218
23- 380	402659	742020	48	HERCULES POWDER 2	SAYREVILLE BORO	D	322
23- 386	402701	741917	102	E I DUPONT 6	SAYREVILLE BORO	D	370
23- 391	402711	742030	47	HERCULES POWDER 4	SAYREVILLE BORO	D	235
23- 395	402715	742050	36	DUHERNAL WC OBS 33F	SAYREVILLE BORO	D	176
23- 396	402718	742213	8	DUHERNAL WC OBS 27F	SAYREVILLE BORO	D	107
23- 397	402728	742044	70	DUHERNAL WC OBS 55F	SAYREVILLE BORO	D	211
23- 399	402741	741958	90	DUHERNAL WC OBS 57F	SAYREVILLE BORO	D	257
23- 404	402745	741645	23	SAYREVILLE WD MORGAN OBS 1	SAYREVILLE BORO	DE	313
23- 408	402802	741627	73	GARDEN STATE PKWY CHEESEQUAKE 1	SAYREVILLE BORO	D	308
23- 409	402751	742002	95	DUHERNAL WC OBS 36F	SAYREVILLE BORO	D	229
23- 410	402813	742205	10	DUHERNAL WC OBS 29F	SAYREVILLE BORO	D	79
23- 411	402822	741630	10	SOUTH AMBOY WD 8	SAYREVILLE BORO	D	241

Table 3.--Records of selected wells and test boreholes--Continued
[Locations shown on plate 1]

Well number	Location Latitude	Longitude	Altitude of land surface[1] (ft)	Local identifier	Municipality	Log type[2]	Total depth logged[3] (ft)
23- 421	402905	741800	118	NATIONAL LEAD TEST 3	SAYREVILLE BORO	D	334
23- 424	402945	741752	16	DUHERNAL WC OBS 34F	SAYREVILLE BORO	D	129
23- 430	402923	741651	12	JERSEY CENTRAL POWER LIGHT 7-1972	SOUTH AMBOY CITY	DEJ	230
23- 438	402559	742142	20	SOUTH RIVER WD 5	SOUTH RIVER BORO	DE	203
23- 439	402633	742200	21	SOUTH RIVER WD 2R	SOUTH RIVER BORO	DEJ	181
23- 442	402252	742432	30	SPOTSWOOD WD 3	SPOTSWOOD BORO	D	89
23- 443	402329	742318	20	SPOTSWOOD WD TW 3	SPOTSWOOD BORO	D	99
23- 445	402328	742318	12	SPOTSWOOD WD TW 4F-76	SPOTSWOOD BORO	DEJ	328
23- 453	402404	742235	30	SCHWEITZER, P J 1	SPOTSWOOD BORO	D	354
23- 462	403043	741842	15	UNION CARBIDE 1	WOODBRIDGE TWP	D	73
23- 479	403236	741616	15	AMERICAN CYANAMID CO WDBRG P2	WOODBRIDGE TWP	D	80
23- 501	402347	742726	100	S BRUNSWICK TWP DAVID ML T	SOUTH BRUNSWICK TWP	DJ	178
23- 503	401938	742404	140	EONAITIS 1	MONROE TWP	D	440
23- 504	402047	742820	141	FORSGATE INC I-IRR	MONROE TWP	D	365
23- 505	401920	743247	90	DYAL 2-1967	CRANBURY TWP	D	82
23- 506	402358	742612	120	SMITH 3-1958	EAST BRUNSWICK TWP	D	255
23- 510	402234	743114	119	IBM CORP GW 20	SOUTH BRUNSWICK TWP	D	68
23- 527	402302	743342	80	COLUMBIAN CARBN 10-1962	SOUTH BRUNSWICK TWP	D	705
23- 538	402734	741925	130	E I DUPONT 2-OBS	SAYREVILLE BORO	J	144
23- 541	403231	741518	17	SHELL OIL CO 44	WOODBRIDGE TWP	J	36
23- 553	401950	742750	125	MONROE TWP MUA TEST 16	MONROE TWP	DEJ	464
23- 573	403207	741817	150	CIRAKY 1	WOODBRIDGE TWP	D	120
23- 574	402737	741736	100	POWESKA 1	SAYREVILLE BORO	D	140
23- 576	402933	741718	30	SPINELLO CONST CO 1	SOUTH AMBOY CITY	D	165
23- 577	403210	741520	7	CHEVRON OIL CO SB-13A	PERTH AMBOY CITY	D	61
23- 578	403236	741543	5	CHEVRON OIL CO E15A	WOODBRIDGE TWP	D	76
23- 580	402517	742050	20	PERTH AMBOY WD OBS 1	OLD BRIDGE TWP	D	85
23- 582	402505	742129	15	MCUA MADISON CONNET	OLD BRIDGE TWP	D	85
23- 584	401610	742624	125	TOWN & COUNTRY METAL (GAM CHOY 1)	MONROE TWP	D	240
23- 585	402450	742330	120	CHIRLIAN DEEPWELL	EAST BRUNSWICK TWP	D	248
23- 587	402205	742123	90	KOSMO 1	OLD BRIDGE TWP	D	185
23- 590	402721	741957	90	E I DUPONT LAYNE 57 OBS	SAYREVILLE BORO	D	126
23- 595	402153	741915	105	OLD BRIDGE DEV CORP SS4	OLD BRIDGE TWP	D	298
23- 598	402400	742548	132	E BRUNSWICK TWP WD TW 2-75	EAST BRUNSWICK TWP	E	235
23- 603	402543	741951	15	PERTH AMBOY WD GEONICS TW 1	OLD BRIDGE TWP	D	96
23- 609	402500	742451	104	E BRUNSWICK TWP WD B-1	EAST BRUNSWICK TWP	DJ	45
23- 610	402429	742421	86	E BRUNSWICK TWP WD B-2	EAST BRUNSWICK TWP	DJ	85
23- 611	402358	742555	125	E BRUNSWICK TWP WD TPW B-4	EAST BRUNSWICK TWP	D	110
23- 612	402324	742601	114	E BRUNSWICK TWP WD B-5	EAST BRUNSWICK TWP	DJ	115
23- 613	402326	742414	33	E BRUNSWICK TWP WD B-7	EAST BRUNSWICK TWP	J	100
23- 614	402537	742141	30	E BRUNSWICK TWP WD TPW-D	EAST BRUNSWICK TWP	D	45
23- 619	402249	742613	112	E BRUNSWICK TWP WD B-6-2	EAST BRUNSWICK TWP	DJ	130
23- 623	402242	742620	105	E BRUNSWICK TWP WD B-6	EAST BRUNSWICK TWP	DJ	149
23- 626	402330	742436	41	E BRUNSWICK TWP WD TPW B-8	EAST BRUNSWICK TWP	DJ	57
23- 759	401824	742248	120	BROWN 1	MONROE TWP	D	274
23- 762	402030	742152	55	SHOVEY 1	OLD BRIDGE TWP	D	193
23- 764	402422	741824	40	EHLER 1	OLD BRIDGE TWP	D	140
23- 766	402127	742214	80	SOUTH OLD BRIDGE FD ENGINE 3	OLD BRIDGE TWP	D	180
23- 767	402039	742258	60	OLBRYS 1	JAMESBURG BORO	D	186
23- 769	401728	742504	120	MILADINOV 1	MONROE TWP	D	280
23- 770	401618	742500	140	JURGELSKY HOUSE WELL	MONROE TWP	D	325
23- 771	401718	742449	110	SCHARF 1	MONROE TWP	D	330
23- 772	402036	742706	145	KOKOSA 1	MONROE TWP	D	151
23- 773	401942	742232	90	TEE-N-JAY FARM 1	MONROE TWP	D	295
23- 774	401623	742819	110	RESNICK 1	MONROE TWP	D	215
23- 778	401834	743311	100	FINN 1	CRANBURY TWP	D	130
23- 779	401813	743043	120	BERESFORD THRIFT STORE	CRANBURY TWP	D	120
23- 781	402225	741821	60	JOCAMA CONST CO	OLD BRIDGE TWP	D	235
23- 783	402302	741620	90	OLD BRIDGE SOCCER ASSN 1	OLD BRIDGE TWP	D	265
23- 784	402327	742054	30	NAVEDO 1	OLD BRIDGE TWP	D	70

Table 3.--Records of selected wells and test boreholes--Continued
[Locations shown on plate 1]

Well number	Location Latitude	Longitude	Altitude of land surface[1] (ft)	Local identifier	Municipality	Log type[2]	Total depth logged[3] (ft)
23- 787	402128	743055	100	ELY 1	SOUTH BRUNSWICK TWP	D	120
23- 790	402627	742247	75	USGS - S. RIVER HIGH 1	SOUTH RIVER BORO	DEJ	147
23- 791	401940	743353	80	USGS - LINPRO	PLAINSBORO TWP	DEJ	150
23- 816	403039	741808	0	TITANIUM PIGMENT TP-T02B	WOODBRIDGE TWP	D	50
23- 817	403029	741838	0	TITANIUM PIGMENT TP-T03B	WOODBRIDGE TWP	D	75
23- 818	403029	741827	0	TITANIUM PIGMENT TP-T04	WOODBRIDGE TWP	D	60
23- 827	403013	741847	0	TITANIUM PIGMENT TP-T13	SAYREVILLE BORO	D	49
23- 836	403001	741853	0	TITANIUM PIGMENT TP-T22	SAYREVILLE BORO	D	47
23- 842	402953	741852	0	TITANIUM PIGMENT TP-T28	SAYREVILLE BORO	D	39
23- 846	402913	742030	8	US ARMY CORPS DH-R-1	EDISON TWP	D	64
23- 848	402858	742024	0	US ARMY CORPS DH-R-3	SAYREVILLE BORO	D	67
23- 850	402846	742020	5	US ARMY CORPS DH-R-5	SAYREVILLE BORO	D	82
23- 856	402826	742155	6	US ARMY CORPS DH-24E	EDISON TWP	D	56
23- 857	402832	742144	6	US ARMY CORPS DH-25E	EDISON TWP	D	56
23- 858	402837	742133	7	US ARMY CORPS DH-26E	EDISON TWP	D	56
23- 859	402846	742115	7	US ARMY CORPS DH-27E	SAYREVILLE BORO	D	56
23- 925	402449	742201	15	MCUA SR-60	EAST BRUNSWICK TWP	D	27
23- 944	402825	742226	4	MCUA L-10	SAYREVILLE BORO	D	42
23- 963	402856	742326	7	MCUA L-28	SOUTH RIVER BORO	D	30
23- 969	402855	742343	9	MCUA L-36	SOUTH RIVER BORO	D	33
23- 971	402903	742347	6	MCUA L-39	NEW BRUNSWICK CITY	D	28
23- 995	403028	741804	2	NJ HIGHWAY DEPT 23	SAYREVILLE BORO	D	80
23-1000	402845	741529	0	US ARMY CORPS DH-1	SAYREVILLE BORO	D	42
23-1002	402823	741436	0	US ARMY CORPS DH-3	OLD BRIDGE TWP	D	40
23-1004	402813	741530	0	US ARMY CORPS DH-27A	SAYREVILLE BORO	D	35
23-1005	402755	741458	0	US ARMY CORPS DH-28	OLD BRIDGE TWP	D	32
23-1006	402744	741423	0	US ARMY CORPS DH-29	OLD BRIDGE TWP	D	38
23-1007	402731	741348	0	US ARMY CORPS DH-30	OLD BRIDGE TWP	D	40
23-1011	402833	742041	6	MAN. & ENG. CORP. 2	SAYREVILLE BORO	D	63
23-1012	402819	742046	22	MAN. & ENG. CORP. 2A	SAYREVILLE BORO	D	74
23-1013	402806	742044	35	MAN. & ENG. CORP. 2B	SAYREVILLE BORO	D	163
23-1016	402722	741942	88	E I DUPONT LAYNE #4	SAYREVILLE BORO	D	292
23-1017	402818	742127	0	SAYRE & FISHER 29A	SAYREVILLE BORO	D	976
23-1021	402836	742014	15	E I DUPONT 4-D	SAYREVILLE BORO	D	91
23-1024	402833	741942	25	E I DUPONT 8-H	SAYREVILLE BORO	D	122
23-1025	402834	741926	10	E I DUPONT 10-J	SAYREVILLE BORO	D	126
23-1027	402905	741917	8	E I DUPONT 13-M	SAYREVILLE BORO	D	99
23-1029	402916	741908	18	NATIONAL LEAD 15-O	SAYREVILLE BORO	D	109
23-1031	402926	741859	18	NATIONAL LEAD 17-Q	SAYREVILLE BORO	D	121
23-1033	402933	741846	18	NATIONAL LEAD 19-S	SAYREVILLE BORO	D	111
23-1034	402937	741840	18	NATIONAL LEAD 20-T	SAYREVILLE BORO	D	114
23-1037	403156	741626	54	CALIFORNIA REFINING TEST WELL #7	PERTH AMBOY CITY	D	136
23-1038	403214	741714	66	CALIFORNIA REFINING TEST WELL #8	PERTH AMBOY CITY	D	113
23-1039	403158	741608	53	CALIFORNIA REFINING TEST WELL #9	PERTH AMBOY CITY	D	116
23-1057	402887	741556	5	US ARMY CORPS DH-26A	SOUTH AMBOY CITY	D	36
23-1058	402704	742139	25	HESS BROS #1	SAYREVILLE BORO	DJ	173
25- 13	401137	740121	29	AVON WATER DEPT 4	AVON-BY-THE-SEA BORO	DEJ	1302
25- 34	401558	740908	135	NAD EARLE 2(B)	COLTS NECK TWP	J	837
25- 37	401607	741209	137	HOMINY HILLS GOLF CLUB 2-1963	COLTS NECK TWP	DJ	707
25- 39	401646	740554	102	US ARMY FT MONMOUTH-WAYSIDE	COLTS NECK TWP	D	719
25- 45	401810	740957	66	FLOCK AND SONS 1	COLTS NECK TWP	D	680
25- 53	401720	740315	70	R H MACY & CO BAMBERGER T-2	EATONTOWN BORO	DE	891
25- 55	401744	742135	70	ENGLISHTOWN BORO WD 1	ENGLISHTOWN BORO	EJ	598
25- 70	401511	741609	160	NESTLE CO 3	FREEHOLD BORO	DE	689
25- 82	401412	741606	130	FREEHOLD TWP WD KOENIG LANE 1	FREEHOLD TWP	DE	743
25- 85	401436	741525	120	3M COMPANY 1	FREEHOLD TWP	DE	707
25- 91	401516	741530	140	BROCKWAY GLASS 2	FREEHOLD TWP	E	750
25- 97	401625	741501	195	FREEHOLD TWP WD 6 OLD SO GULF2	FREEHOLD TWP	DEJ	682
25- 103	401646	741737	107	FREEHOLD TWP WD 7-74	FREEHOLD TWP	DEJ	887
25- 111	402532	740932	59	W KEANSBURG WC 1	HAZLET TWP	D	513

Table 3.--Records of selected wells and test boreholes--Continued
[Locations shown on plate 1]

Well number	Location Latitude	Location Longitude	Altitude of land surface[1] (ft)	Local identifier	Municipality	Log type[2]	Total depth logged[3] (ft)
25- 119	402403	735923	15	HIGHLANDS WD 3	HIGHLANDS BORO	DEJ	901
25- 121	402023	741100	80	PENNWALT CORP 1	HOLMDEL TWP	D	590
25- 145	402313	741100	229	GARDEN STATE PKWY TELEGRAPH HILL	HOLMDEL TWP	D	1045
25- 146	402327	741114	280	BELL TELE CO CRAWFORD HILL 1	HOLMDEL TWP	D	585
25- 153	402444	741010	65	W KEANSBURG WC 4	HOLMDEL TWP	DE	672
25- 156	402449	740910	60	LILY TULIP CUP DEEP TEST WELL	HOLMDEL TWP	DJ	788
25- 174	401243	741520	102	ADELPHIA WC 2-1974	HOWELL TWP	DEJ	839
25- 194	402623	740740	10	KEANSBURG MUA 2	KEANSBURG BORO	D	357
25- 196	402628	740744	12	KEANSBURG MUA 3	KEANSBURG BORO	D	394
25- 197	402535	741214	35	KEYPORT BORO WD 7	KEYPORT BORO	DJ	414
25- 201	402615	741055	20	ESSIE CONSTRUCTION CO 1	HAZLET TWP	D	282
25- 203	402626	741142	11	KEYPORT BORO WD 1	KEYPORT BORO	J	270
25- 206	402625	741145	14	KEYPORT BORO WD 4	KEYPORT BORO	D	285
25- 210	401639	735936	10	MONMOUTH CON WC WEST END 1	LONG BRANCH CITY	DE	1001
25- 214	401429	742146	190	MANALAPAN TWP WD LAMBS RD 1	MANALAPAN TWP	EJ	753
25- 218	401557	742318	250	BOY SCOUTS QUAIL HILL 2	MANALAPAN TWP	DJ	530
25- 220	401537	742012	120	BATTLEGROUND CC IRRIGATION	MANALAPAN TWP	DJ	569
25- 228	401733	741818	146	GORDONS CORNER WC OBS	MANALAPAN TWP	EJ	815
25- 231	402004	741855	125	GORDONS CORNER WC 6	MANALAPAN TWP	DEJ	759
25- 249	401859	741809	143	GORDONS CORNER WC 4	MANALAPAN TWP	E	828
25- 251	401908	741510	128	GORDONS CORNER WC 9	MARLBORO TWP	EJ	620
25- 259	402035	741423	155	MARLBORO STATE HOSP 12	MARLBORO TWP	D	616
25- 262	402102	741353	140	MARLBORO STATE HOSP 15	MARLBORO TWP	DEJ	875
25- 268	402117	741511	114	MARLBORO TWP MUA 2-PROD	MARLBORO TWP	DEJ	771
25- 269	402122	741511	111	MARLBORO TWP MUA 1-PROD	MARLBORO TWP	D	783
25- 272	402208	741452	117	MARLBORO TWP MUA OBS 1	MARLBORO TWP	DEJ	700
25- 282	402507	741344	10	BAYSHORE SEWERAGE AUTHORITY 1	MATAWAN BORO	D	285
25- 284	402515	741450	90	MATAWAN BORO WD 3	MATAWAN BORO	D	457
25- 290	402403	741246	71	ABERDEEN TWP MUA OBS 1	ABERDEEN TWP	E	424
25- 291	402406	741259	61	ABERDEEN TWP MUA MATAWAN OBS 3	ABERDEEN TWP	E	394
25- 292	402359	741233	87	ABERDEEN TWP MUA MATAWAN MUA 1	ABERDEEN TWP	DE	733
25- 294	402428	741345	20	MATAWAN BORO WD 1	ABERDEEN TWP	D	282
25- 297	402603	741422	80	ABERDEEN TWP WD MATAWAN TWP 1	ABERDEEN TWP	D	498
25- 299	402604	741417	60	ABERDEEN TWP WD MATAWAN TWP 2	ABERDEEN TWP	DE	491
25- 303	402106	740810	70	BAMM HOLLOW CC 1	MIDDLETOWN TWP	DE	726
25- 314	402500	740811	20	ENGI PREC CASTG 1-1964	MIDDLETOWN TWP	D	368
25- 316	402536	735905	11	STATE OF NJ SANDY HOOK SP1	MIDDLETOWN TWP	EJ	438
25- 318	402700	735958	8	NATIONAL PK SER FT HANCOCK 2	MIDDLETOWN TWP	D	754
25- 320	402705	735959	14	NATIONAL PK SER FT HANCOCK 5A	MIDDLETOWN TWP	J	878
25- 332	401930	735841	10	MON BCH CLD STR 1971 DEEP	MONMOUTH BEACH BORO	DJ	852
25- 351	401323	740156	18	MONMOUTH CON WC WHITESVILLE	NEPTUNE TWP	J	777
25- 357	402021	740409	35	RED BANK WD 3B-1959	RED BANK BORO	D	305
25- 358	402047	740420	40	RED BANK WD 1B-1950	RED BANK BORO	D	702
25- 360	402054	740320	146	RED BANK WD 4-75	RED BANK BORO	EJ	805
25- 407	401005	742939	129	PUNK BROS DEEP WELL	UPPER FREEHOLD TWP	DJ	951
25- 422	402643	740915	10	INT FLAVOR FRAG 3	UNION BEACH BORO	D	326
25- 453	402632	741051	10	UNION BEACH WD 3 1977	UNION BEACH BORO	DEJ	579
25- 456	402640	740904	10	INT FLAVOR FRAG 3R	UNION BEACH BORO	DE	345
25- 457	401551	742212	108	KNOB HILL C C 1-74	MANALAPAN TWP	EJ	710
25- 459	402219	740337	80	NAVESINK C C 1-78	MIDDLETOWN TWP	DEJ	761
25- 462	402717	740816	10	KEANSBURG AMUSE 1-69	KEANSBURG BORO	D	310
25- 465	401107	740356	65	WALL TWP WD IMPERIAL 3	WALL TWP	EJ	694
25- 466	402610	741351	56	ABERDEEN TWP WD 3-77	ABERDEEN TWP	DEJ	502
25- 467	402436	741013	70	W KEANSBURG WC 5	HOLMDEL TWP	DE	692
25- 493	401231	741127	130	HOWELL TWP 1-1975	HOWELL TWP	EJ	843
25- 495	401850	740301	10	DEPT OF ENERGY TC-40	EATONTOWN BORO	J	1003
25- 496	402441	740233	15	ATLANTIC HIGHLAND WD 4	ATL HIGHLAND BORO	DEJ	660
25- 501	401215	740358	30	MONMOUTH CON WC JUMPING BR 6	NEPTUNE TWP	DEJ	1090
25- 547	402313	741418	100	HENRIKSEN 1	MARLBORO TWP	D	265
25- 551	401258	741627	105	FREEHOLD TWP WD 9	FREEHOLD TWP	DEJ	746

Table 3.--Records of selected wells and test boreholes--Continued
[Locations shown on plate 1]

Well number	Location Latitude	Longitude	Altitude of land surface[1] (ft)	Local identifier	Municipality	Log type[2]	Total depth logged[3] (ft)
25- 556	401052	743525	80	ALLENTOWN WD 1	ALLENTOWN BORO	D	305
25- 557	401945	740919	100	TWITCHELL 1	HOLMDEL TWP	D	627
25- 562	402539	741214	30	KEYPORT BORO WD - 8 PERRY ST	KEYPORT BORO	D	560
25- 564	401918	741530	120	GORDONS CORNER WC 11	MARLBORO TWP	D	666
25- 565	402704	741051	10	USGS CONASCONK PT.	UNION BEACH BORO	DJ	555
25- 566	401517	741351	200	USGS OAK RISE DRIVE	FREEHOLD TWP	DJ	1320
25- 568	402652	741100	10	USGS JCPL	UNION BEACH BORO	DJ	283
25- 569	402639	740324	10	US NAVY EARLE NF-1	MIDDLETOWN TWP	D	127
25- 570	402710	740256	10	US NAVY EARLE NF-2	MIDDLETOWN TWP	D	112
25- 571	402601	735916	6	US NAVY EARLE NF-3	MIDDLETOWN TWP	D	206
25- 572	402124	741751	80	MOLLICA OBS WELL	MARLBORO TWP	D	300
25- 586	402754	741302	0	US ARMY CORPS DH-5	MATAWAN BORO	D	29
25- 590	402737	741149	0	US ARMY CORPS DH-9	MATAWAN BORO	D	32
25- 591	402758	741040	0	US ARMY CORPS DH-10	UNION BEACH BORO	D	28
25- 594	402725	740906	0	US ARMY CORPS DH-13	UNION BEACH BORO	D	29
25- 595	402748	740810	0	US ARMY CORPS DH-14	KEANSBURG BORO	D	27
25- 596	402744	740754	0	US ARMY CORPS DH-15	KEANSBURG BORO	D	22
25- 597	402741	740713	0	US ARMY CORPS DH-16	KEANSBURG BORO	D	32
25- 599	402717	740539	0	US ARMY CORPS DH-18	MIDDLETOWN TWP	D	25
25- 601	402633	740504	0	US ARMY CORPS DH-20	MIDDLETOWN TWP	D	25
25- 602	402622	740430	0	US ARMY CORPS DH-21	MIDDLETOWN TWP	D	22
25- 603	402643	740421	0	US ARMY CORPS DH-22	MIDDLETOWN TWP	D	36
25- 604	402539	740315	0	US ARMY CORPS DH-23	MIDDLETOWN TWP	D	25
25- 605	402539	740237	0	US ARMY CORPS DH-24	MIDDLETOWN TWP	D	23
25- 606	402550	740206	0	US ARMY CORPS DH-25	ATL. HIGHLANDS BORO	D	32
25- 607	402512	740109	0	US ARMY CORPS DH-26	ATL. HIGHLANDS BORO	D	34
25- 609	402719	741313	0	US ARMY CORPS DH-31	MATAWAN BORO	D	38
25- 610	402706	741240	0	US ARMY CORPS DH-32	MATAWAN BORO	D	37
25- 611	402645	741212	0	US ARMY CORPS DH-33	MATAWAN BORO	D	37
25- 612	402642	741148	0	US ARMY CORPS DH-34	KEYPORT BORO	D	31
25- 613	402700	741130	0	US ARMY CORPS DH-35	UNION BEACH BORO	D	38
25- 614	402725	741110	0	US ARMY CORPS DH-36	UNION BEACH BORO	D	37
25- 615	402749	741052	0	US ARMY CORPS DH-37	UNION BEACH BORO	D	36
25- 616	402740	741033	0	US ARMY CORPS DH-38	UNION BEACH BORO	D	38
25- 617	402730	741016	0	US ARMY CORPS DH-39	UNION BEACH BORO	D	37
25- 618	402718	740958	0	US ARMY CORPS DH-40	UNION BEACH BORO	D	37
25- 619	402706	740939	0	US ARMY CORPS DH-41	UNION BEACH BORO	D	36
25- 620	402710	740904	0	US ARMY CORPS DH-42	UNION BEACH BORO	D	36
25- 621	402734	740822	0	US ARMY CORPS DH-43	KEANSBURG BORO	D	40
25- 622	402718	740703	0	US ARMY CORPS DH-44	KEANSBURG BORO	D	41
25- 623	402657	740642	0	US ARMY CORPS DH-45	KEANSBURG BORO	D	39
25- 624	402642	740550	0	US ARMY CORPS DH-46	KEANSBURG BORO	D	38
25- 631	402925	741122	3	PORT AUTHORITY OF NY & NJ 6	UNION BEACH BORO	D	80
25- 632	402818	741107	3	PORT AUTHORITY OF NY & NJ 7	UNION BEACH BORO	D	150
25- 633	402803	741049	3	PORT AUTHORITY OF NY & NJ 8	UNION BEACH BORO	D	80
25- 634	401520	741712	170	FREEHOLD RACEWAY	FREEHOLD BORO	D	920
85- 13	403244	741210	150	PEOPLE'S PULPIT ASSOC (R-42)	RICHMOND COUNTY, NY	D	360
85- 14	403103	741401	20	BEINERTS ICE CO (R-54)	RICHMOND COUNTY, NY	D	228
85- 15	403107	741432	5	ATLANTIC TERRACOTTA CO. R-61	RICHMOND COUNTY, NY	D	163
85- 16	403327	740740	10	DEPT OF WATER SUPPLY, NY (R-63)	RICHMOND COUNTY, NY	D	319
85- 17	403108	741408	15	NASSAU SMELTING (R-70)	RICHMOND COUNTY, NY	D	353
85- 18	403130	741204	30	RARITAN BAY BORING (R-71)	RICHMOND COUNTY, NY	D	147
85- 19	403042	741512	20	CHASSEY (R-72)	RICHMOND COUNTY, NY	D	173
85- 20	403049	741140	16	PORT AUTHORITY OF NY & NJ 1	RICHMOND COUNTY, NY	D	68
85- 21	403034	741137	4	PORT AUTHORITY OF NY & NJ 2	RICHMOND COUNTY, NY	D	149
85- 22	403031	741136	3	PORT AUTHORITY OF NY & NJ 3	RICHMOND COUNTY, NY	D	100
85- 23	403021	741134	3	PORT AUTHORITY OF NY & NJ 4	RICHMOND COUNTY, NY	D	180
85- 24	403017	741133	3	PORT AUTHORITY OF NY & NJ 5	RICHMOND COUNTY, NY	D	125
85- 25	403441	740316	5	NEW YORK QUARANTINE STATION (R-82)	RICHMOND COUNTY, NY	D	1000

1 - Above sea level
2 - D - drillers' log
E - electric log
J - gamma-ray log
3 - Below land surface

BORO - Borough
MCUA - Middlesex County Utilities Authority
MUA - Municipal Utilities Authority
OBS - Observation well
TWP - Township
USGS - U.S. Geological Survey
WC - Water Company
WD - Water Department

Table 4.--Drillers' logs of selected wells and test boreholes
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
21- 1	0	3	SOIL
	3	62	SAND, YELLOW, WATER BEARING
	62	245	CLAY, BLACK
	245	315	SAND, WHITE, FINE, WITH PEBBLES
21- 4	0	1	SOIL
	1	55	SAND, YELLOW, FINE
	55	75	SAND, YELLOW, COARSE
	75	76	CLAY, YELLOW
	76	155	CLAY, BLUE, GRAY
	155	205	CLAY, GREEN
	205	230	SAND, GRAY, FINE
	230	236	SAND, GRAY
	236	240	SAND AND CLAY, GRAY, FINE
	240	254	CLAY, GRAY
	254	265	SAND AND CLAY, GRAY
	265	275	SAND, GRAY
	275	282	CLAY, GRAY
	282	335	SAND, GRAY
	335	340	CLAY, GRAY, WHITE
21- 17	0	32	SAND AND CLAY, YELLOW
	32	40	CLAY, GRAY
	40	68	SAND AND CLAY, GRAY
	68	89	SAND, GRAY
	89	93	CLAY, GRAY
	93	110	SAND, GRAY
	110	116	SAND, GRAY, COARSE
	116	122	SAND, GRAY, FINE TO MEDIUM
	122	129	SAND, YELLOW, COARSE
	129	136	SAND, GRAY, COARSE
	136	150	SAND, GRAY, FINE TO MEDIUM, CLAYEY
	150	155	CLAY, WHITE
	155	184	SAND, GRAY, CLAYEY
	184	220	CLAY, GRAY
21- 22	0	75	CLAY
	75	90	SAND, CLAYEY
	90	214	SAND
	214		CLAY
21- 24	0	6	CLAY, BROWN, GRAY STREAKS
	6	8	SAND, BROWN, WITH CLAY
	8	28	CLAY, BROWN
	28	45	CLAY, BROWN, WITH SAND STREAKS
	45	60	CLAY, GRAY
	60	72	CLAY, WHITE
	72	80	SAND, WHITE, FINE, WITH CLAY STREAKS
	80	92	SAND AND GRAVEL, WHITE, WITH CLAY
	92	93	SAND AND GRAVEL, YELLOW
	93	112	SAND AND GRAVEL AND CLAY, WHITE
	112	119	CLAY, GRAY
	119	127	CLAY, GRAY, WHITE
	127	129	GRAVEL, WHITE, WITH CLAY STREAKS
	129	132	GRAVEL, WHITE, BROWN
	132	199	CLAY, GRAY, SOME SAND, PEBBLES AND WOOD
	199	209	SAND, GRAY, FINE
	209	236	SAND AND GRAVEL, GRAY, WITH CLAY STREAKS
21- 25	0	1	SOIL
	1	12	SAND, BROWN, COARSE
	12	21	SAND AND CLAY, GRAY
	21	40	SAND, COARSE, WITH GRAVEL AND WOOD
	40	65	SAND, FINE, WITH CLAY
	65	75	SAND, WHITE
	75	100	SAND AND GRAVEL, BROWN
	100	131	CLAY, WHITE
	131	141	CLAY, BLUE
	141	193	CLAY, BLUE, WITH SAND AND WOOD
	193	204	CLAY
	204	226	SAND AND GRAVEL
	226	233	CLAY, GRAY
	233	235	BEDROCK
21- 81	0	8	SAND
	8	110	CLAY, GRAY
	110	158	SAND AND CLAY
	158	181	SAND AND GRAVEL, FINE

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
21- 81	181	200	SAND AND GRAVEL, YELLOW
	200	214	CLAY, WHITE
21- 84	0	8	SAND
	8	110	CLAY, GRAY
	110	158	SAND AND CLAY
	158	181	SAND AND GRAVEL, FINE
	181	200	SAND AND GRAVEL, YELLOW
	200	214	CLAY, WHITE
21- 85	0	1	SAND AND PEBBLES, BROWN
	1	83	CLAY AND SAND, BLACK, SILTY
	83	183	SAND, FINE TO MEDIUM, WITH CLAY LAYERS
	183	186	CLAY
	186	196	CLAY AND SAND, LAYERED
	196	271	CLAY, RED, WHITE
	271	285	SAND, FINE TO MEDIUM
	285	297	CLAY AND SAND, LAYERED
	297	343	SAND, FINE TO MEDIUM
	343	345	CLAY
	345	386	SAND, MEDIUM TO COARSE
	386	398	BEDROCK, WEATHERED
21- 86	0	2	GRAVEL AND CLAY
	2	6	SAND AND PEBBLES
	6	55	CLAY AND SAND, BLACK
	55	81	CLAY, BLACK
	81	173	SAND AND GRAVEL
	173	185	CLAY
	185	192	SAND AND GRAVEL
	192	275	CLAY, RED, WHITE, WITH CEMENTED SAND
	275	305	SAND, MEDIUM TO COARSE
	305	314	CLAY AND SAND
	314	328	SAND, MEDIUM TO COARSE
	328	331	CLAY
	331	365	SAND, MEDIUM TO COARSE
21- 96	0	10	SAND, YELLOW
	10	39	SAND AND GRAVEL, FINE, CLAYEY
	39	100	CLAY, GRAY
	100	125	CLAY, GRAY, WITH BLACK SAND AND SOME SHELLS
	125	130	SHALE, WHITE, HARD
	130	155	CLAY, GRAY
	155	160	MARL, GREEN
	160	172	CLAY, GRAY, FINE, SANDY
	172	192	CLAY, BLACK
	192	200	SAND, GRAY, FINE, WITH WOOD
21- 98	0	10	SOIL AND SAND
	10	60	SAND, YELLOW
	60	235	CLAY, DARK
	235	237	SAND, FINE
	237	250	CLAY, DARK
	250	330	SAND, WHITE, FINE
	330	331	CLAY, DARK
	331	365	CLAY, WHITE
	365	380	CLAY, RED
	380	382	CLAY, WHITE
	382	392	SAND, WHITE
	392	400	CLAY, DARK
	400	432	CLAY, LIGHT
	432	464	SAND, WHITE, FINE TO MEDIUM
21- 99	0	40	SAND AND GRAVEL
	40	240	CLAY, DARK
	240	262	SAND, WHITE, FINE
	262	276	CLAY, WHITE
	276	306	SAND, WHITE, FINE
	306	338	CLAY, DARK
	338	343	CLAY, WHITE
	343	357	CLAY, RED
	357	363	CLAY, LIGHT
	363	368	SAND, WHITE, FINE
	368	378	CLAY, DARK
	378	390	CLAY AND SAND, DARK
	390	434	SAND, WHITE
	434	439	CLAY, RED

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
21- 101	0	2	FILL
	2	8	CLAY, SANDY
	8	52	SAND
	52	57	CLAY, BLACK
	57	78	CLAY
	78	140	CLAY, WITH SOME SHELLS
	140	143	SHELLS
	143	205	CLAY, BLACK
	205	223	CLAY, BLACK, SANDY
	223	257	SAND, HARD PACKED
	257	281	CLAY, WHITE, GRAY
	281	284	HARDPAN
	284	289	SAND, HARD PACKED
	289	292	CLAY
	292	317	SAND
	317	322	HARDPAN
	322	338	SAND
	338	340	HARDPAN
	340	343	CLAY, RED, WHITE
	343	359	SAND, FINE
	359	360	HARDPAN
	360	399	SAND
	399	402	HARDPAN
	402	424	SAND
	424	498	BEDROCK, WEATHERED
21- 104	0	1	SOIL
	1	5	SAND AND CLAY
	5	30	CLAY, YELLOW, SANDY
	30	38	GRAVEL AND SAND AND CLAY
	38	41	CLAY, BROWN
	41	203	CLAY, BLUE, WITH BLACK MARL
	203	206	CLAY, RED, BROWN
	206	220	CLAY, BROWN
	220	248	SAND, GRAY, WHITE, COARSE
21- 110	0	76	CLAY
	76	78	SAND, GREEN, FINE
	78	100	CLAY
	100	160	SAND, WHITE, FINE
	160	165	SAND, COARSE, WATER BEARING
	165	169	SAND, FINE, WATER BEARING
	169		CLAY
21- 130	0	17	CLAY, BROWN, SANDY
	17	55	SAND AND CLAY, BROWN
	55	60	SAND, BROWN
	60	89	SAND AND CLAY, BROWN
	89	95	SAND, BROWN
21- 145	0	1	SOIL
	1	12	SAND, GRAY, COARSE
	12	21	SAND AND CLAY, GRAY
	21	40	SAND, COARSE, WITH GRAVEL AND WOOD
	40	65	SAND AND CLAY, FINE
	65	75	CLAY, WHITE
	75	100	SAND AND GRAVEL, BROWN
	100	131	CLAY, WHITE
	131	141	CLAY, BLUE
	141	193	CLAY AND SAND, BLUE, WITH WOOD
	193	204	CLAY, TOUGH
	204	226	SAND AND GRAVEL
	226	233	CLAY, GRAY, TOUGH
	233	235	BEDROCK
21- 241	0	2	SAND, BROWN, FINE
	2	12	SAND, YELLOW, MEDIUM TO COARSE, SOME IRON CEMENTATION,
	12	22	SAND, BROWN, MEDIUM TO COARSE, LOCALLY SILTY AND CLAYEY
	22	32	SAND, BROWN, COARSE, SOME CLAY, SILT AND GRAVEL
	32	42	SAND, ORANGE, COARSE, SILTY, SOME GRAVEL
	42	52	SAND, BROWN, MEDIUM TO COARSE, SILTY, SOME GRAVEL
	52	62	SAND, BROWN, COARSE, SOME GRAVEL
	62	72	SAND, BROWN, COARSE, SOME IRON CEMENTATION, SOME GRAVEL AND SILT
	72	82	SAND, BROWN, COARSE, SOME CLAY LAYERS
	82	92	BEDROCK, BLUISH WHITE, WEATHERED
	92	102	BEDROCK, MULTICOLORED, WEATHERED, GNEISSIC OR SCHISTOSE
	102	112	BEDROCK, MULTICOLORED, WEATHERED, BANDED, SOME QUARTZ AND FELDSPAR
	112	122	BEDROCK, MULTICOLORED, WEATHERED, BANDED, ABUNDANT QUARTZ

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 8	0	5	SOIL
	5	15	CLAY AND GRAVEL, BROWN
	15	45	CLAY, GRAY
	45	50	CLAY, BROWN
	50	93	SAND AND GRAVEL, BROWN, CLAYEY
	93	95	CLAY, WHITE
	95	102	SAND, WHITE, COARSE, SOME CLAY
	102	103	CLAY, YELLOW
	103	112	SAND AND GRAVEL, YELLOW, COARSE, SOME CLAY
23- 10	0	30	CLAY, YELLOW
	30	143	CLAY, BLACK
	143	180	SAND, WHITE
23- 11	0	20	SAND
	20	60	CLAY
	60	65	SAND, FINE
	65	80	CLAY
	80	115	CLAY AND SAND
	115	125	SAND, FINE
	125	180	CLAY
	180	255	SAND, SOME CLAY
	255	290	SAND, WATER BEARING
23- 12	0	16	SAND AND CLAY, YELLOW
	16	100	CLAY
	100	140	SAND, FINE, NO WATER
	140	148	SAND, COARSE, SOME WATER
	148	161	SAND, COARSE, WATER BEARING
23- 13	0	55	SAND, YELLOW
	55	93	CLAY
	93	95	SAND
	95	103	GRAVEL AND SAND, COARSE
	103	120	CLAY
	120	123	SAND
	123	135	CLAY
	135	165	SAND, WATER BEARING
	165	180	CLAY
23- 17	0	100	SAND, YELLOW, FINE
	100	110	SAND, WHITE, MEDIUM
	110	130	SAND, WHITE, YELLOW, COARSE
	130	140	SAND, COARSE, CLAYEY
	140	185	CLAY, WHITE, RED, GRAY
	185	190	CLAY AND SAND, RED
	190	224	CLAY, RED AND GRAY
	224	240	SAND AND CLAY, FINE
	240	298	SAND, COARSE
	298	300	CLAY, WHITE
	300	314	SAND AND CLAY
	314	316	ROCK
23- 20	0	7	FILL AND CLAY
	7	10	CLAY, YELLOW
	10	50	CLAY, GRAY
	50	70	SAND, YELLOW, CLAYEY
	70	110	CLAY, GRAY
	110	145	SAND, WHITE, CLAYEY
	145	155	CLAY, GRAY
	155	160	CLAY, YELLOW
	160	203	SAND, YELLOW, COARSE
23- 25	0	55	SAND AND CLAY, YELLOW
	55	100	CLAY, GRAY
	100	120	CLAY AND SILT, BLACK
	120	160	SAND, WHITE, MEDIUM
	160	195	SAND, YELLOW
	195	220	CLAY, GRAY
	220	250	CLAY AND SAND, GRAY
	250	258	CLAY, BLACK
	258	267	SAND, WHITE
	267	295	CLAY, WHITE, GRAY
	295	306	SAND, WHITE
	306	330	SAND, YELLOW, COARSE
	330	400	SAND AND GRAVEL, COARSE
	400	410	CLAY, WHITE

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 30	0	40	SAND, YELLOW, BROWN, CLAYEY, SOME PEBBLES
	40	50	SAND, BROWN, FINE TO MEDIUM, CLAYEY
	50	80	CLAY, GRAY, MICACEOUS, SOME PYRITE & LIGNITE
	80	105	SAND, GRAY, FINE TO MEDIUM, SOME CLAY, WITH PYRITE AND LIGNITE
	105	120	SAND, GRAY, FINE, LITTLE CLAY
	120	155	SAND, YELLOW, FINE TO COARSE
	155	158	CLAY, WHITE, SILTY
23- 40	0	4	NO DATA
	4	8	SAND
	8	23	SAND AND PEBBLES, BROWN, CLAYEY
	23	72	SAND, BROWN, RUST
	72	79	SAND, BROWN, CLAYEY
	79	90	CLAY
	90	108	SAND, WHITE
	108	115	CLAY
	115	116	SAND
	116	137	CLAY, BLACK, LIGNITIC
	137	144	SAND
	144	178	CLAY, SANDY
	178	199	SAND, HARD PACKED
	199	236	SAND
	236	238	CLAY, RED
	238	247	GRAVEL AND SAND, PINK, WHITE
	247	251	SAND, CLAYEY
	251	261	HARDPAN
23- 42	0	4	NO DATA
	4	5	SOIL
	5	12	SAND, IRON-STAINED (11-12 FT)
	12	17	CLAY, SANDY
	17	21	PEBBLE LAYER
	21	32	CLAY, SANDY, WITH PEBBLES
	32	38	SAND AND PEBBLES, IRON-STAINED
	38	50	CLAY, WHITE, PINK, SANDY (44-50 FT)
	50	61	SAND
	61	87	CLAY, SANDY (61-69 FT)
	87	98	SAND
	98	99	BEDROCK
	99	108	CLAY
	108	111	SAND, FINE
	111	118	CLAY, HARDPAN (111-112 FT)
	118	153	SAND, FINE, CLAYEY
	153	193	SAND
	193	197	SAND, CLAYEY
	197	226	SAND
	226	231	CLAY, SANDY
	231	247	SAND, RED
	247	269	SAND AND GRAVEL, WEATHERED ZONE
	269	279	ROCK, WEATHERED ZONE
23- 44	0	2	SAND
	2	6	CLAY
	6	27	SAND, ORANGE
	27	46	CLAY, GRAY, BROWN, SOME LIGNITE (30-46 FT)
	46	74	SAND, BROWN, FINE TO MEDIUM
	74	81	CLAY, LIGNITIC (76-81 FT)
	81	87	SAND AND CLAY, WHITE, HARD PACKED
	87	96	CLAY
	96	108	SAND, SOME CLAY
	108	127	CLAY, SOME SAND, HARDPAN LAYERS
	127	134	CLAY AND PEBBLES
	134	206	CLAY, SOME SAND, HARDPAN LAYERS
	206	226	SAND, FINE
	226	248	SAND, COARSE
	248	264	SAND, CLAYEY
	264	289	SAND, SOME LAMINATION
	289	292	CLAY, RED
	292	299	SAND, HARD-PACKED, WEATHERED ZONE
	299	316	CLAY
	316	319	HARDPAN
23- 46	0	25	NO DATA
	25	50	SAND, BROWN, YELLOW
	50	56	CLAY, WHITE
	56	96	CLAY, GRAY
	96	100	SAND, GRAY, FINE
	100	155	CLAY, BLACK

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 46	155	178	SAND, FINE, CLAYEY
	178	190	SAND, FINE AND COARSE
	190	198	SAND AND CLAY
	198	208	SAND, GRAY, COARSE
	208	219	SAND AND GRAVEL, COARSE
	219	222	SAND AND CLAY
	222	230	SAND AND GRAVEL, COARSE
	230	234	CLAY, BLACK
	234	236	SAND, FINE
	236	240	SAND, COARSE
	240	243	SAND, WITH SOME GRAVEL
	243	250	SAND AND GRAVEL
	250	255	CLAY AND SAND, RED
	255	265	CLAY OR SHALE, RED
23- 47	0	3	PEBBLES AND SAND, BROWN
	3	25	SAND, YELLOW, ORANGE
	25	48	CLAY, GRAY
	48	51	SAND
	51	59	CLAY, HARDPAN (51-53 FT)
	59	67	SAND, CLAYEY
	67	69	CLAY
	69	105	SAND, ORANGE, HARD PACKED
	105	160	SAND, WHITE, MEDIUM TO COARSE
	160	164	SAND, CLAYEY
	164	166	HARDPAN
	166	169	SAND, GRAY, HARD PACKED, LIGNITIC
	169	183	SAND, GRAY, FINE
	183	201	SAND
	201		CLAY, RED, HARD
23- 48	0	4	SOIL
	4	10	SAND AND GRAVEL
	10	20	CLAY, SANDY
	20	72	SAND AND GRAVEL, WITH HARD STREAKS (40.6-61.7 FT)
	72	83	SAND AND CLAY, SOFT
	83	181	CLAY, BLUE, HARD STREAKS (125.5-146.6 FT)
	181	189	SAND, FINE
	189	191	CLAY, BLUE
	191	199	SAND, FINE
	199	215	CLAY, BLUE
	215	237	SAND, FINE
	237	245	SAND, WHITE, COARSE
	245	253	CLAY, BLUE
	253	260	SAND, WHITE, COARSE
	260	300	CLAY, BLUE
	300	305	BEDROCK
23- 50	0	4	SOIL
	4	16	CLAY, SANDY
	16	25	SAND AND GRAVEL
	25	27	CLAY, WHITE
	27	39	SAND AND GRAVEL
	39	44	SAND, FINE, WOOD
	44	72	SAND AND GRAVEL, WHITE
	72	83	SAND, FINE, CLAYEY
	83	184	CLAY, GRAY, WITH HARD STREAKS
	184	220	SAND, GRAY, MEDIUM
	220	225	CLAY, GRAY
	225	237	SAND, WHITE, COARSE
	237	241	CLAY, GRAY
	241	270	CLAY, STREAKS OF COARSE WHITE SAND
23- 57	0	36	LOAM AND GRAVEL
	36	41	SAND AND GRAVEL
	41	49	SAND, BROWN
	49	69	CLAY, GRAY
	69	170	CLAY, DARK GRAY, BLACK, HARDPAN AND WOOD (127-133 FT)
	170	183	CLAY, BROWN
	183	187	CLAY, GRAY, SANDY
	187	192	SAND, FINE, WITH STREAKS OF CLAY
	192	197	CLAY
	197	210	SAND, COARSE, WITH FINE GRAVEL (205-210 FT)
	210	212	CLAY
	212	215	SAND, WITH STREAKS OF CLAY
	215	216	SAND, FINE
	216	232	SAND AND GRAVEL
	232	238	SAND AND GRAVEL, WITH CLAY BALLS (232-235 FT)

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 57	238	239	CLAY, WHITE
	239	241	SAND AND GRAVEL
23- 58	0	3	SOIL AND LOAM
	3	23	GRAVEL, COARSE, SOME CLAY AND HARDPAN
	23	71	CLAY, YELLOW, GRAY, SOLID
	71	76	SAND AND CLAY, GRAY, FINE
	76	81	CLAY, GRAY, SOLID
	81	107	SAND, GRAY, COARSE, SOME CLAY
	107	125	CLAY, MULTICOLORED, SOLID
	125		BEDROCK
23- 59	0	6	CLAY AND GRAVEL, YELLOW, SANDY
	6	18	SAND AND GRAVEL, YELLOW
	18	36	SAND, STREAKS OF GRAY CLAY
	36	164	CLAY, GRAY, BLUE, PYRITE STREAKS (62-164 FT)
	164	172	SAND, FINE, CLAY STREAKS
	172	199	SAND, WHITE, COARSE
	199	206	CLAY, WHITE
	206	220	SAND, WHITE, COARSE, AND GRAVEL, STREAKS OF CLAY
23- 61	0	50	SAND, YELLOW, FINE TO COARSE, CLAYEY, WITH PEBBLES (40-50 FT)
	50	102	CLAY, GRAY, SMALL PEBBLES (60-70 FT)
	102	108	SAND, GRAY, FINE TO COARSE, FEW PEBBLES (105-107 FT)
	108	114	CLAY, GRAY, WHITE, PINK
	114	151	BEDROCK (DIABASE)
23- 65	0	122	CLAY, STREAKS OF SAND AND GRAVEL, HARD STREAKS
	122	158	SAND, GRAVEL AND CLAY STREAKS, HARDPAN (138-142 FT)
	158	160	CLAY
	160		BEDROCK
23- 66	0	26	LOAM AND GRAVEL
	26	36	SAND AND GRAVEL
	36	73	SAND, YELLOW, CLAYEY
	73	105	CLAY, GRAY
	105	165	CLAY AND SAND, WITH STREAKS OF HARDPAN
	165	175	SAND, GRAY, FINE
	175	185	SAND AND CLAY, GRAY
	185	190	SAND, DARK GRAY, CLAYEY
	190	195	SAND, LIGHT GRAY
	195	200	SAND, BROWN, COARSE
	200	216	SAND AND GRAVEL, COARSE
	216	221	SAND, BROWN
	221		SAND, FINE, HARD
23- 67	0	12	NO DATA
	12	40	SAND, BROWN
	40	46	SAND AND GRAVEL
	46	51	CLAY, YELLOW, WHITE
	51	58	SAND AND GRAVEL
23- 71	0	58	SAND, YELLOW
	58	90	CLAY, BROWN
	90	97	CLAY AND SAND, BROWN
	97	100	CLAY, WHITE
	100	130	CLAY AND SAND, WHITE
	130	172	SAND, COARSE
23- 72	0	15	SAND
	15	68	CLAY
	68	78	CLAY, LIGHT BROWN
	78	97	CLAY, GRAY
	97	138	SAND
	138	149	CLAY AND SAND
	149	150	BEDROCK
23- 73	0	30	SAND AND CLAY
	30	49	SAND AND CLAY, BLACK, FINE
	49	60	SAND, WHITE, FINE
	60	82	SAND AND GRAVEL, WHITE, COARSE
23- 77	0	5	SILT, BLACK, BROKEN CLAY TILES
	5	20	CLAY, BLACK
	20	25	CLAY AND SILT, BLACK, MICACEOUS
	25	30	SAND AND SILT, GRAY, FINE TO MEDIUM
	30	35	SAND, GRAY, COARSE, SOME FINE GRAVEL
	35	40	CLAY, LIGHT GRAY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 77	40	50	SAND, MEDIUM TO COARSE
	50	60	CLAY, LIGHT GRAY, GREEN
	60	70	CLAY AND DIABASE, BLACK, WEATHERED, WITH SAND AND GRAVEL
	70	74	BEDROCK (DIABASE), BLACK, PARTLY WEATHERED, HARD
23- 79	0	5	CLAY, YELLOW, BROWN
	5	35	CLAY, GRAY, BROWN, FLAKES OF MICA
	35	53	CLAY, LIGHT GRAY, BROWN, WITH PEBBLES, KAOLINIZED
	53	69	BEDROCK (DIABASE), BLACK, GREEN, INTERBEDDED GRAY CLAY
23- 82	0	12	SAND AND GRAVEL, BROWN
	12	25	CLAY, RED
	25	38	CLAY, BROWN, WHITE, GREEN
	38	109	BEDROCK, BLACK, GREEN
23- 94	0	23	SAND, GRAY, BROWN
	23	28	SAND, WITH YELLOW CLAY STREAKS
	28	59	SAND, FINE TO MEDIUM, STREAKS OF CLAY (42-59 FT)
	59	62	SAND, BROWN, COARSE
	62	83	SAND, WHITE, MEDIUM TO COARSE
	83	124	CLAY, GRAY, SANDY, WITH GRAVEL (83-117 FT)
	124	183	CLAY, GRAY, SANDY, TOUGH, WITH HARD STREAKS
	183	199	SAND, GRAY, MEDIUM TO COARSE
	199	206	SAND AND CLAY, GRAY, LAYERED
23- 97	0	48	SAND, RED
	48	51	CLAY, TOUGH
	51	83	SAND, GRAY
	83	117	CLAY, GRAY
	117	127	SAND, WHITE, FINE
	127	180	CLAY, TOUGH, HARD STREAKS
	180	187	CLAY, FINE, SANDY
	187	198	SAND, FINE
	198	202	CLAY
	202	211	SAND, FINE TO COARSE, STREAKS OF CLAY
	211	232	CLAY
	232	260	SAND, COARSE
	260	267	CLAY, SANDY (264-267 FT)
	267	316	SAND, HARD STREAKS
	316	320	CLAY
23- 100	0	2	SOIL AND PEBBLES
	2	7	SAND, BLACK, LOAMY TO CLAYEY
	7	12	PEBBLES
	12	17	CLAY, BLACK, SILTY, WITH PEBBLES
	17	34	SAND, BLACK, GRAY, FINE TO MEDIUM, WITH PEBBLES AND MICA
	34	44	CLAY, BLACK, SILTY
	44	49	SAND, BLACK, CLAYEY
	49	51	CLAY, BROWN, BLACK, SILTY
	51	58	SAND, BLACK, FINE, CLAYEY, SOME MICA
	58	60	CLAY, GRAY, BROWN, WITH IRONSTONE
	60	69	SAND, BROWN, MEDIUM, SOME CLAY
	69	79	CLAY, BROWN, BLACK, YELLOW, SANDY (69-74 FT)
	79	84	SAND, GRAY, YELLOW, MEDIUM, SOME CLAY BALLS
	84	89	SAND AND CLAY, BROWN, GRAY
	89	102	CLAY, GRAY, BROWN, SILTY
	102	107	SAND AND CLAY, BROWN, MEDIUM
	107	111	CLAY, GRAY, SOLID
	111	115	SAND AND PEBBLES, BROWN, WITH CLAY, WATER BEARING
	115	119	CLAY, YELLOW, BROWN
	119	129	SAND, WHITE, YELLOW, COARSE, SOME IRON ROCK
	129	142	CLAY, YELLOW, BROWN, GRAY
23- 101	0	40	CLAY, GRAY, DENSE
	40	60	MARL, GREEN
	60	110	MARL AND CLAY, GRAY
	110	150	CLAY, GRAY, TRACE FINE SAND
	150	210	SAND, GRAY, FINE
	210	242	SAND, FINE, WITH WOOD
23- 107	0	13	SAND AND GRAVEL, RED
	13	30	CLAY, BLUE
	30	48	CLAY, FINE, SANDY, WITH SAND STREAKS
	48	109	SAND, GRAY, COARSE
	109	175	CLAY, BLUE, HARD STREAKS
	175	228	SAND, FINE, STREAKS OF CLAY
	228	273	CLAY
	273	289	SAND AND GRAVEL, GRAY, COARSE

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 107	289	295	CLAY AND SAND, STREAKS
	295	329	SAND AND GRAVEL, GRAY, COARSE
	329	330	CLAY
	330	345	SAND AND GRAVEL, GRAY, COARSE
	345	349	CLAY
	349	351	SHALE, HARD
	351	365	CLAY, FINE, SANDY, WITH MICA
23- 114	0	18	SAND, BROWN
	18	23	CLAY
	23	54	CLAY, SANDY, HARD (25-48 FT)
	54	101	SAND, MEDIUM
	101	167	CLAY AND SHALE
	167	172	SAND
	172	210	CLAY
	210	255	SAND, HARD
	255	256	CLAY
	256	263	SAND, WITH STREAKS OF CLAY
	263	271	SAND, COARSE
	271	274	CLAY
	274	316	SAND, COARSE
	316	325	CLAY
23- 127	0	33	SAND
	33	54	SAND AND CLAY
	54	77	SAND, SOME CLAY
	77	210	CLAY, HARD STREAKS (77-145 FT)
	210	257	SAND
	257	269	CLAY
	269	307	SAND
	307	312	CLAY
23- 131	0	4	SAND, BROWN
	4	15	SAND AND GRAVEL, YELLOW
	15	45	SAND, WHITE, FINE, CLAYEY, SOME IRON OXIDE AND LIGNITE
	45	51	SAND, WHITE, COARSE
	51	57	CLAY, GRAY, SANDY
	57	62	SAND, STREAKS OF WHITE CLAY
	62	80	SAND, WHITE, YELLOW, COARSE
	80	87	CLAY, BLUE, TOUGH
23- 132	0	22	SAND, BROWN
	22	54	CLAY
	54	87	SAND
	87	100	SAND AND CLAY
	100	147	CLAY
	147	160	SAND, FINE, CLAYEY
	160	190	CLAY
	190	230	SAND, WHITE, FINE
	230	240	CLAY
	240	271	SAND, COARSE
	271	273	CLAY, SANDY
	273	292	SAND
	292	308	SAND, SOME CLAY STREAKS
	308	345	SAND AND GRAVEL, BROWN, WHITE
	345	347	CLAY
	347		BEDROCK
23- 133	0	4	NO DATA
	4	17	SAND, GRAY
	17	39	CLAY, GRAY, BLACK
	39	119	SAND, GRAY, FINE
	119	124	CLAY, GRAY
	124	149	SAND, FINE TO COARSE
	149	173	CLAY, GRAY, HARD SPOT (154-155 FT)
	173	178	CLAY, SANDY, HARD SPOT (175-177 FT)
	178	183	SAND
	183	186	CLAY, HARD SPOT (183-184 FT)
	186	194	SAND
	194	202	CLAY, SANDY
	202	206	SAND
	206	213	CLAY
	213	223	CLAY, SANDY
	223	249	SAND
	249	256	CLAY, SANDY
	256	299	SAND
	299	317	CLAY
	317	374	SAND

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 133	374	379	BEDROCK, WEATHERED
23- 146	0	56	CLAY, GRAY
	56	75	CLAY, GRAY, SANDY
	75	119	SAND, GRAY, FINE
	119	132	SAND AND CLAY
	132	168	CLAY, STREAKS OF SAND, SOFT AND HARD SPOTS
	168	234	SAND, WHITE, FINE, COARSE, STREAKS OF CLAY
	234	241	CLAY, TOUGH
	241	251	CLAY, STREAKS OF SAND
	251	252	HARDPAN
	252	284	CLAY, SANDY, WITH STREAKS OF SAND
	284	288	CLAY, TOUGH
	288	334	CLAY, WITH STREAKS OF SAND AND HARD STREAKS
	334	384	SAND, FINE, HARD PACKED
	384	399	SAND, FINE TO COARSE
	399	407	SAND, WITH STREAKS OF CLAY
	407	425	CLAY, TOUGH
	425	430	SAND, WITH STREAKS OF CLAY
	430	459	SAND, GRAY, FINE TO COARSE
	459	463	CLAY
	463	481	SAND, MEDIUM TO COARSE
23- 154	0	25	SAND, RED
	25	35	SAND AND GRAVEL AND CLAY
	35	48	SAND AND GRAVEL
	48	57	CLAY, TOUGH
	57	67	CLAY, SANDY
	67	75	SAND, COARSE
	75	207	CLAY, TOUGH, WITH HARD STREAKS
	207	250	SAND
	250	252	CLAY
	252	268	SAND, COARSE
	268	273	CLAY
	273	276	SAND, COARSE
	276	285	CLAY, SANDY
	285	299	SAND, COARSE
	299	335	CLAY, WITH MICA
	335		BEDROCK
23- 156	0	5	SAND, BROWN, FINE
	5	42	SAND, WITH STREAKS OF CLAY
	42	69	CLAY, GRAY
	69	115	SAND, WHITE, FINE TO COARSE, COARSER WITH DEPTH
	115	136	CLAY, WITH SAND STREAKS
	136	138	HARDPAN
	138	145	CLAY, WITH SAND STREAKS
	145	155	SAND, FINE
	155	204	CLAY, GRAY, WITH STREAKS OF SAND
23- 170	0	9	SAND, RED
	9	17	SAND AND GRAVEL
	17	31	SAND AND CLAY, WHITE, COARSE
	31	77	SAND, GRAY, BROWN, YELLOW
	77	152	CLAY, BLUE, WITH HARD STREAKS
	152	158	CLAY, SANDY
	158	201	CLAY, BLUE, WITH HARD STREAKS
	201	304	SAND, GRAY, MEDIUM TO COARSE, SOME WOOD, GRAVEL (221-304 FT)
	304	317	CLAY
	317	337	MICA AND SAND, FINE, BEDROCK
23- 171	0	9	SAND, RED
	9	17	SAND AND GRAVEL
	17	31	SAND AND CLAY, WHITE, COARSE
	31	48	SAND, GRAY, BROWN
	48	77	SAND, YELLOW
	77	152	CLAY, BLUE, HARD STREAKS
	152	158	CLAY, SANDY
	158	201	CLAY, BLUE, HARD STREAKS
	201	221	SAND, GRAY, MEDIUM
	221	304	SAND AND GRAVEL, GRAY, COARSE
	304	317	CLAY
23- 176	0	2	FILL
	2	5	SOIL
	5	7	CLAY, GRAY, RIVER MUD
	7	16	CLAY, GRAY
	16	104	CLAY, SANDY, SOME GRAVEL (21-45 FT), LIGNITE (83-104 FT)

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 176	104	185	SAND, COARSE, SOME STREAKS OF CLAY
	185	306	CLAY, SANDY, SOME COARSE SAND
	306	330	SAND, COARSE, HARD PACKED, STREAKS OF CLAY
	330	348	SAND AND CLAY
	348	373	SAND, COARSE, HARD PACKED, STREAKS OF CLAY
	373	410	CLAY AND SAND
	410	418	CLAY, WHITE, SANDY
	418	446	CLAY, SMALL STREAKS OF SAND
	446	456	BEDROCK, WEATHERED
23- 179	0	1	SOIL
	1	10	SAND AND GRAVEL
	10	22	SAND, GRAY, YELLOW
	22	34	CLAY, SANDY, WITH STREAKS OF SAND
	34	40	CLAY
	40	42	SAND
	42	53	CLAY, GRAY
	53	84	SAND, STREAKS OF CLAY
	84	89	SAND
	89	92	CLAY
	92	95	SAND, COARSE
	95	107	CLAY
	107	119	CLAY, SANDY, HARD STREAK (118-119 FT)
	119	125	CLAY, SOFT
	125	146	CLAY AND SAND
	146	167	CLAY, STREAKS OF SAND AND HARD SPOTS
	167	173	CLAY, SANDY
	173	175	SAND
	175	192	CLAY
	192	194	SAND
	194	206	CLAY, SOME SAND
	206	207	SAND
	207	214	CLAY
	214	250	SAND, SOME CLAY
	250	257	CLAY, SANDY
	257	305	SAND, COARSE, SOME STREAKS OF CLAY
	305	311	CLAY, SANDY
	311	332	BEDROCK, WEATHERED
23- 191	0	20	SAND, YELLOW, FINE
	20	159	CLAY, GRAY, ALTERNATING DENSE AND SANDY LAYERS, WOOD TRACES (85-96 FT)
	159	190	SAND, WHITE, GRAY, FINE
	190	227	SAND, WATER BEARING
23- 194	0	20	CLAY, SANDY
	20	33	CLAY
	33	64	SAND, GRAY
	64	89	CLAY, BLUE
	89	104	CLAY, SANDY
	104	132	CLAY, WHITE
	132	142	SAND, RED
	142	190	CLAY, RED
	190	231	SAND, GRAY, COARSE
	231	240	CLAY
	240	281	SAND, GRAY, COARSE, SOME GRAVEL
	281	291	CLAY
23- 197	0	12	SAND, YELLOW, FINE
	12	50	SAND, YELLOW, GRAY, COARSE
	50	55	GRAVEL AND CLAY, WHITE
	55	66	CLAY, BLUE
	66	77	SAND, GRAY, COARSE
	77	100	CLAY, WHITE, STREAKS OF SAND
	100	190	CLAY, BLUE, BLACK
	190	220	SAND, BLUE, WHITE, COARSE
	220	230	CLAY, BLUE
	230	267	SAND, GRAY, WHITE, COARSE, SOME GRAVEL
	267	281	CLAY, WHITE
	281		BEDROCK
23- 201	0	21	SAND, WITH CLAY STREAKS
	21	35	CLAY, WITH SAND AND WOOD STREAKS
	35	65	SAND AND CLAY, WITH WOOD
	65	83	SAND AND GRAVEL, COARSE, WITH CLAY STREAKS
	83	105	CLAY, WITH MICA, WOOD AND PYRITE
	105	110	SAND AND GRAVEL, WITH PYRITE AND CLAY
	110	125	CLAY, WITH PYRITE AND SAND STREAKS
	125	150	SAND, WITH CLAY, WOOD AND PYRITE

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 201	150	221	CLAY, WITH HARD STREAKS
	221	238	CLAY, WITH SAND STREAKS
	238	253	SAND AND GRAVEL, SOME CLAY
	253	255	CLAY
	255	303	SAND, WITH CLAY STREAKS
	303	332	SAND AND GRAVEL, COARSE
23- 202	0	2	LOAM AND GRAVEL, SANDY
	2	3	CLAY, BLACK
	3	37	SAND, WHITE, YELLOW, FINE
	37	61	CLAY, SANDY, WITH WOOD
	61	67	CLAY, GRAY, STIFF
	67	157	SAND, FINE, WITH WOOD
	157	200	CLAY, SILTY
	200	270	CLAY, GRAY, SOME SAND (261-266 FT)
	270	288	CLAY, RED, TOUGH
	288	320	SAND, FINE TO COARSE, SLIGHTLY CLAYEY
	320	324	SAND, GRAY, LAYERS OF GRAY CLAY
23- 206	0	2	FILL
	2	15	SAND
	15	98	CLAY
	98	108	SAND, FINE
	108	185	CLAY, DARK
	185	210	SAND, COARSE
	210	355	CLAY
	355	370	SAND
	370	371	CLAY
	371	377	SAND
	377	380	CLAY
	380	397	SAND
23- 217	0	8	SAND, BROWN, WATER BEARING
	8	126	CLAY, GRAY
	126	150	SAND, WHITE, FINE, SOME CLAY AND MICA
23- 230	0	64	SAND AND GRAVEL, YELLOW
	64	68	CLAY, DARK GRAY
	68	107	CLAY, YELLOW, SANDY
	107	149	CLAY, DARK GRAY
	149	164	SAND, FINE
	164	175	SAND, MEDIUM TO COARSE
	175	182	SAND, COARSE
	182	185	CLAY
	185	204	SAND, LIGHT GRAY, MEDIUM
23- 231	0	67	GRAVEL AND SAND, YELLOW
	67	148	CLAY, GRAY
	148	190	SAND, WHITE
	190	196	SAND, YELLOW, FINE
23- 232	0	16	SAND, BROWN, MEDIUM TO COARSE
	16	21	CLAY, SANDY
	21	28	SAND, BROWN, COARSE
	28	30	CLAY
	30	36	SAND AND PEBBLES, FINE TO COARSE
	36	38	CLAY
	38	68	SAND AND CLAY, FINE TO COARSE
	68	95	SAND AND GRAVEL, MEDIUM TO COARSE
	95	101	CLAY
	101	160	SAND, FINE TO MEDIUM
	160	162	CLAY
	162	172	SAND, FINE TO COARSE
	172	187	CLAY, LAYERS OF SAND
	187	216	SAND AND GRAVEL
	216	225	CLAY AND HARDPAN
	225	239	CLAY, SANDY
	239	259	SAND, GRAVEL AND CLAY
	259	265	CLAY
	265	315	SAND AND GRAVEL
	315	317	SAND AND CLAY
	317	328	SAND AND GRAVEL
	328	345	CLAY
	345	357	BEDROCK, WEATHERED
23- 236	0	4	FILL, BRICK AND DEBRIS
	4	15	CLAY, DARK, STICKY
	15	60	CLAY, BLACK, GRAY, SANDY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 236	60	82	CLAY, HARD
	82	105	SAND AND GRAVEL
	105	120	SAND, GRAY, FINE
	120	150	CLAY, GRAY
	150	240	SAND, GRAY, FINE, WOOD (150-180 FT)
	240	255	SAND, GRAY, COARSE
	255	330	SAND, GRAY, FINE, SOME CLAY AND HARDPAN
	330	355	HARDPAN, BROWN, SOME SAND
	355	365	SAND, HARD PACKED
	365	390	SAND, FINE, CLAY STREAKS
	390	495	SAND AND GRAVEL, CLAY STREAKS (420-435 FT)
	495	525	CLAY AND SAND AND GRAVEL
23- 238	0	1	SOIL
	1	35	CLAY, YELLOW
	35	90	SAND AND CLAY, YELLOW, FINE
	90	128	CLAY, YELLOW, GRAY, WHITE
	128	185	SAND, WHITE, YELLOW
	185	195	CLAY, WHITE
	195	214	SAND, BROWN
	214	265	CLAY, WHITE
	265	315	SAND AND CLAY, GRAY, WHITE, YELLOW
	315	367	SAND AND GRAVEL, STREAKS OF WHITE CLAY
23- 241	0	65	NO DATA
	65	76	SAND, GRAY, FINE
	76	95	CLAY, BLACK
	95	100	CLAY, GRAY, SOME COARSE SAND
	100	106	SAND, COARSE
23- 244	0	12	NO DATA
	12	65	CLAY, GRAY
	65	95	SAND, GRAY, FINE, SOME ROCK
	95	120	CLAY, DENSE, LAYERED
	120	148	SAND AND CLAY
	148	158	SAND, WITH WOOD
23- 245	0	4	CLAY, YELLOW, BROWN, SANDY
	4	17	SAND, GRAY, WHITE, FINE
	17	42	CLAY, YELLOW, BROWN, SANDY, WITH SAND LAYERS
	42	97	CLAY, GRAY, SOME SAND LAYERS
	97	118	SAND, WHITE, FINE TO COARSE
	118	125	CLAY, GRAY
	125	150	SAND, COARSE, CLAY LAYERS
	150	152	CLAY
	152	160	SAND, FINE TO COARSE
	160	162	SAND, FINE TO MEDIUM, SOME CLAY
	162	163	CLAY, GRAY
23- 255	0	3	SAND AND GRAVEL
	3	10	GRAVEL AND CLAY
	10	14	CLAY
	14	17	CLAY AND GRAVEL
	17	27	CLAY
	27	30	CLAY AND SAND AND GRAVEL
	30	36	CLAY
	36	49	SAND AND GRAVEL AND CLAY, STREAKS OF PYRITE
	49	69	SAND, COARSE
	69	76	HARD FORMATION
23- 260	0	67	CLAY, BROWN, DARK GRAY
	67	78	CLAY, GRAY, LITTLE WATER
	78	98	SAND, WITH FINE GRAY CLAY AND STREAKS OF LIGNITE
	98	122	SHALE, RED
	122	134	ROCK, BROWN, SOFT
	134	146	SHALE, RED, GRAY
	146	350	ROCK, GRAY, HARD, BROKEN ZONES (204-205 AND 240-242 FT)
	350	420	ROCK, GRAY TO BLACK, HARD
23- 265	0	4	FILL
	4	7	CLAY, GRAY, SOME FILL
	7	14	CLAY, BROWN
	14	19	CLAY, REDDISH BROWN, SOME PEBBLES
	19	20	SAND, BROWN, FINE, WITH SOME CLAY
	20	23	CLAY, REDDISH BROWN, SOME GRAVEL
	23	26	GRAVEL, MEDIUM, WITH FINE SAND AND CLAY
	26	32	CLAY, GRAY
	32	39	CLAY, WHITISH GRAY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 265	39	52	CLAY, BLACK
	52	62	SAND, WHITE, MEDIUM, WITH CLAY
	62	70	SAND, WHITE, MEDIUM, WITH SOME CLAY
	70	74	CLAY, WHITE, CLEAN
	74	83	CLAY, GREEN, HARD
	83	85	CLAY, GREEN, WITH SOAPSTONE
	85	94	SOAPSTONE, AND GRAY GRAVEL
23- 273	0	9	LOAM, RED, SANDY, SMALL COBBLES (5-9 FT)
	9	20	SAND, YELLOW, MEDIUM, SMALL COBBLES (11-12 FT)
	20	35	SAND AND GRAVEL
	35	75	SAND, FINE TO MEDIUM, SMALL CLAY LAYER (49 FT)
	75	78	SAND AND GRAVEL
	78	80	CLAY, LIGHT YELLOW, GRAY, SOME SILTY SAND
23- 291	0	9	CLAY AND SAND, YELLOW, FINE
	9	15	SAND, BROWN, FINE TO MEDIUM, CLAYEY
	15	48	SAND, RED, BROWN, FINE TO MEDIUM
	48	59	CLAY, DARK BROWN, SANDY
	59	83	CLAY, BLACK
	83	164	SAND, GRAY, BROWN, FINE TO COARSE
	164	169	CLAY, RED
	169	212	SAND, FINE TO MEDIUM
	212		CLAY, RED, HARD, SOME GRAVEL AND PEBBLES
23- 293	0	6	CLAY, ORANGE, SANDY
	6	56	SAND AND CLAY, ORANGE, FINE TO MEDIUM, SOME GRAVEL (47-56 FT)
	56	71	CLAY AND SAND, , GRAY, YELLOW, SILTY
	71	74	SAND, TAN, FINE TO MEDIUM, SOME FINE GRAVEL
	74	82	SAND AND GRAVEL, WHITE, IRON STAINED
	82	85	GRAVEL, FINE, SOME WHITE MEDIUM SAND
	85	93	SAND, WHITE, TAN, MEDIUM TO COARSE
	93	108	SAND AND GRAVEL, WHITE,
	108	132	CLAY, GRAY, ALTERNATING SANDY AND HARD LAYERS
	132	134	CLAY AND SAND, GRAY
	134	140	SAND, TAN, FINE, WITH IRON, SHELVES OF SANDSTONE
	140	160	CLAY, DARK GRAY, BLACK
	160	180	CLAY, GRAY, SOME SAND
	180	184	CLAY, LIGHT GRAY
	184	189	CLAY AND SAND, DARK GRAY, FINE
	189	195	SAND, GRAY, FINE TO COARSE, SOME CLAY
	195	200	SAND AND GRAVEL, COARSE
	200	220	CLAY, GRAY, WHITE, YELLOW, SANDY
	220	230	SAND, FINE TO COARSE, CLAYEY, SOME GRAVEL
	230	242	SAND AND GRAVEL AND CLAY, WHITE
	242	246	CLAY, RED, MICACEOUS, SOME GRAVEL
23- 297	0	83	CLAY, RED, BROWN, SANDY
	83	144	CLAY, GRAY, SANDY
	144	150	CLAY, GRAY
	150	168	CLAY, GRAY, WITH SOME BROWN SAND
	168	175	SAND, COARSE
	175	180	CLAY, WHITE, SANDY
	180	185	SAND, FINE AND COARSE
	185	200	CLAY, SANDY
	200	207	CLAY
23- 300	0	50	SAND AND GRAVEL, YELLOW
	50	85	SAND, FINE TO COARSE
	85	90	CLAY, WHITE
	90	119	SAND, WHITE, FINE, SOME WHITE CLAY (100-107 FT)
	119	132	SAND, YELLOW, COARSE
	132	135	SAND AND CLAY
	135	156	CLAY, WHITE, SOME SAND (146-150 FT)
	156	168	CLAY, DARK
	168	195	SAND, WHITE, SOME CLAY
	195	212	CLAY, GRAY
	212	221	SAND, WHITE, SOME CLAY
	225	227	SAND, WHITE
	227	228	CLAY, DARK
	228	234	SAND, WHITE
	234	236	CLAY
	236	255	SAND, WHITE, COARSE, SOME CLAY (241 FT)
	255	259	SAND, FINE
	259	298	SAND, COARSE
	298	301	CLAY
23- 302	0	20	SOIL AND SAND

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 302	20	32	SAND, YELLOW
	32	52	SAND, WHITE, YELLOW, FINE
	52	72	SAND, YELLOW, COARSE
	72	87	CLAY, GRAY
	87	104	SAND AND CLAY, WHITE, FINE
	104	116	CLAY, GRAY
	116	132	SAND, WHITE, YELLOW, FINE
	132	146	CLAY, GRAY
	146	164	SAND, YELLOW, FINE TO COARSE
	164	169	CLAY, YELLOW
	169	180	SAND, YELLOW, MEDIUM TO COARSE
	180	185	CLAY, YELLOW, GRAY
	185	200	SAND, YELLOW, WHITE, COARSE
	200	210	CLAY, YELLOW, RED
23- 315	0	38	SAND AND GRAVEL, STREAKS OF CLAY
	38	48	CLAY, GRAY
	48	54	BOULDERS
	54	73	CLAY, RED, GRAY
	73	83	CLAY, WHITE, HARD
	83	92	CLAY, RED, SANDY
	92	117	SAND, COARSE, STREAKS OF CLAY
	117	138	SAND, COARSE
	138	142	CLAY AND GRAVEL
23- 319	0	1	SOIL
	1	2	SAND AND GRAVEL, GRAY
	2	19	CLAY, GRAY, BROWN, PARTLY SANDY
	19	24	SAND AND GRAVEL, WHITE
	24	33	CLAY, BROWN, WHITE
	33	49	SAND AND GRAVEL, WHITE
	49	64	CLAY, WHITE, YELLOW, SANDY
	64	73	CLAY, WHITE, BLACK, BROWN, SOME WOOD
	73	77	SAND AND GRAVEL
	77	86	CLAY, WHITE
	86	93	SAND AND GRAVEL, WHITE, STREAKS OF CLAY
	93	95	CLAY, WHITE
	95	101	GRAVEL, WHITE, STREAKS OF CLAY
	101	106	CLAY, WHITE
	106	138	SAND AND GRAVEL, WHITE, STREAKS OF CLAY
23- 322	0	8	CLAY, SANDY
	8	116	SAND AND GRAVEL, YELLOW, WHITE, WITH CLAY (82-116 FT)
	116	118	CLAY
23- 327	0	20	SAND AND GRAVEL AND CLAY, BROWN
	20	39	SAND AND GRAVEL, BROWN
	39	40	CLAY, YELLOW
	40	41	BEDROCK, BLACK
23- 332	0	24	SAND, YELLOW
	24	26	SAND, YELLOW, FINE
	26	80	SAND, YELLOW
	80	125	CLAY, GRAY, SOLID
	125	160	SAND AND CLAY, WHITE, FINE
	160	170	CLAY, WHITE
	170	178	SAND, WHITE, FINE
	178	208	SAND AND GRAVEL, COARSE
	208	240	CLAY, RED
23- 365	0	75	CLAY, BLUE
	75	77	SAND
	77	118	CLAY, BLUE
	118	132	SAND, WATER BEARING
	132	152	CLAY
	152	198	SAND
23- 370	0	15	SAND
	15	25	SAND AND GRAVEL
	25	56	CLAY, HARD STREAK (47-50 FT)
	56	58	GRAVEL
	58	75	CLAY
	75	77	BOULDERS AND SAND
	77	159	CLAY, TOUGH
	159	194	SAND, COARSE, WITH FINE GRAVEL
	194	206	CLAY, TOUGH
23- 376	0	21	SAND, RED

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 376	21	43	SAND, CLAYEY
	43	60	CLAY
	60	83	SAND, COARSE
	83	112	CLAY
	112	141	SAND, STREAKS OF CLAY
	141	173	CLAY
	173	227	SAND AND GRAVEL, COARSE
	227	241	CLAY, RED, HARD
23- 377	0	7	SAND
	7	12	CLAY, SANDY
	12	54	SAND AND GRAVEL, CLAY STREAKS
	54	69	CLAY, WHITE
	69	149	CLAY, GRAY
	149	167	CLAY, FINE, SANDY
	167	175	CLAY, GRAY
	175	190	SAND, FINE
	190	202	SAND AND GRAVEL
	202	212	CLAY, GRAY
	212	225	SAND AND GRAVEL
	225	234	SAND, GRAVEL AND CLAY STREAKS
	234	254	CLAY, WHITE, RED
23- 379	0	8	SAND
	8	11	CLAY
	11	12	SAND
	12	62	CLAY, WITH STREAKS OF SAND
	62	66	SAND AND CLAY
	66	100	CLAY, WITH STREAKS OF CONSOLIDATED SAND
	100	114	SAND, COARSE
	114	115	CLAY
	115	125	SAND, GRAY, COARSE
	125	138	SAND, BROWN, COARSE, WITH STREAKS OF CLAY
	138	157	SAND, GRAY, COARSE, SOME WOOD
	157	179	SAND AND GRAVEL, COARSE
	179	187	SAND AND GRAVEL, COARSE, HARD CLAY STREAKS
	187	198	SAND AND GRAVEL, COARSE
	198	204	CLAY AND GRAVEL, HARDPAN
	204	214	CLAY
	213	218	BEDROCK
23- 380	0	10	FILL
	10	20	SOIL
	20	25	CLAY AND GRAVEL
	25	55	CLAY, WHITE, HARD
	55	178	CLAY, RED, SANDY
	178	188	SAND AND GRAVEL
	188	189	CLAY, RED
	189	235	SAND AND GRAVEL, COARSE
	235	275	SOAPSTONE, HARD
	275	285	SAND AND GRAVEL
	285	322	SHALE, RED, WITH SOFT ROCK
23- 386	0	19	SAND AND GRAVEL, YELLOW
	19	50	SAND, COARSE, STREAKS OF CLAY
	50	60	CLAY
	60	71	CLAY, SANDY
	71	113	SAND, FINE TO COARSE
	113	122	CLAY, SANDY
	122	143	SAND, COARSE, STREAKS OF CLAY (132-143 FT)
	143	165	CLAY, BLUE, TOUGH
	165	218	CLAY, BLUE, SANDY, SOFT
	218	225	SAND, FINE
	225	246	CLAY, RED, TOUGH
	246	318	SAND, BLUE, COARSE
	318	359	CLAY, BROWN, TOUGH
	359	370	SAND AND ROCK, RED
23- 391	0	25	SAND AND GRAVEL, YELLOW
	25	42	CLAY, WHITE, HARD
	42	64	CLAY, SOFT, WITH BOULDERS
	64	107	SAND AND BOULDERS, STREAKS OF CLAY
	107	129	CLAY
	129	140	CLAY, SANDY
	140	151	SAND, HARD PACKED
	151	172	SAND, COARSE, WITH STREAKS OF CLAY
	172	178	CLAY
	178	193	SAND, COARSE, HARD

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 391	193	225	SAND AND GRAVEL, COARSE
	225	235	CLAY, RED
23- 395	0	12	SAND, YELLOW
	12	33	CLAY, GRAY
	33	41	CLAY, GRAY, SANDY
	41	127	CLAY, GRAY,
	127	130	SAND, FINE, SOME WATER
	130	132	SAND, YELLOW, COARSE
	132	161	CLAY, BLUE, GRAY, SOFT
	161	165	SAND, WHITE, FINE
	165	176	SAND, FINE TO COARSE, SOME CLAY
23- 396	0	28	CLAY, GRAY, TOUGH
	28	30	CLAY AND SAND, WHITE, FINE
	30	47	CLAY, GRAY, HARDPAN (36-38 FT)
	47	72	CLAY, SANDY
	72	89	SAND
	89	96	CLAY, GRAY
	96	104	SAND
	104	107	CLAY, WHITE, WITH GREEN MINERAL
	107		BEDROCK
23- 397	0	14	CLAY AND SAND, YELLOW, TILL
	14	20	CLAY, YELLOW
	20	120	CLAY, BLUE, HARD STREAKS
	120	146	SAND, COARSE, HARD
	146	148	CLAY, BLUE
	148	179	SAND, GRAY, COARSE
	179	183	CLAY, BLUE
	183	195	SAND, GRAY, COARSE
	195	211	CLAY, RED
23- 399	0	20	SAND AND GRAVEL
	20	30	SAND AND GRAVEL, RED, FINE
	30	50	CLAY, WHITE, SANDY
	50	68	SAND, WHITE, FINE
	68	82	SAND AND GRAVEL, WHITE, FINE
	82	98	SAND, WHITE, FINE, WITH CLAY BALLS
	98	189	CLAY, BLUE, WITH PYRITE (157-160 AND 170-172 FT)
	189	196	CLAY, BLUE, SANDY
	196	213	SAND, GRAY, MEDIUM
	213	246	SAND, GRAY, COARSE
	246	257	CLAY AND ROCK, SANDY
	257		BEDROCK
23- 404	0	30	SAND, WHITE, FINE
	30	48	CLAY, YELLOW, SANDY
	48	89	SAND, CLAYEY
	89	99	SAND, CEMENTED, HARDPAN (89-90 FT)
	99	110	SAND
	110	153	CLAY, GRAY, SANDY, CEMENTED (135-136 AND 141-153 FT)
	153	160	SAND, WITH MICA AND LIGNITE
	160	171	SAND, HARD PACKED
	171	172	HARDPAN
	172	184	SAND, CEMENTED
	184	197	SAND, FINE, CLAYEY, HARD PACKED
	197	230	SAND
	230	251	SAND, FINE TO MEDIUM
	251	255	CLAY
	255	289	SAND, FINE TO MEDIUM
	289	291	HARDPAN
	291	313	BEDROCK OR WEATHERED ZONE
23- 408	0	4	FILL
	4	14	CLAY, GRAY, SOLID
	14	43	CLAY, GRAY, SOLID, WITH LAYERS OF SANDY CLAY
	43	53	SAND, GRAY, FINE
	53	58	SAND, GRAY, FINE, WITH SANDY CLAY
	58	67	SAND AND CLAY, MULTICOLORED, FINE
	67	71	SAND, GRAY, FINE
	71	75	SAND, DARK GRAY, MEDIUM TO COARSE, WITH SANDY CLAY
	75	86	CLAY, GRAY, SOME FINE SAND
	86	93	CLAY, GRAY, SOLID
	93	107	SAND, GRAY, FINE TO COARSE
	107	116	SAND AND CLAY, GRAY, ALTERNATING LAYERS
	116	122	SAND, GRAY, COARSE
	122	239	CLAY, GRAY, LAYERS OF SANDY CLAY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 408	239	258	SAND AND CLAY, GRAY, ALTERNATING LAYERS, WITH LIGNITE
	258	278	SAND, GRAY, FINE TO COARSE
	278	299	CLAY, BLUE, GRAY, WITH LAYERS OF SANDY CLAY, LIGNITIC
	299	308	CLAY, MULTICOLORED, HARD
23- 409	0	37	SAND, RED, WHITE, COARSE
	37	46	CLAY, RED, WHITE
	46	64	SAND, RED, FINE
	64	75	SAND, RED, WHITE, COARSE
	75	106	CLAY, WHITE, BLUE
	106	134	CLAY, RED, PYRITE (115-117 FT)
	134	195	CLAY, BLUE
	195	198	SAND
	198	201	CLAY
	201	229	SAND
	229		CLAY
23- 410	0	4	FILL, BRICKS, CLAY, SAND, DIRT
	4	15	CLAY, GRAY, BLACK, RIVER FILL
	15	32	SAND, BROWN
	32	79	SAND
	79		BEDROCK
23- 411	0	9	NO DATA
	9	59	SAND AND CLAY, WHITE, BROWN
	59	64	SAND, CLAYEY
	64	115	CLAY, SANDY
	115	172	CLAY AND HARD STREAKS
	172	174	SAND
	174	180	CLAY, TOUGH
	180	183	SAND
	183	191	CLAY
	191	196	SAND, COARSE
	196	198	CLAY
	198	233	SAND AND GRAVEL, WHITE
	233	241	CLAY, TOUGH
23- 421	0	39	SAND AND GRAVEL, BROWN
	39	69	CLAY AND GRAVEL
	69	97	CLAY, BLUE, HARD
	97	122	SAND, BROWN, COARSE
	122	158	CLAY, BLUE, SANDY
	158	161	SAND AND BOULDERS
	161	196	CLAY, BLUE, TOUGH
	196	198	SAND AND BOULDERS
	198	240	CLAY, BLUE, TOUGH, SAND STREAKS (213-220 FT)
	240	242	SAND
	242	244	CLAY, BLUE
	244	282	SAND, GRAY, COARSE, WATER BEARING
	282	287	CLAY, BLUE, TOUGH
	287	330	CLAY, RED, HARD
	330	332	CLAY AND SHALE, RED
	332	334	SHALE, RED, HARD
23- 424	0	10	SAND AND GRAVEL, YELLOW, BROWN, CLAYEY
	10	18	SAND, YELLOW, BROWN, CLAYEY
	18	30	CLAY, GRAY, MICACEOUS
	30	100	CLAY, GRAY, SANDY
	100	105	SAND, FINE TO MEDIUM, WITH PYRITE GRAINS
	105	115	SAND, GRAY, FINE TO COARSE, SLIGHTLY CLAYEY
	115	118	CLAY, PINK, GRAY, SANDY
	118	123	CLAY, RED, GREEN
	123	129	CLAY, RED, GREEN, SOME SAND AND DECOMPOSED BEDROCK (FELDSPAR RICH)
23- 430	0	4	FILL, SOIL
	4	10	SAND AND CLAY
	10	37	SAND, YELLOW, WHITE, FINE
	37	42	SAND AND GRAVEL, YELLOW, COARSE
	42	48	GRAVEL, COARSE
	48	71	CLAY, GRAY, WHITE, STIFF, IRON ROCK (55-57 AND 70-71 FT)
	71	82	CLAY, GRAY, STREAKS OF WHITE SAND
	82	124	CLAY, WHITE, GRAY, BLACK, WITH IRON ROCK
	124	127	CLAY, GRAY, STIFF
	127	138	SAND, WHITE, FINE
	138	139	CLAY, GRAY
	139	146	SAND, WHITE, MEDIUM
	146	162	CLAY, SANDY, WITH STREAKS OF SAND
	162	166	SAND, WHITE, MEDIUM

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 430	166	168	CLAY, WHITE
	168	175	CLAY, RED, STIFF
	175	178	CLAY, WHITE, SANDY
	178	230	CLAY, RED
23- 438	0	2	FILL
	2	18	SAND, BROWN, GRAY
	18	80	CLAY, GRAY, ALTERNATING HARD AND SOFT LAYERS
	80	82	SAND, WITH LIGNITE
	82	116	SAND AND CLAY, CEMENTED
	116	161	SAND, GRAY, MEDIUM
	161	162	CLAY, WHITE
	162	178	SAND, GRAY, MEDIUM
	178	180	CLAY, WHITE
	180	181	SAND, GRAY
	181	196	CLAY, GRAY
	196	203	CLAY, RED
23- 439	0	1	SOIL
	1	5	CLAY, SANDY
	5	11	SAND, CLAYEY
	11	25	CLAY, GRAY, SANDY, WITH HARD SPOTS
	25	114	CLAY, GRAY, SOME HARD SPOTS AND SAND LAYERS
	114	128	SAND, FINE, CLAYEY
	128	136	CLAY
	136	146	SAND, FINE TO COARSE, SOME WHITE CLAY
	146	162	CLAY
	162	164	SAND
	164	181	CLAY, RED
23- 442	0	10	CLAY AND SAND, WHITE
	10	16	SAND, WHITE
	16	20	SAND, WHITE, WITH WOOD
	20	25	SAND, BROWN, WHITE
	25	29	CLAY, GRAY, WITH WOOD
	29	33	SAND
	33	35	CLAY, WITH LIGNITE
	35	38	CLAY AND SAND, WITH LIGNITE
	38	40	SAND, COARSE, SOME PEBBLES AND LIGNITE
	40	43	SAND AND CLAY, WHITE, FINE TO MEDIUM
	43	54	SAND, MEDIUM TO COARSE
	54	62	CLAY AND SAND, GRAY, FINE
	62	76	SAND, MEDIUM TO COARSE
	76	78	SAND AND CLAY, COARSE
	78	82	CLAY AND GRAVEL, WHITE, WITH LIGNITE
	82	89	CLAY, GRAY
23- 443	0	3	NO DATA
	3	5	GRAVEL
	5	15	GRAVEL AND SAND
	15	30	SAND AND CLAY, GRAY, MEDIUM TO COARSE
	30	43	SAND, GRAY, FINE, SILTY
	43	60	CLAY AND SANDY, GRAY, FINE
	60	70	GRAVEL AND SAND, COARSE, SILTY
	70	79	SAND, COARSE
	79	99	CLAY, GRAY
23- 445	0	15	SAND, BROWN, BLACK, PEBBLES (8-15 FT)
	15	19	SAND, CLAYEY, WITH WOOD
	19	56	SAND, GRAY
	56	66	CLAY, WHITE
	66	79	SAND AND GRAVEL
	79	127	CLAY, WHITE, GRAY, HARD, HARDPAN (102-103 FT)
	127	152	CLAY, GRAY, WITH LAYERS OF SAND
	152	153	HARDPAN
	153	193	CLAY, GRAY, SANDY (156-157 AND 186-193 FT)
	193	242	SAND, MEDIUM, SOME CLAY
	242	243	CLAY, HARD
	243	253	CLAY, SANDY
	253	277	SAND, WHITE, COARSE
	277	301	SAND, STREAKS OF HARD CLAY, HARD PACKED (299-301 FT)
	301	316	CLAY
	316	324	SAND
	324	328	WEATHERED ZONE
23- 453	0	18	SAND, YELLOW, STREAKS OF CLAY
	18	81	SAND, YELLOW, COARSE, SOME GRAVEL
	81	229	CLAY, BLUE

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 453	229	269	SAND AND CLAY, STREAKS
	269	284	SAND, COARSE, SOME GRAVEL
	284	312	CLAY, BLUE
	312	354	CLAY, GREEN, STREAKS OF SILICA AND MICA
	354		BEDROCK, HARD
23- 462	0	4	FILL AND SILT AND SAND AND BOULDERS
	4	10	SILT AND CLAY, GRAY
	10	19	SAND AND GRAVEL, RED, BROWN, STREAKS OF CLAY
	19	40	SAND, GRAY, FINE TO MEDIUM
	40	62	SAND AND GRAVEL, LIGHT GRAY, FINE TO COARSE
	62	73	CLAY AND SHALE, GRAY
23- 479	0	50	CLAY AND SAND AND GRAVEL, RED
	50	54	SAND, MEDIUM TO COARSE, SOME CLAY
	54	62	CLAY, LIGHT GRAY
	62	65	SAND, MEDIUM TO COARSE, CLAYEY
	65	80	SAND, COARSE, SHALE FRAGMENTS
	80		SHALE, GREEN, GRAY
23- 501	0	2	SOIL
	2	10	CLAY, YELLOW, SANDY
	10	20	SAND, YELLOW, MEDIUM TO COARSE
	20	40	SAND, YELLOW, STREAKS OF WHITE, YELLOW CLAY
	40	60	CLAY AND SAND AND GRAVEL, GRAY
	60	70	CLAY, GRAY, STREAKS OF GRAVEL AND LIGNITE
	70	154	CLAY, WHITE, GRAY, SANDY, LIGNITIC
	154	175	SAND AND GRAVEL, GRAY, MEDIUM TO COARSE, STREAKS OF CLAY
	175	178	CLAY, GRAY, HARD
23- 503	0	17	SAND, YELLOW, SOME GRAVEL
	17	151	CLAY, GRAY
	151	215	SAND AND CLAY
	215	300	SAND, FINE
	300	395	CLAY
	395	440	SAND
23- 504	0	1	SOIL
	1	64	SAND AND PEBBLES
	64	71	CLAY, YELLOW, RED
	71	101	SAND AND CLAY
	101	104	CLAY
	104	119	SAND
	119	131	CLAY, GRAY
	131	155	SAND, COARSE
	155	175	CLAY AND SAND
	175	186	SAND, COARSE
	186	220	CLAY AND SAND, WHITE
	220	239	CLAY, GRAY, HARD
	239	256	SAND AND CLAY
	256	290	CLAY, HARD
	290	313	SAND, COARSE
	313	325	CLAY, GRAY, WHITE
	325	340	SAND, COARSE
	340	365	WEATHERED BEDROCK
23- 505	0	1	SOIL
	1	15	SAND AND GRAVEL, RED, MEDIUM TO COARSE, SOME CLAY
	15	28	SAND, TAN, FINE, SOME GRAVEL AND ROCK
	28	29	SAND, TAN, FINE TO COARSE, WITH GRAVEL, CLAY AND IRON
	29	41	CLAY, BROWN, GRAY
	41	43	SAND, WHITE, FINE TO COARSE, WITH GRAY CLAY LAYERS
	43	82	SAND, TAN, FINE TO COARSE, WITH GRAVEL AND IRON RICH CLAY (60 FT)
23- 506	0	85	SAND, YELLOW
	85	115	SAND, DARK GRAY
	115	170	CLAY, WHITE
	170	190	CLAY, DARK
	190	195	SAND, FINE
	195	215	CLAY
	215	225	SAND, WATER BEARING
	225	230	CLAY, WHITE
	230	255	CLAY, RED
	255		BEDROCK, RED
23- 510	0	62	SAND AND GRAVEL, ORANGE, BROWN, SILTY
	62	68	CLAY, YELLOW, BROWN, GRAY, LITTLE SAND

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 527	0	17	CLAY AND BOULDERS
	17	225	BEDROCK, DARK GRAY
	225	705	BEDROCK, LIGHT GRAY
23- 553	0	42	SAND, YELLOW, FINE TO COARSE, TRACE SILT, CLAY AND GRAVEL
	42	49	CLAY, YELLOW, SILTY, SOME SAND
	49	60	SAND, YELLOW, BROWN, FINE TO COARSE, TRACE SILT AND CLAY
	60	70	GRAVEL, YELLOW, WHITE, FINE, TRACE SAND AND SILT
	70	82	SAND, YELLOW, FINE TO COARSE, SOME CLAY AND SILT
	82	112	SILT, YELLOW, BROWN, CLAYEY, TRACE FINE SAND AND MICA
	112	222	SAND, GRAY, YELLOW, FINE TO MEDIUM, TRACE SILT AND CLAY
	222	261	SILT, YELLOW, GRAY, FINE, SANDY, CLAYEY
	261	280	SAND, GRAY, FINE, LITTLE FINES
	280	297	SILT, GRAY, LITTLE CLAY AND FINE SAND
	297	325	SAND, YELLOW, BROWN, GRAY, FINE TO MEDIUM, SOME SILT AND CLAY
	325	333	SILT, LIGHT GRAY, SANDY, LITTLE CLAY
	333	342	SAND, YELLOW, GRAY, MEDIUM, TRACE SILT
	342	389	SAND, YELLOW, GRAY, MEDIUM, LITTLE SILT AND CLAY
	389	396	SAND AND GRAVEL, LIGHT GRAY, LITTLE SILT
	396	403	CLAY, BROWN, SILTY
	403	422	SAND, YELLOW, GRAY, MEDIUM TO COARSE, TRACE SILT, CLAY AND GRAVEL
	422	464	CLAY, GRAY, WHITE, KAOLINITIC, SOME SILT AND SAND, HARD
23- 573	0	8	FILL
	8	22	CLAY AND GRAVEL, YELLOW
	22	83	CLAY, GRAY, SANDY, HARD, WITH SOFT STREAKS
	83	93	CLAY, SANDY
	93	95	SAND, FINE, PACKED, WITH CLAY
	95	105	SAND, GRAY, FINE TO MEDIUM, WITH GRAVEL
	105	120	CLAY, GRAY, SANDY, WITH HARD STREAKS
23- 574	0	21	SAND, BROWN, FINE TO MEDIUM
	21	28	SAND, BROWN, FINE, WITH LAYERS OF SILTY CLAY AND WOOD
	28	123	CLAY, GRAY, SILTY, WITH LAYERS OF FINE SAND AND WOOD
	123	135	SAND, LIGHT GRAY, BROWN, COARSE
	135	140	CLAY, GRAY, SILTY
23- 576	0	10	FILL
	10	19	FILL (RIVER MUD)
	19	23	SAND, BROWN
	23	30	CLAY, GRAY
	30	70	SAND AND GRAVEL, CLAYEY
	70	97	SAND, FINE, CLAYEY
	97	103	SAND, FINE TO COARSE
	103	122	CLAY, GRAY
	122	135	CLAY, BLACK
	135	146	SAND AND CLAY, FINE, HARD PACKED
	146	148	CLAY, BLACK
	148	153	SAND
	153	165	CLAY, RED, WHITE
23- 577	0	7	SAND, BROWN, FINE TO MEDIUM, TRACE GRAVEL AND BRICK
	7	16	SAND, RED, BROWN, FINE TO MEDIUM, TRACE SILT AND GRAVEL
	16	18	SAND, BLACK, FINE TO MEDIUM, SOME CLAY, SILT AND PLANT MATTER
	18	26	CLAY, BLACK, SILTY, ORGANIC, SOME PEAT, TRACE SAND
	26	28	SAND, GRAY, FINE TO MEDIUM, TRACE SHELLS AND SILT
	28	59	SAND, RED, BROWN, FINE TO MEDIUM, SOME GRAVEL, SILT AND CLAY
	59	61	BEDROCK (DIABASE AND SANDSTONE)
23- 578	0	6	SAND, BROWN, FINE, DENSE, TRACE GRAVEL AND SILT
	6	20	SAND, RED, BROWN, FINE TO MEDIUM, TRACE GRAVEL, SILT AND CLAY
	20	51	SAND, RED, BROWN, FINE TO MEDIUM, TRACE GRAVEL AND SILT
	51	64	SAND, BROWN, GRAY, FINE TO MEDIUM
	64	76	CLAY, GRAY, SILTY, WEATHERED DIABASE (75-75.5 FT)
23- 580	0	8	CLAY, RED, SANDY
	8	25	SAND, BROWN, FINE TO COARSE, WITH STREAKS OF WHITE CLAY
	25	38	SAND, WHITE, FINE TO MEDIUM, STREAKS OF WOOD AND WHITE CLAY
	38	65	SAND AND GRAVEL, WHITE, COARSE
	65	85	CLAY, WHITE, TOUGH
23- 582	0	2	SAND AND FILL
	2	14	SAND AND SANDSTONE
	14	20	CLAY, WHITE
	20	46	SAND, WHITE, MEDIUM
	46	52	CLAY, WHITE
	52	68	SAND, TAN
	68	85	CLAY, GRAY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 584	0	18	SAND, BROWN, FINE
	18	22	CLAY, BLACK, SILTY
	22	31	SAND, GRAY, MEDIUM, WITH WOOD
	31	33	CLAY, GRAY
	33	55	CLAY, GRAY, WITH LAYERS OF FINE GRAY SAND
	55	131	CLAY, GRAY
	131	155	CLAY, GREEN, WITH BLACK SAND
	155	207	CLAY, BLACK
	207	215	SAND, GRAY, FINE, WITH LIGNITE AND CLAY
	215	240	SAND, GRAY, MEDIUM, SOME LIGNITE AND FINE SAND
23- 585	0	3	SAND, BROWN, FINE
	3	18	SAND AND GRAVEL, BROWN, MEDIUM TO COARSE
	18	48	CLAY, YELLOW, BROWN, DARK GRAY, SILTY
	48	61	CLAY AND WOOD, GRAY
	61	73	SAND, BROWN, MEDIUM TO COARSE
	73	75	SAND AND CLAY, BROWN
	75	80	SAND, BROWN, COARSE
	80	83	CLAY AND SAND, BROWN
	83	93	CLAY, WHITE, GRAY
	93	111	SAND, BROWN, MEDIUM
	111	112	CLAY, YELLOW
	112	145	CLAY, GRAY, SILTY
	145	155	SAND, BROWN, WITH CLAY
	155	195	CLAY, GRAY, WITH WOOD
	195	200	CLAY, WHITE
	200	213	CLAY, GRAY, SILTY
	213	232	SAND, GRAY, BROWN, FINE, WITH CLAY AND WOOD
	232	248	SAND AND GRAVEL, GRAY, BROWN, COARSE
23- 587	0	20	NO DATA
	20	25	CLAY, GREEN
	25	85	CLAY, GRAY, WITH WHITE ROCK
	85	125	SAND, GRAY, FINE, WITH LAYERS OF CLAY
	125	160	CLAY, GRAY, HARD
	160	185	SAND, GRAY, WITH ROCK AND WOOD
23- 590	0	2	CINDERS
	2	34	SAND AND GRAVEL, STREAKS OF CLAY
	34	42	CLAY, WHITE, SANDY
	42	64	SAND AND GRAVEL, WHITE CLAY STREAKS
	64	85	SAND AND GRAVEL, MEDIUM TO COARSE
	85	95	CLAY, SANDY, SOME GRAVEL
	95	114	CLAY AND GRAVEL, SANDY
	114	126	CLAY, BLUE, WHITE
23- 595	0	10	SAND, WHITE, YELLOW, FINE TO MEDIUM
	10	14	SAND, GRAY, LIGNITIC
	14	20	CLAY, GRAY, SILTY (14-16 FT)
	20	28	SAND, GRAY, FINE
	28	78	CLAY, GRAY, HARDPAN (77-78 FT)
	78	81	CLAY, GREEN, GLAUCONITIC
	81	92	SAND, SILTY, CEMENTED
	92	117	CLAY, GRAY
	117	123	SAND, SILTY, WITH FINE CLAY AND HARD SILTY LAYERS
	123	139	CLAY, SILTY, SANDY
	139	192	SAND, GRAY, FINE
	192	198	SAND, SILTY
	198	202	CLAY, WHITE
	202	212	SAND, FINE
	212	224	CLAY, CEMENTED, WITH STREAKS OF SAND
	224	229	SAND, WHITE, FINE TO MEDIUM
	229	236	SAND AND CLAY, SILTY
	236	292	SAND, WHITE, FINE
	292	293	HARDPAN
	293	296	CLAY, SILTY
	296	298	CLAY, HARD
23- 603	0	1	SAND, BROWN, FINE TO MEDIUM, WITH ROOTS
	1	6	SAND, YELLOW, BROWN, FINE TO MEDIUM, TRACE SILT
	6	14	SAND, YELLOW, BROWN, FINE TO COARSE, TRACE GRAVEL AND SILT
	14	21	SAND, GRAY, FINE TO MEDIUM, TRACE GRAVEL AND SILT, CLAY LENS (21.1 FT)
	21	25	SAND, YELLOW, BROWN, FINE TO MEDIUM, TRACE SILT
	25	34	SAND, GRAY, FINE TO MEDIUM, TRACE SILT
	34	41	SAND, GRAY, FINE TO MEDIUM, GRAY CLAY LENSES, TRACE LIGNITE
	41	43	SAND, YELLOW, GRAY, FINE TO COARSE, TRACE SILT
	43	56	SAND, GRAY, FINE TO MEDIUM, SILTY CLAY LENSES
	56	85	SAND, GRAY, FINE, LITTLE SILT, TRACE LIGNITE

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 603	85	86	SAND, GRAY, MEDIUM
	86	94	CLAY, LIGHT GRAY, SILTY
	94	96	CLAY, DARK GRAY, SILTY, TRACE FINE SAND
23- 609	0	30	SAND, BROWN, RUST, FINE TO COARSE, WITH FINE GRAVEL
	30	35	SAND, TAN, FINE TO COARSE, SOME CLAY
	35	45	CLAY, DARK GRAY, SOME FINE SAND
23- 610	0	20	SAND, TAN, BROWN, RUST, MEDIUM TO COARSE, SOME GRAVEL
	20	25	SAND, GRAY, TAN, MEDIUM TO COARSE, SOME GRAVEL AND CLAY
	25	30	SAND, LIGHT GRAY, FINE TO COARSE
	30	40	SAND, GRAY, TAN, FINE TO MEDIUM, SOME CLAY AND SILT
	40	45	CLAY, MULTICOLORED, LITTLE FINE SAND
	45	85	SILT, DARK GRAY, SOME FINE SAND AND CLAY
23- 611	0	20	SAND, BROWN, FINE, SOME BROWN CLAY AND SILT
	20	25	SAND, BROWN, FINE TO COARSE
	25	45	SAND, TAN, BROWN, MEDIUM TO COARSE, SOME GRAVEL AND COBBLES
	45	50	SAND, TAN, FINE TO COARSE, SOME FINE TO COARSE GRAVEL
	50	55	SAND, TAN, FINE TO COARSE, SOME WHITE CLAY
	55	75	SAND, GRAY, TAN, FINE TO COARSE
	75	80	SAND, GRAY, TAN, MEDIUM TO COARSE, SOME WHITE CLAY
	80	86	SAND, TAN, MEDIUM TO COARSE, SOME CLAY (85-86 FT)
	86	110	CLAY, DARK GRAY
23- 612	0	15	SAND, TAN, RUST, FINE TO COARSE
	15	20	SAND, TAN, RUST, FINE TO COARSE, SOME GRAVEL
	20	35	SAND, TAN, RUST, FINE, LITTLE WHITE AND GRAY CLAY
	35	40	SAND, TAN, FINE
	40	55	SAND, TAN, RUST, FINE TO MEDIUM, LITTLE CLAY
	55	60	CLAY, WHITE, GRAY, SOME FINE TAN, RUST SAND
	60	75	SAND, TAN, RUST, FINE TO MEDIUM, SOME WHITE CLAY
	75	83	SAND, TAN, RED, FINE TO COARSE, LITTLE CLAY (75-80 FT)
	83	88	SAND, MULTICOLORED, MEDIUM TO COARSE
	88	104	SAND, TAN, FINE TO COARSE, LITTLE WHITE CLAY
	104	115	CLAY, DARK GRAY, SOME SILT
23- 614	0	25	SAND, TAN, BROWN, FINE TO MEDIUM, LITTLE CLAY
	25	30	SAND, TAN, GRAY, MEDIUM TO COARSE
	30	32	SAND, TAN, MEDIUM TO COARSE, LITTLE CLAY
	32	34	SAND, TAN, GRAY, MEDIUM TO COARSE, SOME GRAVEL
	34	38	SAND, TAN, GRAY, MEDIUM TO COARSE, SOME CLAY (36-38 FT)
	38	45	CLAY, GRAY, SOME FINE SAND
23- 619	0	15	SAND, GRAY, TAN, FINE TO MEDIUM, SOME CLAY, SILTY (10-15 FT)
	15	20	SAND, GRAY, TAN, FINE
	20	35	SAND, GRAY, TAN, FINE, SILTY, WITH CLAY (20-25 FT)
	35	45	SAND, GRAY, TAN, FINE, CLAYEY, WITH SILT (35-40 FT)
	45	60	CLAY, YELLOW, BROWN, GRAY, WITH SAND, LIGNITE (50-60 FT)
	60	90	SAND, GRAY, BROWN, FINE TO MEDIUM, SOME CLAY
	90	100	SAND AND CLAY, GRAY, BROWN, YELLOW
	100	105	SAND, GRAY, FINE TO MEDIUM
	105	110	SAND, BROWN, FINE TO COARSE
	110	119	SAND, FINE, WITH GRAVEL
	119	130	CLAY, YELLOW, GRAY
23- 623	0	5	SAND, TAN, GRAY, FINE TO COARSE, WITH CLAY AND GRAVEL
	5	15	CLAY, YELLOW, TAN, WITH SAND AND GRAVEL
	15	25	SAND, TAN, YELLOW, FINE TO COARSE, LITTLE YELLOW CLAY
	25	35	SAND AND CLAY, TAN, YELLOW, FINE TO COARSE
	35	40	SAND, TAN, YELLOW, FINE TO MEDIUM, LITTLE CLAY
	40	45	SAND, GRAY, FINE TO MEDIUM, WITH CLAY, SILT AND GRAVEL
	45	50	SAND, GRAY, MEDIUM TO COARSE
	50	63	SAND, TAN, FINE TO COARSE, WITH WHITE CLAY
	63	85	SAND, TAN, GRAY, FINE TO COARSE
	85	90	SAND, GRAY, TAN, FINE TO COARSE, WITH YELLOW CLAY
	90	96	SAND, GRAY, TAN, FINE TO COARSE
	96	108	SAND, TAN, GRAY, RUST, MEDIUM TO COARSE, WITH FINE TO COARSE GRAVEL
	108	114	SAND, TAN, MEDIUM TO COARSE, WITH WHITE CLAY
	114	118	SAND, TAN, MEDIUM TO COARSE, WITH COARSE GRAVEL
	118	127	CLAY, DARK GRAY, WITH FINE SAND
	127	149	CLAY, GRAY, WITH SILT, FINE SAND AND LIGNITE
23- 626	0	10	SAND, TAN, FINE TO COARSE, WITH GRAY, WHITE CLAY
	10	30	SAND, TAN, FINE TO COARSE, WITH WHITE CLAY (15-30 FT)
	30	35	SAND, GRAY, FINE TO COARSE, WITH CLAY AND GRAVEL
	35	45	SAND, GRAY, TAN, FINE TO COARSE, CLAYEY, LIGNITIC (35-40 FT)
	45	55	SAND, TAN, FINE TO COARSE, WITH GRAVEL (50-55 FT)

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 626	55	57	CLAY, DARK GRAY, SILTY
23- 759	0	10	NO DATA
	10	30	CLAY, GRAY
	30	75	SAND AND CLAY
	75	125	CLAY, GRAY, HARD
	125	140	MARL, GREEN
	140	230	CLAY, GRAY
	230	250	CLAY, GRAY, WITH FINE SAND
	250	274	SAND, COARSE, WITH WOOD AND PEBBLES
23- 762	0	10	NO DATA
	10	20	CLAY AND SAND, GRAY
	20	120	CLAY, GRAY, WITH PEBBLES
	120	170	SAND AND CLAY, GRAY, FINE
	170	193	SAND, COARSE, WITH WOOD AND PEBBLES
23- 764	0	18	NO DATA
	18	20	CLAY, BLACK
	20	40	CLAY, GRAY, STICKY
	40	100	SAND, GRAY, FINE, WITH WOOD AND SOME CLAY
	100	120	WOOD, WITH FINE SAND
	120	135	WOOD, WITH FINE TO MEDIUM WHITE SAND
	135	140	SAND, WHITE, MEDIUM TO COARSE, CLEAN, WITH WOOD
23- 766	0	1	TOPSOIL
	1	12	SAND, BROWN
	12	81	CLAY, BLACK
	81	99	SAND, GRAY, FINE
	99	120	CLAY, BLACK
	120	125	SAND, GRAY, FINE
	125	150	CLAY, BLACK
	150	155	SAND, GRAY
	155	180	SAND, GRAY
23- 767	0	5	TOPSOIL
	5	13	CLAY, GRAY
	13	27	CLAY, GREEN
	27	72	CLAY, GRAY
	72	176	CLAY, GRAY, WITH FINE SAND
	176	186	SAND, GRAY
23- 769	0	20	NO DATA
	20	30	CLAY, GRAY
	30	65	SAND, GRAY, WITH WOOD
	65	120	CLAY, GRAY
	120	160	MARL, GREEN
	160	220	CLAY, GRAY
	220	235	SAND, GRAY, WITH WOOD AND PEBBLES
	235	265	CLAY, GRAY
	265	280	SAND, GRAY, COARSE, WITH WOOD
23- 770	0	3	CLAY, BROWN, SILTY, SANDY
	3	12	SAND AND GRAVEL, BROWN, FINE TO COARSE
	12	29	SAND, BROWN, FINE TO MEDIUM WITH SOME WOOD
	29	42	CLAY, GRAY, WITH LAYERS OF GRAY FINE SAND AND WOOD
	42	85	SAND, GRAY, FINE, WITH CLAY AND WOOD
	85	91	CLAY, GRAY, WITH LAYERS OF SAND
	91	212	CLAY, GRAY, SILTY
	212	240	CLAY, GRAY, WITH SILTY FINE BLACK SAND AND WOOD
	240	315	SAND, GRAY, FINE, WITH WOOD
	315	325	SAND, GRAY, FINE TO MEDIUM
23- 771	0	1	TOPSOIL
	1	12	SAND, BROWN, FINE
	12	15	SAND AND CLAY, BROWN
	15	26	CLAY, GRAY, SILTY
	26	30	CLAY, GRAY, WITH LAYERS OF BROWN SAND AND CLAY
	30	55	SAND, BROWN, FINE, WITH SOME WOOD
	55	59	WOOD, WITH A LAYER OF SAND
	59	75	CLAY, GRAY, WITH LAYERS OF GRAY FINE SAND AND WOOD
	75	135	CLAY, GRAY, SILTY
	135	175	CLAY, GRAY, WITH BLACK SAND AND WOOD
	175	212	CLAY, GRAY, SILTYT
	212	230	CLAY, GRAY, WITH LAYERS OF GRAY SILTY FINE BLACK SAND AND WOOD
	230	240	SAND, GRAY AND BLACK, FINE WITH WOOD AND LAYERS OF CLAY
	240	250	CLAY, GRAY, WITH LAYERS OF FINE GRAY SAND AND WOOD
	250	290	SAND, GRAY, FINE TO MEDIUM, WITH WOOD

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 771	290	320	SAND, GRAY, COARSE
	320	330	SAND, GRAY, FINE TO MEDIUM
23- 772	0	55	SAND AND GRAVEL, YELLOW
	55	75	SAND, WHITE, COARSE, WITH CLAY
	75	85	CLAY, RED AND WHITE, SANDY
	85	110	CLAY, GRAY, SANDY
	110	138	SAND, GRAY, FINE
	138	151	SAND, YELLOW
23- 773	0	3	CLAY, YELLOW
	3	6	CLAY, RED AND BROWN
	6	75	CLAY, BLUE AND GRAY
	75	90	CLAY, GREEN
	90	110	CLAY, BLACK
	110	115	SAND, GRAY, WITH WOOD AND CLAY
	115	130	CLAY, GRAY
	130	140	SAND, GRAY
	140	157	CLAY, GRAY, WITH PYRITE
	157	162	SAND, GRAY
	162	165	CLAY, GRAY
	165	240	SAND AND CLAY, GRAY
	240	250	CLAY, WHITE
	250	260	SAND AND CLAY, GRAY
	260	295	SAND, GRAY
23- 774	0	1	FILL
	1	4	CLAY, BROWN, SANDY
	4	15	SAND AND CLAY, BROWN, FINE TO MEDIUM
	15	23	CLAY, BROWN, WITH FINE SAND
	23	28	CLAY, BROWN AND GRAY
	28	62	CLAY, GRAY
	62	68	CLAY, GRAY, WITH HARDPAN
	68	90	CLAY, GREENISH GRAY
	90	110	CLAY, GRAY
	110	120	CLAY, GREEN
	120	155	CLAY, GRAY
	155	165	CLAY, GREEN
	165	175	CLAY, GRAY, WITH SOME WOOD
	175	185	SAND, GRAY, FINE, WITH WOOD AND CLAY
	185	195	SAND, GRAY, FINE, WITH WOOD
	195	215	SAND, GRAY, MEDIUM, WITH SOME COARSE SAND AND WOOD
23- 778	0	5	CLAY, BROWN, SILTY, SANDY, WITH GRAVEL
	5	15	SAND, BROWN, FINE TO COARSE, WITH SOME CLAY
	15	32	SAND, BROWN, COARSE
	32	45	SAND, BROWN, FINE TO COARSE
	45	50	CLAY, BROWN, SANDY
	50	67	CLAY, GRAY, SILTY
	67	80	SAND AND CLAY, BROWN, FINE
	80	85	SAND, RED AND BROWN, FINE WITH CLAY
	85	93	SAND, RED AND BROWN, FINE TO MEDIUM
	93	96	SAND, BROWN, COARSE
	96	105	SAND, BROWN, FINE TO MEDIUM, WITH THIN CLAY LAYERS
	105	112	SAND, RED AND BROWN, FINE TO COARSE
	112	120	SAND, BROWN, MEDIUM TO COARSE
	120	130	SAND, BROWN, COARSE
23- 779	0	3	CLAY, BROWN, WITH SAND AND GRAVEL
	3	10	SAND, BROWN, FINE TO COARSE, WITH GRAVEL
	10	20	CLAY, BROWN, SILTY
	20	26	CLAY, GRAY, SILTY
	26	35	SAND, BROWN, FINE TO MEDIUM
	35	52	CLAY, GRAY, SILTY
	52	87	LIGNITE, WITH LAYER OF FINE GRAY SAND
	87	106	SAND, GRAY, FINE, WITH LIGNITE
	106	120	SAND, GRAY, MEDIUM TO COARSE
23- 781	0	3	CLAY, YELLOW, BROWN
	3	70	CLAY, BLUE
	70	80	SAND AND CLAY, GRAY, WITH WOOD
	80	94	CLAY, BLUE
	94	150	SAND, GRAY, WITH WOOD
	150	188	CLAY, GRAY
	188	235	SAND, GRAY, WITH WOOD
23- 783	0	5	CLAY, RED
	5	45	CLAY AND SAND, YELLOW

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 783	45	60	CLAY AND WOOD, GRAY, LAYERS
	60	165	CLAY, GRAY
	165	250	SAND, GRAY, FINE
	250	265	SAND, WHITE, FINE
23- 784	0	15	SAND, BROWN
	15	30	SAND, GRAY AND WHITE
	30	45	CLAY, GRAY AND WHITE
	45	60	SAND, WHITE, FINE
	60	70	SAND, MEDIUM
	70		SAND, MEDIUM TO COARSE
23- 787	0	1	TOPSOIL
	1	3	SAND, BROWN, FINE, SILTY
	3	13	SAND, BROWN, FINE, SILTY, WITH CLAY
	13	23	SAND, BROWN, MEDIUM TO COARSE
	23	32	SAND, REDDISH BROWN, MEDIUM TO COARSE, WITH IRONSTONE
	32	43	SAND, BROWN, FINE, WITH GRAVEL
	43	44	CLAY, GREENISH GRAY
	44	86	CLAY, BLACK
	86	88	SAND, GRAY, FINE, WITH WOOD
	88	101	SAND, GRAY, MEDIUM
	101	105	SAND, GRAY, SILTY
	105	110	SAND, GRAY, MEDIUM
	110	120	CLAY, GRAY
23- 790	0	2	SAND AND GRAVEL, BROWN
	2	6	NO DATA
	6	8	SAND, BROWN, COARSE, SOME GRAVEL
	8	10	NO DATA
	10	12	SAND, BROWN, COARSE, SOME COARSE GRAVEL
	12	15	NO DATA
	15	17	SAND, BROWN, MEDIUM TO COARSE, WITH SOME GRAVEL
	17	20	NO DATA
	20	23	SAND, BROWN, MEDIUM TO COARSE, GRADING TO FINE SILTY BROWN SAND
	23	27	NO DATA
	27	31	SAND, MEDIUM, CLAYEY
	31	35	NO DATA
	35	37	CLAY, GRAY
	37	45	NO DATA
	45	47	SAND, BROWN, COARSE
	47	55	NO DATA
	55	56	SAND, GRAY, FINE, WITH CLAY STRINGERS
	56	60	NO DATA
	60	61	SAND, GRAYISH WITH, FINE, WITH CLAY STRINGERS
	61	70	NO DATA
	70	71	SAND, GRAYISH WHITE, FINE, WITH GRAY CLAY STRINGERS
	71	75	NO DATA
	75	76	CLAY, GRAY, DENSE
	76	80	NO DATA
	80	82	CLAY, GRAY
	82	85	NO DATA
	85	87	CLAY, GRAY, SILTY
	87	95	NO DATA
	95	97	CLAY, GRAY, SILTY
	97	105	NO DATA
	105	107	CLAY, GRAY, SILTY
	107	115	NO DATA
	115	117	SAND, GRAY, CLAYEY
	117	130	NO DATA
	130	132	SAND, GRAY, LIGNITIC
	132	145	NO DATA
	145	147	SAND, GRAYISH WHITE, COARSE
23- 791	0	20	SAND, YELLOW, MEDIUM TO COARSE
	20	30	SAND, BROWN, FINE TO COARSE
	30	60	SAND, YELLOW, MEDIUM TO COARSE
	60	86	CLAY, YELLOW, WITH MEDIUM TO COARSE SAND
	86	150	CLAY, GRAY
23- 816	0	14	WATER
	14	21	FILL (RIVER MUD)
	21	46	CLAY, WHITE, MEDIUM HARD
	46	50	SAND, COARSE, WATER, BEARING
23- 817	0	17	WATER
	17	32	FILL (RIVER MUD)
	32	38	SAND AND GRAVEL, SOME CLAY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 817	38	47	SAND, TAN, FINE TO MEDIUM
	47	75	SAND AND CLAY, TAN, HARD LAYER (47-54 FT)
23- 818	0	10	WATER
	10	56	FILL (RIVER MUD)
	56	60	CLAY, FINE, SANDY
23- 827	0	4	WATER
	4	41	FILL (RIVER MUD)
	41	48	SAND AND GRAVEL
	48	49	CLAY, SANDY
	49		BEDROCK
23- 836	0	3	WATER
	3	25	FILL (RIVER MUD)
	25	47	CLAY, GRAY, RED, SANDY
	47		BEDROCK
23- 842	0	3	WATER
	3	14	FILL (RIVER MUD)
	14	39	CLAY, BLACK, LIGNITIC
	39		BEDROCK
23- 846	0	13	SAND, BROWN, GRAY, FINE TO MEDIUM, TRACE SILT AND GRAVEL
	13	23	SILT, GRAY, WITH ORGANICS AND DECAYED PLANT MATTER
	23	52	SAND, GRAY, BROWN, FINE TO MEDIUM, WITH GRAVEL AND SILT
	52	56	SAND, GRAY, WHITE, SOME CLAY (WEATHERED ROCK)
	56	64	BEDROCK (DIABASE, GABBRO), GRAY AND WHITE
23- 848	0	12	SILT, BLACK, DARK GRAY, ORGANIC, TRACE SILT AND GRAVEL
	12	18	SAND, GRAY, FINE TO MEDIUM, TRACE SILT AND GRAVEL
	18	50	SILT, DARK GRAY, ORGANIC, TRACE SAND AND SHELLS
	50	60	SAND, DARK GRAY, TRACE GRAVEL AND SILT
	60	62	SAND, GRAY, WHITE, SOME CLAY (WEATHERED ROCK)
	62	67	BEDROCK (DIABASE, GABBRO), GRAY AND WHITE
23- 850	0	4	SILT, BROWN, BLACK, ORGANIC, WITH ROOTS
	4	6	SAND, GRAY, FINE TO MEDIUM, TRACE ROOTS
	6	45	SILT, GRAY, ORGANIC, TRACE SHELLS AND PLANT MATTER
	45	52	SAND, LIGHT GRAY, FINE, LAYERS OF PLANT MATTER
	52	60	SAND, GRAY, BROWN, TRACE SILT
	60	64	SILT, GRAY, WITH LAYER DECAYED WOOD
	64	70	SAND, GRAY, FINE, TRACE SILT
	70	78	SAND, GRAY, WHITE, SOME CLAY (WEATHERED ROCK)
	78	82	BEDROCK (DIABASE, GABBRO), GRAY AND WHITE
23- 856	0	19	CLAY
	19	38	SAND, LOOSE
	38	56	SAND
23- 857	0	20	CLAY
	20	42	SAND, LOOSE
	42	50	SAND, LITTLE CLAY
	50	55	DIABASE, TRAP ROCK, WEATHERED
	55	56	DIABASE, TRAP ROCK
23- 858	0	5	SAND AND GRAVEL, FILL
	5	10	NO DATA
	10	24	CLAY
	24	29	SAND AND GRAVEL, LOOSE
	29	30	DIABASE, TRAP ROCK, WEATHERED
	30	56	DIABASE, TRAP ROCK
23- 859	0	1	SAND AND GRAVEL, FILL
	1	18	NO DATA
	18	46	CLAY
	46	50	SAND, LOOSE
	50	54	DIABASE, TRAP ROCK, WEATHERED
	54	56	DIABASE, TRAP ROCK
23- 925	0	27	SAND, BROWN, FINE TO COARSE, TRACE SILT
23- 944	0	5	FILL, SAND, BROWN, FINE TO COARSE, TRACE SILT, FINE GRAVEL AND ROOTS
	5	16	SAND, BROWN, FINE TO COARSE, SOME GRAVEL AND SILT
	16	20	SAND, GREEN, BROWN, FINE TO COARSE, SOME SILT, ORGANIC
	20	25	SAND, GREEN, BROWN, FINE TO COARSE, SOME GRAVEL AND SILT
	25	30	SAND AND GRAVEL, BROWN, FINE TO COARSE, TRACE SILT
	30	42	CLAY AND SILT, WHITE, TRACE SAND AND GRAVEL

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23- 963	0	10	SILT, GRAY, BROWN, CLAYEY, ARGILLITE PIECES AND SAND
	10	15	SILT AND PEAT, GRAY, BROWN, ORGANIC, CLAYEY
	15	17	CLAY AND SILT, GREEN, ORGANIC
	17	20	ARGILLITE, GRAY, HIGHLY WEATHERED
	20	30	ARGILLITE, GRAY, HARD HORIZONTAL BEDDING, SOUND
23- 969	0	6	FILL, SAND, BROWN, FINE TO COARSE, SOME SILT, ORGANIC, TRACE FINE GRAVEL
	6	10	SILT, DARK BROWN, CLAYEY, ORGANIC, FIBEROUS
	10	15	SAND, TAN, BROWN, FINE TO COARSE, SOME SILT AND GRAVEL
	15	20	GRAVEL, TAN, BROWN, FINE, SOME SAND AND SILT
	20	23	SHALE AND CLAYEY SILT, RED, BROWN, WEATHERED
	23	33	SHALE, RED, BROWN, SOFT TO MEDIUM HARD
23- 971	0	5	FILL, SILT, TAN, BROWN, CLAYEY, SOME SAND, TRACE GRAVEL
	5	10	SILT AND SAND, RED, BROWN, CLAYEY, LITTLE GRAVEL
	10	11	SILT, BROWN, CLAYEY, LITTLE FINE TO COARSE SAND
	11	14	PEAT, BLACK
	14	28	SHALE, PURPLE, BROWN, MEDIUM HARD
23- 995	0	10	WATER
	10	48	FILL (RIVER MUD)
	48	56	SAND AND GRAVEL, BROWN, CLAYEY
	56	61	CLAY
	61	62	WEATHERED TRAP
	62	70	CLAY AND SERPENTINE, HARD, WEATHERED TRAP ROCK
	70	77	TRAP ROCK, HARD, WEATHERED
	77	78	TRAP ROCK, SANDY
	78	80	TRAP ROCK
23-1000	0	4	WATER
	4	42	SILT AND CLAY
23-1002	0	7	WATER
	7	40	SILT AND CLAY
23-1004	0	7	WATER
	7	15	SAND, MEDIUM TO COARSE
	15	35	SILT AND CLAY
23-1005	0	8	WATER
	8	10	SAND, FINE TO MEDIUM
	10	32	SILT AND CLAY
23-1006	0	4	WATER
	4	6	SAND, MEDIUM TO COARSE
	6	20	SILT AND CLAY
	20	22	SAND, FINE TO MEDIUM
	22	24	SILT AND CLAY
	24	32	SAND, FINE TO MEDIUM
	32	34	SAND, MEDIUM TO COARSE
	34	38	SAND, FINE TO MEDIUM
23-1007	0	8	WATER
	8	11	SILT AND CLAY
	11	16	SAND, FINE TO MEDIUM
	16	40	SAND, MEDIUM TO COARSE
23-1011	0	12	SILT, BLACK
	12	63	CLAY, WHITE
	63		DIABASE
23-1012	0	8	CLAY, YELLOW
	8	50	CLAY, BLUE
	50	73	CLAY, RED
	73	74	DIABASE
23-1013	0	8	MUD, BLACK
	8	95	CLAY, WHITE
	95	163	SAND, FINE TO COARSE WITH DEPTH, MARL (139 FT)
23-1016	0	24	SAND, YELLOW, FINE
	24	65	CLAY, SANDY
	65	102	SAND, GRAY, MEDIUM
	102	217	CLAY, BOULDERS, SAND AND GRAVEL LAYER (165-167 FT)
	217	279	SAND AND GRAVEL, PACKED, CLAY FROM 262 TO 263 FT
	279	292	CLAY
23-1017	0	40	CLAY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23-1017	40	69	SAND, QUICKSAND AND KAOLIN
	69	70	CLAY, GREEN MARL
	70	76	DIABASE
23-1021	0	4	CLAY, SANDY
	4	91	CLAY, BLUE
	91		DIABASE
23-1024	0	4	SAND, RED
	4	6	CLAY, HARD PAN
	6	97	CLAY, BLUE
	97	122	CLAY, RED
	122		DIABASE
23-1025	0	10	SAND AND GRAVEL
	10	65	CLAY, BLUE
	65	126	CLAY, BLUE, SANDY
	126		DIABASE
23-1027	0	7	FILL (RIVER MUD)
	7	21	FILL, BLACK (RIVER MUD)
	21	66	CLAY, BLUE
	66	89	CLAY, BLUE, SANDY
	89	99	CLAY, GREEN
	99		DIABASE
23-1029	0	18	FILL, CLAY
	18	62	CLAY, BLUE
	62	87	CLAY, RED
	87	99	CLAY, BLUE
	99	105	CLAY, RED
	105	109	CLAY, BLUE
	109		DIABASE
23-1031	0	10	CLAY, FILL
	10	21	CLAY AND GRAVEL, RED
	21	73	CLAY, BLUE
	73	99	SAND, COARSE
	99	121	CLAY
	121		DIABASE
23-1033	0	5	CLAY, FILL
	5	13	CLAY, RED, WITH GRAVEL
	13	25	CLAY, BLUE
	25	29	CLAY, WHITE
	29	32	SAND
	32	54	CLAY, BLUE
	54	63	CLAY, SANDY
	63	97	CLAY, WHITE, BLUE
	97	108	CLAY, WITH COARSE SAND
	108	111	CLAY, HARD
	111		DIABASE
23-1034	0	6	CLAY AND GRAVEL, RED, FILL
	6	21	SAND, BLUE, WITH RED CLAY AND GRAVEL, SOIL
	21	90	CLAY, BLUE
	90	114	CLAY, BLACK, SANDY
	114		DIABASE
23-1037	0	15	CLAY, BROWN
	15	26	CLAY, GRAY
	26	50	CLAY, GRAY
	50	60	CLAY, WHITISH GRAY
	60	73	CLAY, GRAY
	73	82	CLAY, BLACK, HARD
	82	86	SAND, WHITE, WITH CLAY
	86	87	SAND, WITH CLAY
	87	97	CLAY, BLACK
	97	98	SAND AND CLAY, WHITE
	98	105	CLAY, WHITE, WITH SOME SAND
	105	106	CLAY, WHITISH GRAY
	106	108	SAND AND CLAY, WHITE, CEMENTED
	108	119	CLAY AND SAND, GRAY
	119	122	SAND, WHITE, COARSE, AND SOME CLAY
	122	126	CLAY, WHITE, HARD
	126	136	CLAY, GREEN, HARD
	136		BEDROCK, BLACK

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
23-1038	0	7	SOIL AND CLAY, REDDISH
	7	15	CLAY, GRAY AND BROWN
	15	17	GRAVEL, MEDIUM TO COARSE
	17	32	CLAY, GRAY, SANDY
	32	40	CLAY, GRAY, WITH WHITE STREAKS
	40	49	CLAY, GRAY
	49	54	CLAY, GRAY, WITH WHITE STREAKS
	54	80	CLAY, GRAY
	80	92	SAND, WHITE, MEDIUM
	92	95	SAND, FINE, AND SMALL GRAVEL
	95	100	GRAVEL, COARSE, SOME SAND
	100	101	SAND, MEDIUM
	101	102	SAND, FINE
	102	111	CLAY, GRAYISH WHITE
	111	113	CLAY, GREEN
	113		BEDROCK, BLACK
23-1039	0	10	CLAY, BROWN
	10	15	CLAY
	15	18	CLAY, GRAY
	18	24	CLAY, GRAY
	24	33	CLAY, GRAY, HARD
	33	38	CLAY, GRAY, SANDY
	38	45	CLAY, SANDY
	45	56	CLAY, WHITISH GRAY, HARD, WITH SOME SAND
	56	61	CLAY, GRAY
	61	65	CLAY, REDDISH BROWN AND GRAY
	65	69	CLAY, GRAY AND RED
	69	75	CLAY, GRAY
	75	76	CLAY, GRAY, RED AND BLACK
	76	88	CLAY, BLACK
	88	93	SAND, WHITE, FINE
	93	95	SAND, WHITE, MEDIUM
	95	97	SAND, WHITE, COARSE, WITH PYRITE AND LIGNITE
	97	100	SAND, WHITE, FINE
	100	108	SAND, WHITE, WITH CLAY
	108	110	SAND, FINE TO COARSE, WITH BLACK CLAY
	110	112	SAND, FINE TO COARSE, WITH WHITE CLAY
	112	116	CLAY, WHITISH GRAY
	116		BEDROCK, BLACK
23-1057	6	8	SILT AND CLAY
	8	10	SAND, FINE TO MEDIUM
	10	36	SILT AND CLAY
23-1058	0	2	FILL
	2	18	CLAY, SILTY, WITH FINE TO MEDIUM ORANGE SAND
	18	21	SAND, ORANGE
	21	68	CLAY, GRAY, WITH SOME WOOD
	68	78	CLAY, GRAY, WITH SOME MEDIUM SAND AND LIGNITE
	78	93	CLAY, OLIVE BLANK, SILTY WITH SOME SAND AND PYRITE
	93	98	CLAY, OLIVE BLANK, WITH LIGNITE
	98	103	SAND, FINE, WITH CLAY AND LIGNITE
	103	158	SAND AND GRAVEL, COARSE, SOME CLAY STREAKS
	158	173	BEDROCK, WEATHERED
	173		BEDROCK
25- 13	0	31	SAND AND GRAVEL, BROWN
	31	42	CLAY, YELLOW, SANDY, WITH SAND STREAKS
	42	63	CLAY, BROWN, WITH GRAVEL STREAKS
	63	330	CLAY, GRAY, SANDY
	330	421	CLAY, GREEN, SANDY, WITH STREAKS OF BLACK CLAY
	421	502	SAND, FINE, MEDIUM, WITH CLAY STREAKS
	502	628	CLAY, BLACK, SANDY, WITH CLAY STREAKS
	628	777	CLAY, GRAY, WITH SAND STREAKS
	777	843	CLAY, GRAY, SANDY, WITH HARDPAN LAYERS
	843	861	CLAY, SANDY, WITH SAND STREAKS
	861	864	HARDPAN
	864	1,077	SAND, WITH CLAY STREAKS
	1,077	1,199	SAND AND GRAVEL, WITH CLAY STREAKS
	1,199	1,302	CLAY, SANDY, WITH SAND STREAKS
25- 37	0	20	LOAM, YELLOW, SANDY, WITH GREEN CLAY
	20	80	CLAY, BLACK, GREEN, DENSE
	80	90	CLAY, GREEN, SANDY
	90	200	CLAY, BLACK, GRAY, DENSE
	200	230	CLAY, GREEN, SANDY
	230	245	CLAY, DARK GRAY, SANDY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 37	245	285	CLAY, BLACK, DENSE
	285	300	SAND, GRAY, FINE, LIGNITIC
	300	345	SAND AND CLAY, GRAY, ALTERNATING LAYERS
	345	375	CLAY, GRAY, DENSE, WITH SAND, LIGNITE AND PYRITE
	375	410	CLAY, GRAY, DENSE
	410	555	CLAY, BLACK, GREEN, GRAY, ALTERNATING LAYERS
	555	585	CLAY AND SAND, GRAY, ALTERNATING LAYERS
	585	595	CLAY, WHITE, DENSE, WITH LIGNITE
	595	625	CLAY, DENSE, WITH WOOD AND GRAY PEBBLES
	625	640	SAND, WHITE, FINE
	640	645	SAND, GRAY, FINE TO MEDIUM
	645	650	CLAY, GRAY, DENSE
	650	675	SAND, MEDIUM, WITH LIGNITE AND DENSE GRAY CLAY (650-570 FT)
	675	707	SAND, MEDIUM TO COARSE
25- 39	0	20	CLAY AND SAND, RUSTY, BROWN, GLAUCONITIC
	20	60	SAND, RUSTY, BROWN, FINE TO COARSE, CLAYEY
	60	110	SAND, OLIVE DRAB, FINE TO MEDIUM, CLAYEY, SOME MICA
	110	120	SAND, OLIVE DRAB, FINE TO MEDIUM, SOME GLAUCONITE
	120	150	CLAY, GRAY, GLAUCONITIC, SOME SAND AND FOSSILS
	150	160	CLAY, GREEN, GRAY, GLAUCONITIC
	160	190	SAND, FINE, WITH CLAY, MICA, GLAUCONITE, AND FOSSILS
	190	220	CLAY AND SAND, GRAY, FINE, GLAUCONITIC, MICACEOUS
	220	230	CLAY AND SAND, GRAY, FINE, MICACEOUS
	230	240	CLAY, GRAY, INTERBEDDED WITH FINE MICACEOUS SAND
	240	250	CLAY AND SAND, GRAY, FINE, MICACEOUS, GLAUCONITIC
	250	260	CLAY, GRAY, MICACEOUS, SANDY
	260	270	CLAY, GRAY
	270	290	CLAY, GRAY, WITH FINE SAND
	290	300	CLAY, GRAY, SANDY, SOME FOSSIL FRAGMENTS
	300	320	CLAY, GRAY, WITH FINE MICACEOUS SAND
	320	340	SAND, GRAY, FINE, CLAYEY
	340	350	CLAY, GRAY, SOME SAND, INTERBEDDED
	350	380	CLAY, GRAY, PYRITE NODULES (360-370 FT)
	380	390	CLAY, GRAY, SANDY
	390	430	CLAY, GRAY, MUSCOVITE (400-430 FT)
	430	440	CLAY, GRAY, SOME MUSCOVITE AND SHELL FRAGMENTS
	440	470	CLAY, GRAY, GLAUCONITIC, MICA AND SHELLS (440-450 FT)
	470	474	SAND, GRAY, SOME MICA, GLAUCONITE, LIGNITE, PYRITE AND LIMONITE
	474	490	CLAY, GRAY, SANDY, GLAUCONITIC, FOSSILS (480-490 FT)
	490	500	CLAY, GRAY, WITH MICA, GLAUCONITE AND FOSSILS
	500	510	SAND AND CLAY, GRAY, GLAUCONITIC AND FOSSILIFEROUS
	510	540	CLAY, GRAY, SOME MICA
	540	560	CLAY, GRAY, SOME SAND, GLAUCONITE AND FOSSILS
	560	570	CLAY, GRAY, SANDY, SOME GLAUCONITE AND MICA
	570	580	CLAY, GRAY, WITH MICA AND PYRITE NODULES
	580	590	CLAY, GRAY, INTERBEDDED WITH FINE SAND, LIGNITIC, PYRITIC, MICACEOUS
	590	600	CLAY, GRAY, MICACEOUS, SILTY
	600	620	SAND, GRAY, FINE, MICACEOUS, INTERBEDDED WITH CLAY
	620	640	SAND, GRAY, FINE, MICACEOUS, LIGNITIC (630-640 FT)
	640	660	SAND AND CLAY, GRAY, FINE, INTERBEDDED, MICACEOUS
	660	670	SAND, GRAY, FINE, SOME MICA
	670	680	SAND, GRAY, FINE, SOME MICA, INTERBEDDED WITH CLAY
	680	700	SAND, FINE
	700	719	SAND, COARSE, WATER BEARING
25- 45	0	95	SAND AND CLAY, GRAY, FINE
	95	230	CLAY, DARK GRAY
	230	240	CLAY, GRAY, SANDY
	240	247	CLAY, GRAY
	247	255	SAND, FINE
	255	300	SAND, FINE, CLAYEY
	300	310	CLAY, GRAY
	310	320	SAND, FINE
	320	596	CLAY, DARK GRAY
	596	612	CLAY, LIGHT GRAY
	612	650	CLAY, FINE, SANDY
	650	680	SAND, GRAY, FINE
25- 53	0	26	SAND
	26	36	SAND, FINE
	36	52	SAND
	52	62	SAND AND CLAY, WHITE
	62	72	SAND, FOSSILIFEROUS
	72	82	SAND, FOSSILIFEROUS, LIGNITIC
	82	110	SAND, CLAYEY, FOSSILIFEROUS, LIGNITIC
	110	130	CLAY, GREEN, GRAY, WITH SHELL FRAGMENTS
	130	210	CLAY, GREEN, GRAY, WITH SHELL FRAGMENTS

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 53	210	237	CLAY, GREEN, GRAY, FOSSILIFEROUS
	237	258	SAND, BLACK, FINE TO MEDIUM
	258	305	CLAY AND SAND, BLACK, FINE
	305	310	SAND AND GRAVEL, FINE TO COARSE
	310	363	CLAY AND SAND, BLACK, FINE, LIGNITIC
	363	460	CLAY AND SAND, BLACK, FINE
	460	595	CLAY, DARK GRAY
	595	679	CLAY AND SAND, FINE
	679	688	SAND AND GRAVEL, FINE TO COARSE
	688	855	CLAY AND SAND, FINE
	855	870	SAND AND GRAVEL, FINE
	870	875	CLAY
	875	891	BEDROCK, WEATHERED
25- 70	0	8	CLAY, RED
	8	73	SAND, WITH HARD STREAKS
	73	92	CLAY, SANDY, HARD
	92	132	MARL, GREEN
	132	154	CLAY, SANDY
	154	347	CLAY, SANDY, WITH HARD STREAKS
	347	402	HARD STREAKS
	402	403	CLAY, SANDY, WITH HARD STREAKS
	403	514	SAND, WITH STREAKS OF CLAY
	514	652	SAND, WITH STREAKS OF CLAY
	652	689	CLAY, TOUGH
25- 82	0	3	NO DATA
	3	14	CLAY, BROWN, SANDY
	14	55	SAND, CEMENTED
	55	83	SAND, GREEN
	83	104	CLAY, GRAY, LAMINATED (83-99 FT)
	104	129	CLAY AND SAND, GRAY, LAMINATED
	129	194	SAND, GRAY, FINE, SILTY (129-149 FT)
	194	235	CLAY AND SAND, GRAY, FINE, LAMINATED
	235	260	SAND, GRAY, CLAYEY AND SILTY
	260	290	CLAY, GRAY
	290	323	SAND, GRAY, FINE
	323	488	CLAY, GRAY, WITH HARDPAN LAYERS
	488	490	SAND, GRAY, FINE
	490	499	CLAY, GRAY
	499	504	SAND, GRAY, CLAYEY
	504	510	SAND, COARSE
	510	521	SAND, CLAYEY
	521	543	SILT, CLAYEY, ORGANIC
	543	555	SAND, GRAY, FINE
	555	558	CLAY, GRAY
	558	618	SAND, GRAY, FINE
	618	680	SAND, FINE TO COARSE
	680	720	CLAY, GRAY
	720	743	SAND, FINE TO MEDIUM
	743		HARDPAN
25- 85	0	3	NO DATA
	3	14	SAND, RUST, HARD
	14	40	SAND, GREEN, FINE
	40	54	CLAY, GREEN, GRAY
	54	78	SAND, GRAY, FINE TO MEDIUM
	78	89	SAND AND CLAY, GRAY, LAMINATED
	89	142	CLAY, GRAY, HARD
	142	365	CLAY AND SAND, LAMINATED
	365	367	SAND, GRAY, FINE
	367	378	CLAY, SILTY
	378	500	CLAY, GRAY, HARD AND SOFT LAYERS, WITH HARDPAN
	500	520	CLAY, GRAY, SILTY
	520	532	CLAY, GRAY
	532	534	SAND, GRAY
	534	544	CLAY AND SAND, GRAY, LAMINATED
	544	545	CLAY, GRAY
	545	546	SAND, GRAY, FINE
	546	553	CLAY, GRAY
	553	585	SAND AND CLAY, GRAY, FINE, LAMINATED
	585	590	SAND, GRAY, FINE
	590	640	SAND AND CLAY, GRAY, LAMINATED
	640	644	CLAY, GRAY
	644	654	SAND AND CLAY, LAMINATED
	654	707	SAND, GRAY, FINE TO MEDIUM
	707		CLAY, GRAY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 97	0	23	SAND AND CLAY, RED, MEDIUM TO COARSE
	23	63	CLAY, WITH STREAKS OF SANDSTONE
	63	90	SAND, GRAY, WITH STREAKS OF LIMESTONE, RUSTY
	90	94	CLAY, HARD
	94	137	SAND, GRAY, MEDIUM TO COARSE, RUSTY
	137	202	CLAY, BLUE, SANDY, SHELLS AND SANDSTONE (163-164 FT)
	202	323	CLAY, BLUE, STREAKS OF SAND
	323	351	SAND, GRAY, MEDIUM TO COARSE
	351	362	SAND AND WOOD
	362	393	SAND, GRAY, FINE, MUDDY
	393	394	ROCK, HARD
	394	437	SAND, GRAY, FINE, MUDDY
	437	557	CLAY AND ROCK, BLUE, ALTERNATING LAYERS
	557	604	SAND, GRAY, MEDIUM TO COARSE
	604	609	CLAY, BLUE
	609	611	CLAY, GRAY, SANDY
	611	613	CLAY, BLUE
	613	623	SAND, GRAY, WITH STREAKS OF SHELLS AND CLAY
	623	627	CLAY, BLUE
	627	628	COQUINA
	628	682	CLAY, BLUE, SANDY
25- 103	0	12	SAND, YELLOW, BROWN
	12	42	CLAY, BLACK
	42	97	CLAY, WITH SAND STREAKS
	97	182	CLAY, GRAY
	182	204	SAND, GRAY, FINE
	204	332	CLAY, SILTY
	332	375	CLAY, WITH SAND STREAKS
	375	417	CLAY, SILTY
	417	424	SAND, GRAY, FINE
	424	427	CLAY, DARK GRAY
	427	589	SAND, WITH CLAY STREAKS
	589	630	CLAY, GRAY, WHITE
	630	673	SAND, FINE TO MEDIUM
	673	697	CLAY, WHITE
	697	727	SAND, WITH CLAY STREAKS
	727	747	CLAY, GRAY
	747	799	SAND, FINE TO MEDIUM
	799	818	CLAY, GRAY, RED
	818	823	SAND, FINE
	823	840	CLAY, GRAY
	840	858	SAND, FINE TO COARSE
	858	885	CLAY, RED, GRAY, WHITE, BROWN
	885	887	WEATHERED ZONE
25- 111	0	10	SAND AND GRAVEL
	10	44	SAND, GRAY
	44	70	SAND AND CLAY, GRAY
	70	140	CLAY, FINE, SANDY
	140	150	CLAY, SANDY, WITH HARD STREAKS
	150	202	SAND, FINE, MUDDY, RUSTY
	202	305	SAND, FINE, MUDDY
	305	366	SAND, GRAY
	366	371	CLAY, GRAY
	371	409	SAND, COARSE
	409	432	SAND, GRADING TO SAND AND CLAY
	432	453	CLAY
	453	469	SAND AND CLAY, WITH PYRITE
	469	513	CLAY, TOUGH
25- 119	0	6	FILL
	6	14	SAND AND GRAVEL
	14	21	CLAY AND SAND, WITH WOOD
	21	25	HARDPAN
	25	46	CLAY AND SAND, WITH WOOD
	46	47	HARDPAN
	47	89	CLAY, SANDY
	89	108	CLAY, SANDY, WITH SAND STREAKS
	108	293	SAND AND CLAY, STREAKS
	293	294	HARDPAN
	294	341	CLAY, SANDY, HARD, WITH HARD STREAKS
	341	342	HARDPAN
	342	371	CLAY, SANDY, HARD, WITH HARD STREAKS
	371	373	HARDPAN
	373	472	CLAY, WITH SAND AND HARD STREAKS
	472	548	CLAY AND SAND
	548	578	CLAY, WITH STREAKS OF SAND

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 119	578	637	CLAY, TOUGH, SOME SAND STREAKS
	637	650	CLAY AND SAND
	650	678	SAND, MEDIUM TO COARSE
	678	691	CLAY, TOUGH
	691	693	CLAY, TOUGH, WITH SAND STREAKS
	693	717	SAND, HARD, WITH CLAY STREAKS
	717	724	CLAY, TOUGH
	724	758	SAND, HARD PACKED, WITH CLAY
	758	762	CLAY, WITH SAND STREAKS
	762	763	HARDPAN
	763	812	CLAY, SANDY, TOUGH, WITH SAND STREAKS
	812	901	CLAY, SANDY, HARD, WITH SAND STREAKS
25- 121	0	10	SAND, CLAYEY
	10	90	MARL AND SAND AND CLAY
	90	195	SAND, MIXED WITH GRAY CLAY
	195	203	SAND, WHITE, FINE, CLAYEY
	203	245	CLAY, GRAY, SOLID
	245	265	CLAY, GRAY, SOLID, MIXED WITH FINE SAND
	265	290	CLAY, GRAY, SOLID
	290	310	CLAY, GREEN, SOLID
	310	515	CLAY, GRAY, SOLID
	515	565	SAND, FINE, MIXED WITH CLAY
	565	590	SAND, FINE TO MEDIUM, WATER BEARING
25- 145	0	19	CLAY, BROWN, WITH HARDPAN, STREAKS OF SAND AND GRAVEL
	19	61	CLAY, GREEN, GRAY, SANDY, GLAUCONITIC, MICACEOUS
	61	72	CLAY, BLUE, LAYERS OF SANDY AND SOLID CLAY
	72	80	SAND, DARK GRAY, FINE, WITH STREAKS OF CLAY
	80	101	CLAY, DARK GRAY, FINE, WITH MICA
	101	112	CLAY, GRAY, FINE, SANDY, WITH STREAKS OF SOLID CLAY
	112	121	CLAY, GRAY, LAYERS OF SANDY AND SOLID CLAY
	121	132	SAND, GRAY, FINE, WITH MICA
	132	159	CLAY, GRAY, SOLID
	159	165	SAND, GRAY, FINE, LAYERS OF CLAY
	165	220	CLAY, GRAY, BLACK, SOLID, HARD
	220	259	SAND, GRAY, FINE, WITH CLAY AND LIGNITE
	259	271	SAND, GRAY, FINE
	271	333	CLAY, BLACK, WITH SANDY CLAY AND PYRITE
	333	347	CLAY, GRAY, WITH STREAKS OF SHALE
	347	373	CLAY, BLACK, SOLID
	373	391	SAND, GREEN, FINE, STREAKS OF CLAY
	391	416	CLAY, GREEN, SOLID
	416	443	SAND, GREEN, FINE, WITH LAYERS OF CLAY AND LIGNITE
	443	450	CLAY, GREEN, SOLID
	450	459	CLAY, GREEN, SANDY AND SOLID LAYERS, LIGNITIC
	459	465	CLAY, BLACK, SOLID
	465	475	SAND, FINE, STREAKS OF CLAY AND LIGNITE
	475	502	CLAY, BLACK, GRAY, SOLID
	502	512	CLAY, GREEN, FINE, SOLID AND SANDY STREAKS, LIGNITIC
	512	524	SAND, GREN, FINE
	524	535	SAND, GREEN, FINE, WITH STREAKS OF CLAY
	535	541	CLAY, GRAY, SANDY AND SOLID LAYERS, LIGNITIC
	541	560	SAND, GRAY, FINE, STREAKS OF CLAY, LIGNITIC
	560	565	CLAY, GRAY, FINE, SANDY
	565	572	CLAY, GRAY, SOLID
	572	598	SAND, GRAY, FINE, WITH STREAKS OF CLAY
	598	625	CLAY, WHITE, SOLID
	625	642	CLAY, GRAY, SOLID, WITH PYRITE
	642	679	CLAY, GRAY, SOLID
	679	692	CLAY, GRAY, FINE, SANDY, WITH PYRITE
	692	714	CLAY, GRAY, SOLID
	714	742	CLAY, GRAY, SANDY, WITH STREAKS OF SOLID CLAY
	742	753	CLAY, GRAY, SOLID, STREAKS OF LIGNITE AND SCHIST
	753	782	CLAY, GRAY, SOLID, STREAKS OF SANDY CLAY
	782	812	CLAY, GRAY, RED, HARD, SOLID
	812	817	CLAY, GRAY, FINE, SANDY, WITH MICA
	817	839	CLAY, GRAY, RED, SOLID
	839	846	SAND, GRAY, FINE
	846	861	SAND, GRAY, MEDIUM TO COARSE, STREAKS OF CLAY
	861	892	SAND, GRAY, FINE, STREAKS OF LIGNITE
	892	898	CLAY, GRAY, SOLID, STREAKS OF SANDY CLAY
	898	903	SAND, GRAY, FINE, STREAKS SANDY CLAY
	903	916	SAND, GRAY, FINE, MICA
	916	919	SAND, GRAY, FINE TO MEDIUM, WITH MICA AND LAYERS OF CLAY
	919	929	CLAY, GRAY, SOLID
	929	934	SAND, GRAY, MEDIUM TO COARSE, CLAY STREAKS
	934	940	SAND, GRAY, FINE

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 145	940	945	SAND, GRAY, MEDIUM TO COARSE, CLAY STREAKS
	945	956	SAND, GRAY, FINE, LAYERS OF LIGNITE
	956	963	CLAY, MULTICOLORED
	963	1,045	BEDROCK, WEATHERED
25- 146	0	20	SAND AND CLAY, YELLOW
	20	60	MARL, GREEN
	60	96	CLAY AND MARL, GRAY
	96	150	SAND, FINE, MIXED WITH CLAY
	150	160	CLAY, GRAY, SOLID
	160	200	SAND, FINE, MIXED WITH CLAY
	200	224	CLAY, GRAY, SOLID
	224	230	SAND AND CLAY
	230	240	CLAY, GRAY, SOLID
	240	280	SAND AND CLAY
	280	290	CLAY, GRAY, SOLID
	290	300	SAND AND CLAY
	300	340	CLAY, GREEN, SOLID
	340	495	CLAY, GRAY, SOLID
	495	585	SAND, WHITE,
25- 153	0	3	FILL
	3	11	CLAY
	11	26	SAND, WITH IRON PYRITE
	26	41	SAND, GRAY, FINE
	41	45	CLAY, WITH WOOD AND PYRITE
	45	61	CLAY, WITH STREAKS OF SAND AND WOOD
	61	71	SAND, FINE, WITH CLAY STREAKS
	71	77	CLAY, SANDY, WITH STREAKS OF SAND AND WOOD
	77	89	SAND, WITH CLAY AND WOOD
	89	93	CLAY, SANDY, WITH SAND STREAKS
	93	316	CLAY, WITH HARD STREAKS
	316	345	CLAY, WITH WOOD
	345	348	CLAY, WHITE, GRAY, WITH SAND STREAKS
	348	374	CLAY, WITH HARD STREAKS AND WOOD
	374	394	CLAY, WITH HARD STREKS
	394	400	SAND, GRAY, WITH CLAY STREAKS
	400	401	SAND AND CLAY, WITH WOOD
	401	410	CLAY, WITH SAND STREAKS (405-410 FT)
	410	420	SAND, GRAY
	420	427	CLAY, WITH SOME SAND
	427	435	CLAY, WITH SAND STREAKS
	435	438	SAND AND CLAY
	438	441	CLAY, WITH SOME SAND STREAKS
	441	446	CLAY
	446	453	HARDPAN
	453	458	CLAY, WITH SOME SAND STREAKS
	458	460	HARDPAN
	460	483	CLAY, TOUGH, WITH HARD AND SOFT STREAKS
	483	493	SAND, FINE, SILTY, WITH CLAY AND PYRITE
	493	519	CLAY AND SAND, WITH STREAKS OF PYRITE
	519	522	HARDPAN
	522	565	CLAY, HARD AND SOFT STREAKS
	565	602	CLAY, WHITE, GRAY, SANDY
	602	629	CLAY, RED, WHITE, TOUGH
	629	632	SAND, FINE TO COARSE, SOME WHITE CLAY AND PYRITE
	632	643	SAND, FINE, WITH CLAY STREAKS
	643	647	CLAY AND SAND
	647	656	SAND, FINE TO COARSE
	656	660	SAND, COARSE, WITH CLAY STREAKS
	660	663	CLAY, WHITE, RED
	663	672	CLAY, GRAY, RED, WHITE
25- 156	0	9	SAND AND CLAY, BROWN, FINE
	9	48	CLAY, GRAY, LAYERS OF SANDY AND SOLID CLAY
	48	98	SAND, GRAY, FINE, LAYERS OF SOLID AND SANDY CLAY
	98	129	CLAY, GRAY, SILTY, SANDY, STREAKS OF LIGNITE
	129	184	CLAY, GRAY, SOLID
	184	219	CLAY, GRAY, SILTY, SANDY, WITH MICA
	219	230	SAND, GRAY, FINE, WITH LAYERS OF SOLID GRAY CLAY
	230	262	CLAY, GRAY, SOLID
	262	271	SAND, GRAY, FINE, WITH MICA
	271	276	CLAY, GRAY, SILTY, SANDY, MICACEOUS
	276	413	CLAY, GRAY, STREAKS OF PYRITE, LIGNITE AND SANDY CLAY
	413	425	SAND, GRAY, FINE TO MEDIUM, STREAKS OF GRAY CLAY
	425	430	CLAY, GRAY, WITH LAYERS OF FINE GRAY SAND
	430	439	SAND, GRAY, FINE TO MEDIUM, STREAKS OF CLAY AND LIGNITE
	439	454	SAND AND CLAY, GRAY, FINE TO MEDIUM, STREAKS OF LIGNITE

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 156	454	498	CLAY, GRAY, STREAKS OF FINE SAND AND LIGNITE
	498	502	SAND, GRAY, FINE, CLAYEY
	502	539	SAND AND CLAY, GRAY, FINE, SILTY, CLAY LAYERS
	539	571	CLAY, GRAY, SOLID
	571	670	CLAY, GARY, WITH LAYERS OF SANDSTONE
	670	718	CLAY, MULTICOLORED
	718	739	CLAY, GRAY, SILTY, SANDY LAYERS
	739	779	CLAY, MULTICOLORED
	779	788	CLAY, GRAY, STREAKS OF GRAY SAND
25- 174	0	27	SAND
	27	117	MARL AND SHELLS
	117	177	MARL, SILTY
	177	242	CLAY, SANDY
	242	321	CLAY
	321	357	CLAY AND SAND, LAMINATED
	357	509	CLAY
	509	612	CLAY, SILTY
	612	656	SAND, SILTY
	656	706	SAND AND HARDPAN
	706	718	CLAY
	718	730	SAND
	730	740	CLAY
	740	747	SAND, HARD PACKED
	747	751	CLAY
	751	762	SAND, HARD PACKED
	762	810	CLAY
	810	831	CLAY, SILTY
	831	839	CLAY, HARD
25- 194	0	25	SAND
	25	81	CLAY, BLUE
	81	102	CLAY, SANDY
	102	124	CLAY, BLUE
	124	142	SAND, PACKED
	142	151	CLAY, BLUE
	151	174	SAND, BLUE
	174	183	CLAY, BLUE
	183	215	SAND, COARSE
	215	223	CLAY, TOUGH
	223	257	SAND, COARSE
	257	262	CLAY, SOFT
	262	295	SAND, BLUE
	295	357	SAND, WHITE, COARSE
25- 196	0	4	SOIL
	4	28	SAND, BROWN
	28	38	CLAY, SANDY, SOFT
	38	88	CLAY, BLUE, TOUGH
	88	128	CLAY, BLUE, WITH SANDY STREAKS
	128	146	SAND, FINE, WITH PACKED CLAY
	146	163	CLAY, SANDY
	163	197	SAND, WITH CLAY STREAKS
	197	253	SAND AND GRAVEL
	253	263	CLAY, HARD
	263	285	SAND, GRAY, BROWN
	285	306	CLAY, BLUE, TOUGH
	306	354	SAND, GRAY, COARSE
	354	359	CLAY
	359	368	SAND
	368	394	CLAY, BLUE, SANDY
25- 197	0	11	SAND
	11	38	CLAY
	38	70	CLAY, GRAY, TOUGH
	70	78	SAND AND CLAY, LIGNITIC
	78	88	CLAY, TOUGH, WITH SAND AND PYRITE
	88	111	CLAY, TOUGH, WITH CEMENTED SAND AND PYRITE
	111	131	CLAY, WITH SAND STREAKS
	131	189	CLAY, TOUGH, WITH SMALL STREAKS OF SAND
	189	221	CLAY, WHITE, HARD, WITH HARD STREAKS OF SAND
	221	240	CLAY, WITH SAND STREAKS
	240	304	SAND, FINE TO MEDIUM, WITH LIGHT STREAKS OF CLAY
	304	325	SAND, FINE TO COARSE
	325	334	SAND, FINE TO COARSE, WITH SOME CLAY
	334	346	CLAY, WITH STREAKS OF SAND AND HARD STREAKS
	346	370	CLAY, WHITE, TOUGH, WITH HARD STREAKS
	370	381	CLAY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 197	381	393	SAND
	393	414	CLAY, WITH SAND STREAKS
25- 201	0	10	SAND, YELLOW
	10	70	CLAY, GRAY, BLUE
	70	90	SAND AND WOOD, MUDDY
	90	100	CLAY, BLACK
	100	140	CLAY, BLUE, GRAY
	140	230	CLAY, GRAY
	230	250	SAND, FINE, WITH ALTERNATING LAYERS OF CLAY
	250	282	SAND, GRAY, MIXED WITH CHARCOAL
25- 206	0	30	SAND AND GRAVEL
	30	50	GRAVEL
	50	70	GRAVEL AND SAND, COARSE
	70	90	SAND AND CLAY, WHITE
	90	100	SAND, BROWN
	100	134	SAND, BROWN, CLAYEY, LIGNITIC
	134	152	SAND AND CLAY
	152	200	SAND AND CLAY, WITH WOOD
	200	220	SAND, FINE
	220	240	SAND, WITH WOOD
	240	285	SAND, WHITE, WITH WOOD
	285		CLAY
25- 210	0	35	SAND AND PEBBLES AND FILL
	35	47	CLAY
	47	52	SAND
	52	84	CLAY AND MARL
	84	109	SAND AND MARL
	109	125	CLAY AND MARL
	125	140	SAND
	140	160	CLAY AND MARL
	160	206	SAND AND MARL
	206	248	CLAY
	248	276	MARL AND CLAY
	276	282	SAND
	282	290	CLAY AND SAND
	290	333	CLAY
	333	358	SAND AND SILT
	358	368	SAND AND CLAY
	368	399	CLAY
	399	454	CLAY, WITH SAND LAYERS
	454	459	SAND
	459	468	SAND AND CLAY
	468	480	SAND
	480	501	SAND AND CLAY
	501	504	CLAY
	504	525	CLAY AND SAND
	525	535	CLAY
	535	545	CLAY AND SAND
	545	560	HARDPAN
	560	565	CLAY AND SAND
	565	570	SAND
	570	580	CLAY AND SAND
	580	587	SAND
	587	630	CLAY
	630	640	CLAY AND SAND
	640	650	CLAY
	650	680	SAND AND CLAY
	680	730	CLAY
	730	745	SAND
	745	760	CLAY
	760	830	SAND
	830	848	CLAY
	848	916	SAND, FINE
	916	936	CLAY
	936	990	SAND
	990	1,001	CLAY
25- 218	0	241	NO DATA
	241	280	SAND AND CLAY, GRAY
	280	345	CLAY, GRAY, BLACK, DENSE
	345	380	CLAY, GREEN
	380	481	CLAY AND SILT, BLACK, GREEN
	481	511	SAND, GRAY, CLAYEY
	511	530	SAND, GRAY, HARD PACKED, WITH WOOD AND PEBBLES

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 220	0	18	CLAY, YELLOW
	18	40	CLAY, GREEN
	40	60	SAND AND CLAY, GREEN
	60	125	SAND AND CLAY, GRAY
	125	150	CLAY, BLACK, DARK GRAY
	150	193	SAND, CLAYEY
	193	198	CLAY, BLACK, DENSE
	198	230	SAND, FINE
	230	310	CLAY, BLACK, GRAY, DENSE
	310	355	CLAY, GREEN
	355	410	CLAY AND SILT, BLACK, GRAY
	410	430	CLAY, LIGHT GRAY
	430	465	CLAY, BLACK, BROWN, DENSE, WITH ROCK, SAND AND WOOD
	465	478	SAND, FINE, CLAYEY
	478	485	CLAY, GRAY, DENSE
	485	490	SAND, WITH LAYERS OF GRAY CLAY
	490	528	CLAY, WHITE, GRAY, DENSE
	528	569	SAND, HARD PACKED
25- 231	0	1	SOIL
	1	6	SAND, BROWN
	6	22	CLAY, GRAY
	22	47	SAND, GRAY, FINE
	47	62	CLAY, GRAY
	62	87	SAND, WITH CLAY STREAKS
	87	97	CLAY, GRAY
	97	106	CLAY, HARD
	106	240	CLAY, WITH SAND STREAKS
	240	263	SAND, WITH CLAY STREAKS
	263	278	CLAY, GRAY, HARD
	278	316	CLAY, SANDY, WITH WOOD
	316	323	CLAY, GRAY
	323	367	CLAY, SANDY
	367	377	CLAY, GRAY
	377	437	SAND, GRAY, FINE
	437	497	CLAY, GRAY, SANDY
	497	507	SAND, GRAY, FINE
	507	549	CLAY, GRAY
	549	558	CLAY, SANDY
	558	675	SAND, FINE, COARSE, SOME GRAVEL
	675	695	CLAY, WHITE
	695	715	SAND AND GRAVEL
	715	759	CLAY
25- 259	0	40	SAND, BROWN
	40	68	CLAY, BLUE, STREAKS OF SAND
	68	87	CLAY, BLUE, STREAKS OF WHITE CLAY
	87	91	CLAY, WHITE, STREAKS OF SAND
	91	106	CLAY, BLUE, STREAKS OF SAND
	106	124	SAND, GRAY, WHITE, FINE
	124	157	CLAY, GRAY, WITH SAND AND PYRITE
	157	197	SAND, GRAY, FINE, WITH WOOD
	197	204	GRAVEL, HARD PACKED, WITH PYRITE
	204	250	CLAY, GRAY, WITH HARDPAN STREAKS
	250	280	CLAY, GRAY, WITH PYRITE AND WOOD
	280	305	CLAY, GREEN, WITH PYRITE AND WOOD
	305	307	PYRITE
	307	349	CLAY, GRAY, WITH GRAVEL AND SHELLS
	349	504	CLAY AND PYRITE, SAND AND WOOD (402-450 FT)
	504	541	SAND, FINE TO MEDIUM
	541	549	HARDPAN
	549	570	SAND, FINE TO MEDIUM
	570	596	SAND, MEDIUM, WITH CHARCOAL
	596	603	CLAY, GRAY
	603	616	CLAY, GRAY, SANDY
25- 262	0	5	CLAY AND FILL
	5	8	MARL, GREEN, SANDY
	8	10	MARL, GRAY
	10	35	CLAY, GRAY, SANDY, COMPACT, SOME HARDPAN
	35	70	MARL AND CLAY, GRAY, SANDY IN PLACES
	70	90	MARL AND CLAY, WITH STREAKS OF HARDPAN
	90	120	MARL AND CLAY, WITH TRACES OF HARDPAN (90-110 FT)
	120	160	SAND, WHITE, FINE, WITH CLAY AND WOOD
	160	165	SAND, MEDIUM TO COARSE, SOME GRAVEL AND CLAY
	165	187	SAND, FINE, WITH CLAY AND WOOD STREAKS
	187	215	SAND, GRAY, FINE, SOME CLAY
	215	255	CLAY, GRAY, SANDY, HARD

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 262	255	285	CLAY, GRAY, SANDY
	285	320	CLAY, SANDY
	320	340	CLAY AND HARDPAN
	340	420	CLAY AND HARDPAN, SANDY
	420	515	SAND, GRAY, WITH HARDPAN
	515	525	SAND, HARD PACKED, WITH CLAY STREAKS
	525	555	SAND, HARD PACKED, WITH GRAVEL STREAKS
	555	585	SAND, HARD PACKED, WITH CLAY STREAKS
	585	645	CLAY, GRAY, SANDY, WITH HARDPAN (630-645 FT)
	645	660	SAND, HARD PACKED, SOME CLAY AND HARDPAN
	660	690	SAND AND CLAY, GRAY, COMPACT
	690	700	SAND AND CLAY, GRAY, COMPACT, HARDPAN
	700	715	CLAY, RED, HARD
	715	727	SAND, MEDIUM TO COARSE, WITH CLAY SEAMS
	727	730	CLAY, HARD AND STICKY
	730	760	SAND, GRAY, SOME CLAY AND HARDPAN STREAKS
	760	763	CLAY, HARD AND STICKY
	763	768	SAND, GRAY, WITH CLAY STREAKS
	768	773	SAND, GRAY, MEDIUM
	773	778	SAND, GRAY, WITH CLAY STREAKS
	778	780	SAND, GRAY, MEDIUM
	780	812	SAND, MEDIUM TO COARSE
	812	827	ROCK, WEATHERED
	827	875	BEDROCK
25- 268	0	1	SOIL
	1	15	SAND, BROWN
	15	23	SAND, GRAY, FINE
	23	57	CLAY, GRAY
	57	61	SAND, GRAY, FINE
	61	72	CLAY, GRAY
	72	87	SAND, GRAY, FINE
	87	92	CLAY, GRAY
	92	112	SAND, GRAY, FINE
	112	130	CLAY, GRAY, HARD
	130	135	CLAY, SANDY
	135	148	SAND, GRAY, FINE
	148	156	CLAY, GRAY
	156	157	SAND, HARD PACKED
	157	162	CLAY, GRAY, SILTY
	162	164	HARDPAN
	164	194	CLAY, GRAY, SILTY
	194	263	CLAY, GRAY, SANDY
	263	408	SAND, WHITE, FINE
	408	411	CLAY, WHITE
	411	428	SAND, WHITE, FINE
	428	466	CLAY, WHITE
	466	500	CLAY, WHITE, WITH STREAKS OF FINE SAND
	500	504	CLAY, WHITE
	504	533	CLAY, WHITE, SANDY
	533	537	SAND, MEDIUM
	537	597	SAND, GRAY
	597	625	SAND, FINE, WITH STREAKS OF WHITE CLAY
	625	697	SAND, WHITE, FINE TO MEDIUM
	697	707	CLAY, RED
	707	754	SAND, WHITE, FINE TO MEDIUM
	754	765	CLAY, BROWN
	765	771	SAND, WHITE, FINE TO MEDIUM
25- 269	0	1	SOIL
	1	12	SAND, BROWN
	12	17	CLAY, GRAY
	17	32	SAND, GRAY, FINE
	32	77	CLAY, GRAY
	77	96	SAND, GRAY
	96	107	CLAY, GRAY
	107	114	SAND, GRAY
	114	164	CLAY, GRAY
	164	165	HARDPAN
	165	169	SAND, GRAY
	169	170	CLAY, SANDY
	170	307	SAND, LIGHT GRAY
	307	317	CLAY, GRAY, HARD
	317	427	CLAY, GRAY, SANDY
	427	468	CLAY, WHITE
	468	472	SAND, GRAY, FINE
	472	478	SAND, WITH STREAKS OF CLAY
	478	485	CLAY, WHITE

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 269	485	492	SAND, FINE
	492	500	SAND, GRAY
	500	522	SAND, WITH STREAKS OF CLAY
	522	527	CLAY, GRAY
	527	530	SAND, GRAY, FINE
	530	540	CLAY, GRAY
	540	547	CLAY, GRAY, SANDY
	547	594	CLAY, GRAY
	594	644	CLAY, WHITE, SANDY
	644	703	SAND, WHITE, FINE
	703	743	SAND, WHITE, FINE TO MEDIUM
	743	783	SAND, FINE
25- 272	0	6	FILL
	6	46	CLAY, GRAY, SOLID
	46	93	SAND, GRAY, FINE, WITH STREAKS OF CLAY
	93	111	CLAY, GRAY, SOLID
	111	151	CLAY, GRAY, SOLID, WITH STREAKS OF SANDY CLAY
	151	194	CLAY, DARK GRAY, SOLID
	194	239	CLAY, GRAY, SILTY, CEMENTED, WITH MICA
	239	249	CLAY, GRAY, SILTY, SANDY, WITH MICA AND LIGNITE
	249	269	SAND, GRAY, FINE, WITH LAYERS OF SOLID CLAY
	269	317	CLAY, GRAY, SANDY, SILTY
	317	340	CLAY, GRAY, SANDY, WITH MICA AND LIGNITE
	340	428	SAND, GRAY, FINE, STREAKS OF CLAY, LIGNITE AND PYRITE
	428	474	SAND, GRAY, FINE, WITH LAYERS OF CLAY AND PYRITE
	474	534	CLAY, GRAY, SOLID, WITH PYRITE
	534	554	CLAY, SOLID, SILTY, SANDY, WITH CEMENTED STREAKS
	554	592	CLAY, GRAY, SOLID
	592	618	CLAY, GRAY, SOLID, WITH LAYERS SANDY CLAY AND PYRITE
	618	629	CLAY, MULTICOLORED, SOLID
	629	638	SAND, GRAY, FINE, STREAKS OF CLAY
	638	651	CLAY, GRAY, SOLID, LAYERED WITH SAND AND LIGNITE
	651	662	SAND, GRAY, FINE TO MEDIUM, STREAKS OF CLAY
	662	692	SAND, GRAY, FINE TO COARSE, STREAKS OF SANDY CLAY
	692	698	CLAY, GRAY, SOLID
	698	700	SAND AND CLAY, GRAY, FINE
25- 282	0	10	BRICK AND FILL
	10	15	CLAY, BLACK
	15	57	CLAY, GRAY, SOME STREAKS OF SAND
	57	59	HARDPAN
	59	97	CLAY
	97	126	SAND, FINE, GRADING TO CLAYEY
	126	127	HARDPAN
	127	133	CLAY, SANDY
	133	135	CLAY, SOFT
	135	163	CLAY, SANDY
	163	233	SAND, WITH STREAKS OF CLAY
	233	285	SAND, 1-2 FT HARDPAN LAYERS (233 AND 238 AND 262 FT)
25- 284	0	75	CLAY
	75	130	CLAY, SANDY
	130	142	SAND, FINE
	142	159	SAND, HARD PACKED
	159	207	SAND, WITH CLAY STREAKS
	207	220	CLAY, TOUGH, WITH SOME SAND
	220	242	SAND
	242	243	CLAY
	243	253	SAND
	253	273	SAND, WHITE, COARSE,
	273	286	CLAY, HARD
	286	291	SAND
	291	323	CLAY
	323	352	CLAY, TOUGH
	352	367	SAND
	367	420	CLAY, WITH SAND STREAKS
	420	430	SAND
	430	457	CLAY
25- 292	0	102	NO DATA
	102	138	CLAY, GRAY, SILTY, SOME MICA, LIGNITE AND GLAUCONITE
	138	168	CLAY, GREEN, BROWN, SILTY, WITH GLAUCONITE AND MICA
	168	178	CLAY, GREEN, BROWN, SILTY, WITH GLAUCONITE, MICA AND AMBER
	178	193	SILT, GRAY, CLAYEY, WITH MICA AND LIGNITE
	193	213	SAND, BLACK, FINE, WITH LIGNITE AND MICA, CLAYEY FROM 202 FT
	213	273	CLAY AND SILT AND SAND, GRAY, FINE, WITH MICA AND LIGNITE
	272	285	SAND, WHITE, FINE TO COARSE

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 292	285	296	SAND AND CLAY, GRAY, WHITE, WITH LIGNITE AND MICA
	296	299	CLAY, BLACK, SILTY, WITH MICA AND LIGNITE
	299	306	SAND, WHITE, WITH SOME CLAY
	306	325	CLAY AND SILT AND SAND, GRAY, WITH MICA, LIGNITE AND LIMONITE
	325	344	SILT AND CLAY, GRAY, WITH MICA AND LIGNITE
	344	412	SAND AND CLAY, GRAY, FINE, WITH MICA AND SIDERITE
	412	631	CLAY, GRAY, SOME SILT, WITH MICA, LIGNITE AND LIMONITE
	631	636	SAND, GRAY, FINE TO MEDIUM, WITH CLAY AND SILT
	636	644	CLAY, GRAY, BROWN, MICACEOUS
	644	654	CLAY, GRAY, SILTY, SOME SAND, WITH MICA AND GLAUCONITE
	654	675	SILT, GRAY, CLAYEY, WITH MICA AND LIGNITE
	675	696	SAND, GRAY, WITH MICA AND LIGNITE, CLAYEY FROM 685 FT
	696	733	CLAY, MULTICOLORED, MICACEOUS
25- 294	0	5	SOIL
	5	118	CLAY, TOUGH
	118	146	CLAY, SANDY, TOUGH STREAKS
	146	204	CLAY, BLACK, TOUGH
	204	214	SAND, GRAY, FINE
	214	259	SAND, GRAY, MEDIUM TO COARSE
	259	282	CLAY
25- 297	0	10	CLAY AND GRAVEL
	10	42	CLAY, GRAY
	42	80	CLAY AND SAND
	80	184	CLAY, GRAY, WITH HARD STREAKS
	184	236	SAND, GRAY, FINE
	236	256	CLAY, GRAY
	256	261	SAND, GRAY
	261	374	CLAY AND SAND, GRAY, WHITE, STREAKS
	374	383	SAND, HARD
	383	440	CLAY, RED, HARD STREAKS
	440	465	SAND, COARSE
	465	469	CLAY
	469	486	SAND, FINE, COARSE,
	486	498	CLAY, HARD STREAKS
25- 299	0	1	FILL
	1	5	CLAY, YELLOW
	5	32	SAND, GRAY, CLAYEY
	32	48	CLAY, GRAY
	48	88	CLAY AND SAND, GRAY, FINE
	88	223	CLAY, WITH WOOD AND STREAKS OF COARSE GRAY SAND
	223	268	CLAY, WITH WOOD AND STREAKS OF BROWN SAND
	268	403	SAND, BROWN, WITH WOOD AND CLAY STREAKS
	403	425	CLAY, GRAY
	425	457	SAND, GRAY
	457	491	CLAY, GREEN
25- 303	0	2	SOIL
	2	5	SAND, BROWN
	5	51	CLAY, GRAY, SANDY
	51	78	SAND
	78	137	CLAY, BLACK, SANDY
	137	147	CLAY, BLACK, HARD
	147	175	SAND AND LIGNITE
	175	193	SAND
	193	205	SAND, WITH STREAKS OF CLAY
	205	216	CLAY, GRAY
	216	240	SAND
	240	246	CLAY
	246	252	SAND
	252	258	SAND WITH STREAKS OF CLAY
	258	265	SAND
	265	293	CLAY, SANDY
	293	294	HARDPAN
	294	296	CLAY
	296	307	SAND AND CLAY
	307	309	CLAY
	309	318	SAND, WITH STREAKS OF CLAY
	318	325	CLAY
	325	348	MARL
	348	353	CLAY, SILTY, SANDY
	353	355	HARDPAN
	355	416	CLAY, WITH STREAKS OF SAND
	416	485	SAND
	485	542	SAND
	542	621	SAND, WITH STREAKS OF CLAY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 303	621	650	SAND, WITH LIGNITE
	650	655	HARDPAN AND CLAY, GRAY
	655	670	SAND AND CLAY
	670	726	CLAY, GRAY
25- 314	0	12	LOAM AND CLAY, YELLOW
	12	40	SAND, GRAY, MEDIUM, WITH CHARCOAL
	40	45	CLAY AND SAND, GRAY, DENSE
	45	80	SAND, GRAY, FINE, WITH CHARCOAL
	80	225	CLAY AND SILT, GRAY, DENSE, SOME PEBBLES
	225	300	CLAY, GRAY
	300	340	SAND, GRAY, FINE, CLAYEY
	340	368	SAND AND PEBBLES, GRAY
25- 318	0	100	SAND, WITH GRAVEL AND SHELLS
	100	120	SAND, GRAY
	120	160	CLAY, BLUE, WITH PEBBLES, SANDY (140-160 FT)
	160	180	SAND, YELLOW, FINE
	180	200	CLAY AND LOAM, BROWN
	200	260	CLAY, BLUE, SANDY, STIFF, WITH MICA AND SOME PEBBLES
	260	300	SAND, GRAY, FINE
	300	396	SAND, GRAY, FINE, WITH WOOD AND MICA
	396	400	CLAY, BLUE, WITH WOOD
	400	500	SAND, WHITE, FINE TO MEDIUM, WITH WOOD (420-460 FT)
	500	503	CLAY, WHITE, SANDY, CHALKY
	503	508	SAND, RED, COARSE, WITH WOOD
	508	527	SAND, YELLOW
	527	537	SAND, WHITE, WITH WOOD
	537	542	GRAVEL AND SAND, SOME WOOD AND PEBBLES
	542	552	GRAVEL AND SAND, SOME WOOD AND PEBBLES AND PYRITE
	552	560	SAND, BLUE, FINE
	560	582	CLAY, BLUE, WITH IRONSTONE AND SOME PEBBLES
	582	667	CLAY, BLUE, 1 FT SAND LAYERS AT 624 AND 656 FT
	667	694	SAND, DARK BLUE, FINE, WATER BEARING
	694	711	SAND, WHITE, WITH WOOD, WATER BEARING
	711	715	CLAY, BLUE, SANDY, COMPACT
	715	754	SAND, WHITE, WITH WOOD, WATER BEARING
25- 332	0	383	NO DATA
	383	430	SAND, FINE
	430	432	CLAY, GRAY
	432	445	SAND, CLAYEY
	445	525	CLAY, GRAY, SOLID
	525	625	CLAY, GREEN
	625	650	CLAY, GRAY, WITH STREAKS OF HARDPAN
	650	710	CLAY, SOLID, WITH STREAKS OF IRON ROCK AND WOOD
	710	765	CLAY, GRAY
	765	775	SAND, WHITE, FINE
	775	852	SAND, FINE
25- 357	0	5	FILL
	5	8	SAND, YELLOW
	8	33	SAND, RED
	33	38	CLAY, GRAY, WITH STREAKS OF SAND
	38	87	CLAY, WITH STREAKS OF SAND
	87	93	SAND
	93	131	CLAY, SANDY
	131	171	CLAY, WITH STREAKS OF SAND
	171	181	CLAY, SANDY
	181	205	SAND, CLAYEY
	205	240	SAND, WITH CLAY STREAKS
	240	295	SAND, FINE TO MEDIUM, WITH SOME CLAY STREAKS
	295	305	CLAY
25- 358	0	32	SAND
	32	79	CLAY, SOFT
	79	91	CLAY, BLACK, SANDY
	91	125	CLAY, WITH HARD STREAKS
	125	195	CLAY, HARD, WITH SAND STREAKS
	195	216	CLAY
	216	227	SAND, FINE
	227	239	CLAY
	239	261	SAND
	261	267	CLAY
	267	276	SAND
	276	300	CLAY, BLACK
	300	418	CLAY, HARD STREAKS
	418	420	SANDSTONE

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 358	420	496	CLAY, TOUGH
	496	566	CLAY, SANDY, WITH HARD STREAKS
	566	585	SAND, GRAY, FINE
	585	632	CLAY, TOUGH
	632	687	SAND, GRAY, MEDIUM
	687	688	CLAY
	688	695	SAND
	695	702	CLAY
25- 407	0	60	NO DATA
	10	60	SAND AND CLAY
	60	80	CLAY, DARK
	80	100	SAND AND CLAY
	100	150	CLAY, DARK
	150	190	SAND, FINE, WITH CLAY
	190	440	CLAY, DARK
	440	460	SAND, FINE, WITH DARK CLAY
	460	490	CLAY, LIGHT
	490	500	SAND, FINE
	500	580	SAND, FINE, WITH DARK CLAY
	580	600	CLAY, LIGHT
	600	630	SAND, FINE, WITH CLAY
	630	640	CLAY, LIGHT, RED
	640	680	CLAY, RED
	680	690	CLAY, LIGHT
	690	700	CLAY, RED
	700	705	CLAY, DARK
	705	730	CLAY, RED
	730	738	SAND, FINE
	738	740	CLAY, DARK
	740	743	SAND
	743	750	CLAY, DARK
	750	760	SAND
	760	767	SAND, FINE
	767	770	CLAY, LIGHT
	770	772	SAND
	772	778	SAND, FINE
	778	786	CLAY, LIGHT
	786	790	CLAY, WHITE
	790	805	CLAY, RED
	805	820	SAND
	820	825	CLAY, WHITE
	825	855	CLAY, RED
	855	865	CLAY, WHITE
	865	891	CLAY, RED
	891	916	CLAY, GRAY
	916	920	SAND AND CLAY
	920	940	CLAY, GRAY
	940	951	BEDROCK (GRANITE), WEATHERED
25- 422	0	6	FILL
	6	100	CLAY, GRAY
	100	170	SAND AND CLAY
	170	230	CLAY, GRAY
	230	265	SAND, FINE, CLAYEY
	265	297	SAND, COARSE
	297	298	CLAY
	298	321	SAND, COARSE
	321	325	SAND AND CLAY
	325	326	CLAY, SOLID
25- 453	0	6	FILL
	6	75	CLAY, GRAY, WITH GRAVEL
	75	93	CLAY, WITH SAND STREAKS AND LIGNITE
	93	117	SAND, WITH STREAKS OF SANDY CLAY
	117	136	CLAY, GRAY
	136	144	SAND
	144	162	CLAY AND SAND, GRAY
	162	195	CLAY, SANDY
	195	211	CLAY, SANDY, HARD
	211	222	CLAY, SANDY, SOFT
	222	234	CLAY, SANDY, WITH SOFT AND HARD STREAKS
	234	272	SAND, FINE
	272	291	SAND, FINE TO MEDIUM
	291	307	CLAY, WITH SAND STREAKS
	307	312	CLAY
	312	354	CLAY, SANDY, WITH SAND STREAKS
	354	377	CLAY, SANDY, WITH HARD AND SOFT STREAKS

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 453	377	399	SAND AND CLAY, STREAKS
	399	419	SAND AND CLAY, FINE
	419	432	SAND AND SANDSTONE, FINE TO MEDIUM
	432	442	CLAY, WITH STREAKS OF SAND
	442	463	SAND, FINE
	463	545	SAND, FINE TO MEDIUM, WITH STREAKS OF CLAY
	545		SAND, CEMENTED
25- 456	0	6	FILL
	6	10	SAND, GRAY
	10	105	CLAY, GRAY, WITH LIGNITE
	105	177	SAND AND CLAY, GRAY, FINE, WITH LIGNITE
	177	210	CLAY AND SILT, WITH LIGNITE
	210	265	SAND, GRAY, FINE
	265	266	CLAY
	266	324	SAND, GRAY, MEDIUM
	324	345	CLAY AND SAND, WITH PYRITE
25- 459	0	24	SAND, RED
	24	61	CLAY, GRAY
	61	73	SAND
	73	138	CLAY
	138	156	SAND
	156	234	MARL
	234	396	NO DATA
	396	400	HARD SPOT
	400	506	CLAY, SILTY
	506	514	SAND
	514	593	NO DATA
	593	610	SAND
	610	619	CLAY
	619	636	SAND
	636	694	CLAY, WITH SAND STREAKS
	694	703	SAND
	703	761	CLAY, HARD
25- 462	0	28	SAND, BROWN, MEDIUM
	28	38	CLAY, GRAY, SILTY, SOFT
	38	45	CLAY, GRAY, SOFT, WITH HARDPAN (38 FT)
	45	50	CLAY, GRAY, , BLUE, GREEN, TOUGH
	50	52	CLAY, WHITE, WITH LENSES OF FINE GRAY SAND, LIGNITIC
	52	64	SAND, CLAYEY
	64	72	SAND, FINE, LIGNITIC
	72	80	CLAY, GRAY, FIRM
	80	91	SAND, FINE, WITH SOFT CLAY STREAKS
	91	107	CLAY, FIRM, HARDPAN (91-91.5 FT)
	107	114	SAND
	114	123	CLAY, FIRM, WITH SOME SOFT SPOTS
	123	143	CLAY, GRAY, TOUGH,
	143	145	SAND AND CLAY, LENSES
	145	154	SAND, GRAY, FINE, LIGNITIC
	154	160	CLAY, GRAY, MEDIUM
	160	185	CLAY, HARD PACKED
	185	187	CLAY AND SILT, SOFT
	187	198	SAND, FINE, WITH FINE PEBBLES, AMBER AND LIGNITE
	198	200	CLAY
	200	211	SAND, FINE, WITH FINE WHITE PEBBLES
	211	212	CLAY, WHITE, SOFT
	212	218	SAND, WHITE, CLAYEY
	218	227	SAND, FINE
	227	234	SAND, FINE TO MEDIUM
	234	238	SAND, FINE, WITH FINE WHITE PEBBLES
	238	240	ROCK
	240	245	SAND, FINE, WITH FINE WHITE PEBBLES AND LIGNITE
	245	250	SAND, MEDIUM, COARSE, SOME FINE GRAVEL
	250	252	ROCK, WITH SILT AND LIGNITE
	252	264	CLAY, TOUGH, SILTY AND SOFT (252 FT)
	264	273	SAND, FINE
	273	281	SILT, SOFT
	281	289	SAND, FINE, SILTY
	289	304	SILT AND CLAY, LAYERS, LIGNITIC, HARDPAN (289 FT)
	304	310	CLAY, WHITE
25- 466	0	59	NO DATA
	59	154	CLAY, GRAY, TOUGH
	154	190	SAND, FINE, WITH STREAKS OF GRAY CLAY
	190	210	CLAY, GRAY, WITH STREAKS OF SAND
	210	233	CLAY, GRAY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 466	233	243	SAND, MEDIUM
	243	254	CLAY, WITH STREAKS OF SAND
	254	271	CLAY, SANDY, HARD
	271	293	SAND, WITH CLAY STREAKS
	293	329	CLAY, SANDY
	329	340	SAND
	340	357	SAND, WITH CLAY STREAKS
	357	367	SAND AND CLAY
	367	402	SAND, WITH CLAY STREAKS
	402	414	CLAY, SANDY, HARD
	414	426	SAND, WITH CLAY STREAKS
	426	473	SAND, GRAY, WITH SOME CLAY STREAKS
	473	482	CLAY AND HARDPAN
	482	502	CLAY, SANDY
	502		BEDROCK
25- 467	0	3	FILL
	3	11	SAND, WITH PYRITE
	11	26	GRAVEL AND SAND AND CLAY
	26	53	SAND, GRAY, WHITE, FINE, WITH STREAKS OF LIGNITE
	53	60	CLAY AND SAND, WITH LIGNITE
	60	75	SAND AND CLAY, HARD STREAKS
	75	105	CLAY, BROWN, GRAY, YELLOW, TOUGH
	105	129	CLAY, SANDY, WITH HARD STREAKS
	129	137	SAND, GRAY, WHITE, FINE, HARD
	137	188	CLAY, GRAY, WITH SILTY SAND
	188	205	SAND, GRAY, FINE, WITH LIGNITE
	205	245	SAND, GRAY, FINE, WITH STREAKS OF YELLOW CLAY
	245	267	SAND AND CLAY, FINE, WITH HARD STREAKS
	267	331	CLAY, WITH FINE TO MEDIUM SAND AND PYRITE
	331	347	CLAY, SANDY
	347	397	SAND, FINE TO MEDIUM, WITH HARD STREAKS AND CLAY
	397	509	CLAY, HARD, WITH STREAKS OF SAND AND PYRITE
	509	532	SAND AND GRAVEL, FINE, WITH SANDY CLAY
	532	573	SAND AND GRAVEL, STREAKS, WITH CLAY AND PYRITE
	573	599	CLAY, GRAY, WHITE, HARD
	599	620	CLAY, GRAY, WHITE, WITH IRONSTONE
	620	647	CLAY AND SANDSTONE, GRAY, WHITE
	647	661	SAND, FINE TO MEDIUM, WITH CLAY STREAKS
	661	666	SAND AND CLAY
	666	684	SAND, HARD PACKED, WITH CLAY
	684	689	CLAY, SANDY, WITH HARD STREAKS
	689	692	SAND
	692		SAND AND CLAY, GRAY, WITH IRONSTONE
25- 496	0	3	FILL
	3	14	CLAY
	14	29	SAND
	29	126	MARL
	126	133	CLAY
	133	166	SAND, SILTY
	166	267	CLAY
	267	294	SAND
	294	321	CLAY
	321	341	SAND
	341	422	CLAY, SANDY
	422	432	SAND
	432	497	CLAY, SANDY
	497	608	SAND
	608	660	CLAY
25- 501	0	12	SAND
	12	27	CLAY, BROWN
	27	156	MARL
	156	166	SAND
	166	171	CLAY
	171	193	SAND
	193	203	CLAY
	203	221	SAND
	221	336	CLAY
	336	374	SAND
	374	386	CLAY
	386	453	SAND
	453	539	CLAY
	539	597	SAND, SILTY
	597	701	CLAY
	701	758	SAND, SILTY
	758	812	CLAY AND SAND

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 501	812	864	CLAY
	864	966	CLAY, WITH SAND STREAKS
	966	981	CLAY, HARD
	981	1,036	SAND, WITH CLAY STREAKS
	1,036	1,076	SAND
	1,076	1,090	CLAY
25- 547	0	55	NO DATA
	55	80	SAND AND PEBBLES, GRAY
	80	211	CLAY, BLACK
	211	250	CLAY AND PEBBLES, BLACK
	250	265	SAND, GRAY
25- 551	0	2	FILL
	2	136	MARL, GREEN
	136	191	SAND
	191	206	SHELLS
	206	242	CLAY
	242	272	SAND
	272	287	CLAY
	287	305	SAND
	305	384	CLAY
	384	426	CLAY, SILTY
	426	558	CLAY
	558	616	SAND, LAMINATED
	616	676	SAND
	676	716	CLAY
	716	746	CLAY, HARD
25- 556	0	20	SOIL AND FILL
	20	190	CLAY, DARK GRAY
	190	220	CLAY AND SAND, DARK GRAY
	220	230	CLAY, DARK GRAY
	230	240	CLAY AND SAND, DARK GRAY
	240	260	CLAY, DARK GRAY
	260	275	SAND, DARK GRAY, WATER BEARING
	275	280	CLAY, DARK GRAY
	280	305	CLAY, RED
25- 557	0	30	SAND AND CLAY, YELLOW
	30	42	SAND AND CLAY, GRAY
	42	230	CLAY, GRAY
	230	295	CLAY, GRAY, SANDY
	295	400	CLAY, GRAY
	400	440	CLAY, GREENISH GRAY
	440	568	CLAY, GRAY
	568	600	CLAY AND SAND, GRAY
	600	627	SAND, GRAY, WITH LITTLE CLAY, WATER
25- 562	0	12	SAND
	12	58	CLAY, GRAY
	58	68	CLAY, WITH LENSES OF SAND
	68	90	CLAY, GRAY
	90	97	CLAY AND SAND, GRAY, FINE
	97	101	CLAY, GRAY
	101	132	SAND, FINE, SOME CLAY
	132	163	CLAY, GRAY
	163	164	SAND, FINE
	164	182	CLAY, GRAY, WITH FINE SAND LENSES
	182	198	SAND
	198	232	SAND, FINE, SOME CLAY
	232	260	CLAY, GRAY, WITH FINE SAND LENSES
	260	278	SAND, MEDIUM
	278	279	SAND, COARSE
	279	283	SAND, FINE TO MEDIUM
	283	285	CLAY, GRAY, WITH FINE SAND
	285	320	SAND, FINE TO MEDIUM, WITH SOME WHITE CLAY
	320	346	CLAY, GRAY
	346	355	SAND
	355	357	CLAY
	357	369	SAND
	369	371	CLAY
	371	374	SAND, WITH CLAY
	374	377	SAND, MEDIUM
	377	380	NO DATA
	380	412	SAND, MEDIUM
	412	422	CLAY
	422	425	CLAY, GRAY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 562	425	453	SAND, MEDIUM
	453	455	CLAY
	455	465	SAND, MEDIUM
	465	482	CLAY, GRAY
	482	522	SAND, MEDIUM TO COARSE
	522	523	CLAY, WHITE
	523	548	SAND, MEDIUM
	548	549	CLAY, WHITE
	549	554	SAND, MEDIUM
	554	560	CLAY, WITH LENSES OF SAND
25- 564	0	92	CLAY, WITH SAND STREAKS
	92	194	CLAY AND MARL, SOFT
	194	328	CLAY
	328	380	CLAY, SILTY
	380	412	SAND, SILTY
	412	423	CLAY
	423	436	SAND
	436	444	CLAY
	444	461	SAND
	461	515	CLAY, WITH SAND STREAKS
	515	553	SAND, WITH CLAY STREAKS
	553	568	CLAY
	568	580	SAND, WITH STREAKS OF CLAY
	580	666	CLAY
25- 565	0	6	FILL
	6	25	SAND, YELLOW, MEDIUM, WITH GRAY CLAY BEDS, SOME LIGNITE AND CEMENTED SAND
	25	30	NO DATA
	30	40	SAND, BROWN, FINE, WITH MUSCOVITE, LIGNITE, SOME GRAY CLAY
	40	50	SAND, MEDIUM, SOME COARSE, WITH LIGNITE AND MUSCOVITE
	50	60	SAND, FINE TO MEDIUM, SOME GRAY CLAY, LIGNITE AND MUSCOVITE
	60	70	SAND, MEDIUM TO COARSE, SOME FINE, SOME CLAY, LIGNITE AND MUSCOVITE
	70	80	SAND, FINE TO MEDIUM, SOME GRAY CLAY, LIGNITE AND MUSCOVITE
	80	90	SAND, MEDIUM, SOME GRAY CLAY, LIGNITE AND MUSCOVITE
	90	100	SAND, FINE, SILTY, LIGNITIC, MICACEOUS, MORE GRAY CLAY FROM 97 FT
	100	120	SAND, FINE TO MEDIUM, SILTY, LIGNITIC, MICACEOUS, LITTLE GRAY CLAY
	120	130	SAND, FINE, SILTY, SOME GRAY CLAY, LIGNITE AND MUSCOVITE
	130	140	SAND, FINE, SILTY, LITTLE CLAY, LIGNITE AND MUSCOVITE, TRACE IRON CEMENTATION
	140	150	SAND, FINE TO MEDIUM, SILTY, WITH GRAY CLAY, LIGNITE AND MUSCOVITE
	150	160	CLAY AND SAND, SILTY, WITH GRAY CLAY AND LIGNITE
	160	170	CLAY AND SAND, SILTY, LIGNITIC, SOME GRAY CLAY
	170	180	CLAY, GRAY AND WHITE, SILTY, WITH LIGNITE AND MUSCOVITE
	180	190	CLAY, GRAY, SILTY, LIGNITIC, MICACEOUS
	190	200	CLAY, GRAY, SILTY, SOME FINE SAND, WITH LIGNITE AND MUSCOVITE
	200	210	CLAY, GRAY, WITH LIGNITE AND MUSCOVITE, FINE SAND CONTENT INCREASES AT 208 FT
	210	220	SAND, FINE, COARSENING WITH DEPTH, LIGNITIC AND MICACEOUS
	220	230	SAND, MEDIUM TO COARSE, SOME CLAY, SILT, LIGINTE AND MUSCOVITE
	230	240	SAND, COARSE, SOME SILT, LIGNITIC, MICACEOUS
	240	250	SAND, MEDIUM TO COARSE, SILTY, LIGNITIC, MICACEOUS, TRACE IRON CEMENTATION
	250	260	SAND, MEDIUM, LIGNITIC AND MICACEOUS
	260	270	SAND, MEDIUM, SILTY, LIGNITIC, MICACEOUS
	270	290	SAND AND SILT, FINE TO MEDIUM, GRAY CLAY INCREASING AT 275 FT, LIGNITIC
	290	340	SAND AND SILT AND CLAY, LIGNITIC, SOME MUSCOVITE, SOME CEMENTED SAND
	340	350	SILT AND SAND, FINE TO COARSE, SOME GRAY CLAY, LIGNITE AND MUSCOVITE
	350	360	SAND, FINE TO COARSE, WITH SILTY CLAY, LIGNITE AND MUSCOVITE
	360	375	SAND AND CLAY, LIGNITIC, MICACEOUS
	375	398	SAND AND SILT, SOME MEDIUM IRON STAINED SAND, LIGNITIC, MICACEOUS, SOME CLAY
	398	400	CLAY, BLACK, ORGANIC RICH
	400	425	SAND, FINE TO MEDIUM, SOME IRON STAINED SAND, CLAY, LIGNITE AND MUSCOVITE
	425	450	SAND AND SILT, WITH MULTICOLORED CLAY, LIGNITIC AND MICACEOUS
	450	460	SAND, SILT AND CLAY, LIGNITIC
	460	468	CLAY, RED, WHITE AND GRAY, SILTY, SOME FINE SAND AND LIGNITE
	468	510	SAND, COARSE, WITH LIGNITE, RED AND WHITE CLAY, SOME WEATHERED ROCK AT 507 FT
	510	525	BEDROCK, WEATHERED, MIXED WITH COARSE SAND AND GRAVEL, WHITE CLAY LENS AT 520 FT
	525	540	SAND, COARSE, WITH BLUISH GRAY CLAY AND LIGNITE
	540	543	SAND, COARSE
	543	546	CLAY, BLUE, GRAY AND WHITE
	546	550	SAND, COARSE
	550	555	BEDROCK, MULTI-COLORED, SOME COARSE QUARTZ AND CLAY
25- 566	0	42	LOAM, YELLOW, SOME GRAVEL, IRON CEMENTATION (0-4 FT)
	42	85	SAND, GREENISH BROWN, GLAUCONITIC
	85	99	SAND, GLAUCONITE, GREENISH BLACK, CONSOLIDATED
	99	136	SAND, GLAUCONITIC, CONSOLIDATED, QUARTZ INCREASING
	136	190	SAND, GLAUCONITC, SOME SILT, UNCONSOLIDATED
	190	226	SAND, GLAUCONITE, CONSOLIDATED, WITH CLAY, PYRITE AND SHELLS
	226	236	CLAY, GRAY TO BLACK, SILTY, WITH SAND ZONES, TRACE GRAVEL

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 566	236	242	SAND, GRAY, MEDIUM TO VERY COARSE
	242	250	SAND, GRAY TO BLACK, CLAYEY, SILTY
	250	298	SAND, BLACK, GLAUCONITIC, SOME SILTY LAYERS AND LAMINAE, POORLY CONSOLIDATED
	298	331	CLAY, BLACK, LITTLE SAND, WITH PYRITE AND GLAUCONITE
	331	390	SAND, CLAY AND LIGNITE, INTERBEDDED, WITH PYRITE
	390	416	SAME AS ABOVE, WITH SIDERITE
	416	514	SILTY GRAY, CLAYEY, WITH SIDERITE, PYRITE AND LIGNITE
	514	526	SILT, BLACK, CLAYEY, WITH GLAUCONITE RICH ZONES
	526	543	SAND, GLAUCONITIC, CEMENTED WITH SIDERITE
	543	619	SILT, GRAY, MICACEOUS, MASSIVE, WITH PYRITE, SIDERITE AND GLAUCONITE CONCRETIONS
	619	641	SAND AND CLAY, INTERBEDDED, WITH LIGNITE AND SIDERITE
	641	651	CLAY, GRAY, WITH LIGNITE, SOME VERY FINE SAND
	651	676	SAND, GRAY, FINE, WITH LIGNITE STRINGERS
	676	820	SAND, GRAY, FINE TO COARSE, LAYERED WITH CLAY, SILT AND LIGNITE BEDS, MICACEOUS
	820	826	GRAVEL, WITH CLAYEY SILT, MICACEOUS, LIGNITE BEDS
	826	864	SILTY, GRAY, CLAYEY, WITH FINE SAND, MICA, FOSSILS AND GLAUCONITE, CROSS-BEDDED
	864	896	SANDY, FINE TO MEDIUM, SILTY, TRACE CLAY, GLAUCONITE, PYRITE, MICA, SIDERITE
	896	938	CLAY, GRAY, SILTY, MICACEOUS, GLAUCONITIC, SIDERITIC, LIGNITIC, LAMINATED
	938	978	SAME AS ABOVE, WITH FINE MICACEOUS SAND LAYERS
	978	1,028	CLAY, MULTICOLOED, WITH SAND LAYER, MICA, PYRITE, AND LIGNITE FRAGMENTS
	1,028	1,076	SAND, GRAY, FINE TO MEDIUM, WITHMICA, FELDSPAR AND LIGNITE
	1,076	1,086	SAND AND CLAY, LAYERED, WITH SOME CORASE SAND, LIGNITE AND MICA
	1,086	1,096	SAND, MEDIUM
	1,096	1,106	CLAY, GRAY, SANDY, WITH LIGNITE
	1,106	1,110	SAND, COARSE
	1,110	1,136	SILT AND SAND, CLAYEY, LAMINATED, WITH LIGNITE LAYERS
	1,136	1,156	CLAY, GRAVELLY, MICACEOUS
	1,156	1,166	SAND, MEDIUM TO COARSE, SOME GRAVEL, LIGNITIC LAYERS
	1,166	1,186	CLAY, SANDY, WITH LIGNITE
	1,186	1,200	CLAY, SILTY, WITH SAND STRINGERS AND PEBBLES, MICA, PYRITE, LIGINITE
	1,200	1,226	SAND, MEDIUM TO COARSE, SOME CLAY, GRAVEL, MICA AND LIGNITE, BIOTITE AT 1220 FT
	1,226	1,236	CLAY, WITH SOME FINE SAND AND LIGNITE LAYERS
	1,236	1,256	SAND, FINE, WITH CLAY LAYERS AND MICA
	1,256	1,276	CLAY, GRAY WITH GRAVEL, MICA AND MOTTLED WITH RED CLAY (SAPROLITE)
	1,276	1,320	SCHIST, WEATHERED, BIOTITE BANDS WITH QUARTZ, GARNET, CHLORITE AND EPIDOTE
25- 568	0	7	SAND, YELLOWISH ORANGE, MEDIUM TO COARSE
	7	10	CLAY, GRAY
	10	20	CLAY, GRAY, WITH FINE TO MEDIUM SAND
	20	30	SAND, MEDIUM TO COARSE, WITH SOME CEMENTED SAND AND GREENISH CLAY
	30	40	SAND, YELLOWISH ORANGE, MEDIUM TO COARSE, CEMENTED
	40	50	CLAY, GRAY, SILTY, SOME LIGNITE
	50	65	CLAY, GRAY, WITH FINE TO MEDIUM SAND, LIGNITE AND MUSCOVITE
	65	75	CLAY, GRAY, WITH FINE TO MEDIUM SAND AND MUSCOVITE
	75	85	CLAY, GRAY
	85	90	CLAY, BLACK, WITH SILTY SAND, MUSCOVITE AND LIGNITE
	90	100	CLAY, BLACK, WITH FINE SAND, MUSCOVITE AND LIGNITE
	100	125	CLAY, GRAY, WITH YELLOWISH ORANGE IRON CEMENTED SAND, LIGNITE AND MUSCOVITE
	125	140	SAND, YELLOWISH ORANGE, FINE TO MEDIUM, CEMENTED IN PLACES
	140	150	SAND, FINE, WITH SILTY CLAY
	150	160	SAND, FINE, WITH SILTY CLAY, LIGNITE AND MUSCOVITE
	160	170	SAND, FINE, WITH SILT, CLAY, LIGNITE AND MUSCOVITE
	170	175	SAND, FINE, WITH CEMENTED IN PLACES
	175	200	CLAY, GRAY, WITH SILTY FINE SAND, LIGNITE AND MUSCOVITE
	200	225	SAND, FINE, WITH GRAY CLAY
	225	250	SAND, WHITE, MEDIUM TO COARSE, WITH MUSCOVITE
	250	275	SAND, MEDIUM TO COARSE, WITH SILTY CLAY, PYRITE, MUSCOVITE AND LIGNITE
	275	283	CLAY, GRAY
25- 569	0	25	NO DATA
	25	27	CLAY, BLACK, SILTY, WITH SHELL FRAGMENTS, GRADING TO GRAY SILTY CLAY
	27	30	NO DATA
	30	32	SAND, GREENISH GRAY, FINE TO MEDIUM, SILTY, SHELL FRAGMENTS
	32	35	NO DATA
	35	37	SAND, GREENISH GRAY, FINE TO MEDIUM, GLAUCONITIC, SHELL FRAGMENTS
	37	40	NO DATA
	40	42	SILT, GRAY TO BLACK, HYDROCARBON ODOR, GRADING TO FINE TO COARSE GLAUCONITIC SAN
	42	45	NO DATA
	45	47	SAND AND GRAVEL, BROWN, FINE TO COARSE, LITTLE SILT
	47	50	NO DATA
	50	52	SAND, BROWN, FINE TO MEDIUM, WITH LAYERS OF SAND AND GRAVEL, LITTLE SILT
	52	55	NO DATA
	55	57	SAND, BROWN, FINE TO COARSE, WITH GRAVEL, LITTLE SILT
	57	60	NO DATA
	60	62	SAND, BROWN, FINE TO MEDIUM, TRACE SILT, GRADING TO SILTIER SAND
	62	65	NO DATA
	65	67	SAND, BROWN, FINE TO COARSE, WITH SILT
	67	70	NO DATA

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 569	70	72	SAND, BROWN, FINE TO COARSE, LITTLE SILT, GRADING TO GRAY MICACEOUS FINE SAND
	72	75	NO DATA
	75	77	SAND, GRAY, FINE, SILTY, MICACEOUS, LIGNITE, THIN SEAMS OF CLAY
	77	80	NO DATA
	80	82	SAND, GRAY, FINE, SILTY, MICACEOUS, CLAYER OF LAMINATED CLAY
	82	85	NO DATA
	85	87	CLAY, GRAY, SILT, SANDY, MICACEOUS, LIGNITIC, PYRITIC, LAMINATED
	87	90	NO DATA
	90	92	CLAY, GRAY, SANDY, SILTY, PYRITIC, LIGNITIC, MICACEOUS
	92	95	NO DATA
	95	97	CLAY, GRAY, SANDY, SILTY, LIGNITIC, MICACEOUS
	97	100	NO DATA
	100	102	CLAY, GRAY, SANDY, SILTY, MICACEOUS, LIGNITIC, LAMINATED, TRACE GRAVEL
	102	104	NO DATA
	104	105	GRAVEL
	105	105	NO DATA
	105	107	CLAY, GRAY, SANDY, SILTY, MICACEOUS, LIGNITIC, PYRITIC, LAMINATED
	107	110	NO DATA
	110	112	CLAY, GRAY, SANDY, SILTY, MICACEOUS, LIGNITIC, PYRITIC
	112	115	NO DATA
	115	116	CLAY, GRAY, SILTY, GRADING TO GRAY CLAY
	116	120	NO DATA
	120	122	CLAY, GRAY, MICACEOUS, SILTY, MOTTLED
	122	125	NO DATA
	125	127	CLAY, GRAY, SILTY, MICACEOUS, PYRITIC
25- 570	0	35	NO DATA
	35	37	SILT AND CLAY, BLACK, SOFT, WITH ORGANIC MATERIAL AND SHELL FRAGMENTS
	37	40	NO DATA
	40	41	SILTY, GRAY, CLAYEY, TRACE SHELL FRAGMENTS
	41	45	NO DATA
	45	48	SAND, GRAY, FINE TO MEDIUM, TRACE CLAY AND SHELLS, GRADING TO SAND AND GRAVEL
	48	50	NO DATA
	50	52	SAND, BROWN, FINE TO MEDIUM, SILTY, GRADING TO FINE TO COARSE SAND, SILTY
	52	55	NO DATA
	55	57	SAND, BROWN, FINE TO COARSE, SILTY, SOME GRAVEL
	57	60	NO DATA
	60	62	SAND, BROWN, FINE TO MEDIUM, CLAYEY, GLAUCONITIC, GRADING TO SANDY CLAY
	62	65	NO DATA
	65	67	SAND, ORANGE AND GREEN, FINE TO MEDIUM, CLAYEY, GLAUCONITIC, LOCALLY OXIDIZED
	67	70	NO DATA
	70	72	SAND, ORANGE AND GREEN, FINE TO MEDIUM, CLAYEY, GLAUCONITIC, LOCALLY OXIDIZED
	72	75	NO DATA
	75	77	SAND, GREEN, FINE TO MEDIUM, GLAUCONITIC
	77	80	NO DATA
	80	82	SAND, GREEN, FINE TO MEDIUM, SILTY, CLAY LAYERS, GLAUCONITIC, LIGNITIC
	82	84	NO DATA
	84	87	SAND AND GRAVEL, BROWN, FINE TO COARSE, GRADING TO MICACEOUS SILT AND CLAYEY SAN
	87	90	NO DATA
	90	92	CLAY, GRAY, SILTY, STIFF, MICACEOUS SAND STINGERS
	92	95	NO DATA
	95	97	CLAY, GRAY, LAMINATED
	97	100	NO DATA
	100	102	CLAY, GRAY, MICACEOUS, LAMINATED, ORGANIC
	102	105	NO DATA
	105	107	CLAY, GRAY, MICACEOUS, LAMINATED, ORGANIC
	107	110	NO DATA
	110	112	CLAY, GRAY, MICACEOUS, LIGNITIC, LAMINATED, ORGANIC
25- 571	0	5	NO DATA
	5	7	SAND, GRAY, FINE TO COARSE, SOME GRAVEL, LOOSE
	7	10	NO DATA
	10	12	SAND, GRAY, FINE TO COARSE, SOME GRAVEL, DENSE
	12	15	NO DATA
	15	17	SAND, GRAY, FINE TO MEDIUM, SOME GRAVEL, GRADING TO GLAUCONITIC SAND, SILTY
	17	20	NO DATA
	20	22	SAND, GRAY, FINE TO COARSE, SOME GRAVEL, GRADING TO GLAUCONITIC SAND
	22	25	NO DATA
	25	26	SAND AND GRAVEL, GREEN, FINE TO COARSE, TRACE SILT
	26	30	NO DATA
	30	31	SAND AND GRAVEL, GREENISH GRAY, FINE TO COARSE, TRACE SILT AND SHELLS, DENSE
	31	35	NO DATA
	35	36	SAND AND GRAVEL, GREENISH GRAY, FINE TO COARSE, VERY DENSE
	36	40	NO DATA
	40	41	SAND, GREENISH GRAY, FINE TO COARSE, GLAUCONITIC, TRACE GRAVEL AND SILT, DENSE
	41	45	NO DATA
	45	46	SAND AND GRAVEL, GREENISH GRAY, FINE TO COARSE, GLAUCONITIC, TRACE SILT, DENSE
	46	50	NO DATA

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 571	50	52	SAND AND GRAVEL, GREEN, FINE TO COARSE, GLAUCONITIC, GRADING TO FINE SAND
	52	55	NO DATA
	55	57	SAND, GREEN, FINE TO COARSE, GLAUCONITIC, LITTLE SILT, VERY DENSE
	57	60	NO DATA
	60	62	SAND, GREEN, FINE TO COARSE, GLAUCONITIC, TRACE SILT, VERY DENSE
	62	65	NO DATA
	65	67	SILT, GRAY, SANDY, WITH FOSSILS, GRADING TO SILTY SAND
	67	70	NO DATA
	70	72	SAND, GRAY, FINE, SILTY, MICACEOUS, WITH SHELL FRAGMENTS, DENSE
	72	75	NO DATA
	75	77	SAND, GRAY, FINE TO MEDIUM, SILTY, MICACEOUS, WITH SHELLS, GRADING TO CLAY
	77	80	NO DATA
	80	82	CLAY, GRAY, GRADING TO GRAY, FINE MICACEOUS SILTY SAND, LOCALLY OXIDIZED
	82	85	NO DATA
	85	87	SAND, BROWN, FINE TO MEDIUM, SILTY, GLAUCONITIC, LITTLE GRAVEL
	87	90	NO DATA
	90	92	SAND, BROWN, FINE TO MEDIUM,
	92	95	NO DATA
	95	97	SAND, BROWN, FINE TO MEDIUM, GLAUCONITIC, SILTY, TRACE GRAVEL
	97	100	NO DATA
	100	102	SAND, BROWN, FINE TO MEDIUM, SOME COARSE, SILTY, GLAUCONITIC, LOCALLY OXIDIZED
	102	105	NO DATA
	105	107	SAND, BROWN, FINE TO MEDIUM, SILTY, GLAUCONITIC, TRACE COARSE SAND
	107	110	NO DATA
	110	112	SAND, BROWN, FINE TO MEDIUM, SOME COARSE, GLAUCONITIC
	112	115	NO DATA
	115	117	SAND, BROWN, FINE TO MEDIUM, GLAUCONITIC, SILTY
	117	120	NO DATA
	120	122	SAND, BROWN, FINE TO COARSE, SILTY, GLAUCONITIC
	122	125	NO DATA
	125	127	SAND, GRAY, GREENISH GRAY, FINE TO COARSE, SOME GRAVEL, LITTLE SILT
	127	130	NO DATA
	130	132	SAND, GREENISH GRAY, FINE TO MEDIUM, SILTY
	132	135	NO DATA
	135	137	GRAVEL AND SAND, GRAY, FINE TO COARSE, DENSE
	137	140	NO DATA
	140	142	SAND, GRAY, FINE, SILTY, DENSE
	142	145	NO DATA
	145	147	SAND, GRAY, FINE TO COARSE, SOME SILT, GRADING TO FINE TO COARSE CLAYEY GRAVEL
	147	149	GRAVEL
	149	150	NO DATA
	150	152	SAND, BROWN, FINE TO MEDIUM, SILTY, WITH IRONSTONE CONCRETIONS
	152	155	NO DATA
	155	157	SAND, BROWN, SILTY, GLAUCONITIC, WITH IRONSTONE CONCRETIONS
	157	160	NO DATA
	160	162	SAND, GRAY, FINE, MICACEOUS, SOM CORASE GRAVEL
	162	165	NO DATA
	165	167	SAND, GRAY, FINE, SILTY, SOME GRAVEL, MICACEOUS, LIGNITIC
	167	170	NO DATA
	170	172	SAND, GRAY, FINE, SILTY, MICACEOUS
	171	185	NO DATA
	185	187	SAND, GRAY, FINE, SILTY, MICACEOUS, INTERBEDDED WITH STIFF GRAY CLAY
	187	195	NO DATA
	195	197	SAND, GRAY, FINE, SILTY, MICACEOUS, LIGNITIC, WITH THIN LAYERS OF GRAY CLAY
	197	205	NO DATA
	205	206	CLAY, GREENISH GRAY, SANDY, GRADING TO GRAY, LIGNITIC, PYRITIC, SANDY CLAY
25- 572	0	10	CLAY, BROWN, SANDY
	10	20	CLAY, BLACK
	20	30	CLAY, BLACK, WITH SAND
	30	110	CLAY, BLACK
	110	120	CLAY, GREEN
	120	125	CLAY, GREEN AND GRAY
	125	165	CLAY, GRAY
	165	210	SAND, GRAY, FINE, WITH WOOD, CLAY AND MICA
	210	215	CLAY, BROWN AND BLACK, HARD
	215	250	CLAY, GRAY AND WHITE, HARD
	250	295	SAND, FINE, WITH WOOD
	295	300	SAND, COARSE, WITH SOME WOOD
25- 586	0	9	WATER
	9	29	SILT AND CLAY
25- 590	0	10	WATER
	10	32	SILT AND CLAY
25- 591	0	5	WATER
	5	7	NO DATA

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 591	7	20	SAND, MEDIUM
	20	28	SAND, FINE TO MEDIUM
25- 594	0	8	WATER
	8	12	NO DATA
	12	29	SILT AND CLAY
25- 595	0	3	WATER
	3	6	NO DATA
	6	27	SAND, MEDIUM
25- 596	0	4	WATER
	4	22	SAND, FINE TO MEDIUM
25- 597	0	10	WATER
	10	16	NO DATA
	16	32	SILT AND CLAY
25- 599	0	10	WATER
	10	25	SAND, FINE TO MEDIUM
25- 601	0	4	WATER
	4	8	NO DATA
	8	10	SILT AND CLAY
	10	25	SAND, FINE TO MEDIUM
25- 602	0	4	WATER
	4	22	SAND, FINE TO MEDIUM
25- 603	0	9	WATER
	9	15	NO DATA
	15	17	SILT AND CLAY
	17	20	SILT AND CLAY
	20	29	SILT AND CLAY
	29	36	SAND, FINE TO MEDIUM
25- 604	0	4	WATER
	4	21	NO DATA
	21	25	SAND, FINE TO MEDIUM
25- 605	0	11	WATER
	11	23	SAND, FINE TO MEDIUM
25- 606	0	17	WATER
	17	23	SILT AND CLAY
	23	31	NO DATA
	31	32	SAND, MEDIUM TO COARSE
25- 607	0	16	WATER
	16	22	SILT AND CLAY
	22	34	SAND, FINE TO MEDIUM
25- 609	0	4	WATER
	4	8	SAND, FINE TO MEDIUM
	8	18	SILT AND CLAY
	18	38	SAND, MEDIUM TO COARSE
25- 610	0	3	WATER
	3	5	SAND, FINE TO MEDIUM
	5	11	SAND, MEDIUM TO COARSE
	11	19	SAND, FINE TO MEDIUM
	19	37	SAND, MEDIUM TO COARSE
25- 611	0	3	WATER
	3	5	SAND, GRAY, FINE
	5	10	SAND AND SILT, TRACE FINE GRAVEL
	10	13	SAND, GRAY, FINE
	13	19	SAND, TAN, FINE, TRACE SILT
	19	31	SILT AND CLAY, GRAY, VARVED, TRACE FINE SAND
	31	37	SAND, GRAY, FINE, SOME SILT
25- 612	0	7	WATER
	7	31	SILT, GRAY
25- 613	0	2	WATER
	2	4	SAND, GRAY, FINE, TRACE SHELLS AND SILT
	4	23	SAND, TAN, FINE TO COARSE
	23	30	SILT, GRAY

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 613	30	38	SILT, GRAY, LITTLE FINE SAND
25- 614	0	7	WATER
	7	11	SAND, FINE TO COARSE, FINE TO COARSE GRAVEL, TRACE SILT
	11	19	SAND, TAN, FINE TO COARSE, TRACE SILT AND GRAVEL
	19	34	SAND, TAN, FINE TO MEDIUM
	34	37	SAND, TAN, FINE, TRACE FINE TO MEDIUM GRAVEL
25- 615	0	6	WATER
	6	10	SAND, FINE, TRACE SILT, FINE GRAVEL AND SHELLS
	10	16	SAND, TAN, FINE, TRACE SILT
	16	27	SAND, TAN, FINE TO MEDIUM
	27	36	SAND, TAN, FINE TO COARSE, TRACE GRAVEL
25- 616	0	6	WATER
	6	38	SAND, TAN TO GRAY, FINE TO COARSE, TRACE FINE GRAVEL
25- 617	0	7	WATER
	7	11	SAND AND SILT, GRAY, FINE
	11	37	SAND, TAN, FINE TO MEDIUM
25- 618	0	6	WATER
	6	9	SAND, GRAY, FINE TO COARSE, TRACE SHELLS
	9	23	SAND, TAN, FINE TO COARSE, TRACE SHELL FRAGMENTS
	23	37	SAND, TAN, FINE
25- 619	0	8	WATER
	8	10	SAND, BLACK, FINE, LITTLE SILT
	10	36	SILT, GRAY
25- 620	0	1	WATER
	1	5	SAND, GRAY, FINE, TRACE SHELL FRAGMENTS
	5	24	SILT, GRAY, TRACE FINE SAND AND SHELL FRAGMENTS
	24	36	SAND, TAN TO GRAY, FINE TO MEDIUM, LITTLE SILT
25- 621	0	5	WATER
	5	7	SAND, GRAY TO TAN, FINE TO MEDIUM, TRACE SHELLS
	7	13	SAND, GREEN, TAN, TRACE SHELLS
	13	20	SAND, BROWN, FINE TO MEDIUM, TRACE SILT
	20	24	SAND, BROWN, FINE TO COARSE, SOME GRAVEL
	24	30	SILT AND SAND, GRAY, RED, BROWN
	30	40	SAND, BROWN, WHITE, FINE TO MEDIUM
25- 622	0	8	WATER
	8	10	SAND, DARK GRAY, FINE TO MEDIUM, SOME SILT
	10	18	SILT AND CLAY, GRAY TO BROWN, TRACE FINE TO MEDIUM SAND
	18	41	SILT, GRAY
25- 623	0	4	WATER
	4	10	SAND, GRAY, BROWN, FINE TO MEDIUM, LITTLE SILT
	10	25	SAND, BROWN, FINE TO MEDIUM, TRACE SILT
	25	39	SILT, GRAY
25- 624	0	2	WATER
	2	5	SAND, GRAY, FINE TO MEDIUM, SOME SILT, TRACE SHELLS
	5	24	SAND, TAN, FINE TO MEDIUM
	24	38	SILT, GRAY, TRACE FINE TO COARSE SAND, TRACE FINE TO MEDIUM GRAVEL
25- 632	0	17	WATER
	17	37	SILT AND SAND, WITH SHELLS, WITH GRAVEL (17-27 FT)
	37	47	SAND, RED
	47	150	SAND, GRAY, YELLOW, WITH YELLOW CLAY (47-70 FT)
25- 633	0	11	WATER
	11	21	SILT AND CLAY AND SAND
	21	61	SAND, RED
	61	80	CLAY, BLACK, HEAVY, THIN BEDS OF GRAY SAND (71-80 FT)
25- 634	0	2	FILL, RED, CLAYEY
	2	3	NO DATA
	3	33	SAND, RED, FINE TO COARSE, INDURATED
	33	92	SAND, GREEN, FINE, GLAUCONITIC, INDURATED
	92	140	CLAY AND SILT, GREEN, GLAUCONITIC

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
25- 634	140	185	SAND, GREEN, FINE TO COARSE, GLAUCONITIC, WEATHERED
	185	200	SAND, GLAUCONITIC
	200	220	CLAY, GRAY, GLAUCONITIC
	220	289	SAND, GRAY, FINE, INTERBEDDED WITH THIN CLAY LENSES
	289	295	SAND, GRAY, FINE TO MEDIUM
	295	305	SAND, FINE, CLAYEY
	305	315	SAND, GRAY, FINE TO MEDIUM, QUARTZ
	315	560	CLAY, GRAY, SOME HARD PAN, SAND LENSES AND SHELLS
	560	605	SAND, GRAY, QUARTZ
	605	678	SAND, GRAY, MEDIUM TO COARSE, SOME THIN CLAY LENSES AND LIGNITE
	678	694	CLAY, GRAY, WITH INTERBEDDED LENSES OF FINE GRAY SAND
	694	722	CLAY, GRAY, DENSE
	722	830	CLAY, GRAY, INTERBEDDED WITH FINE GRAY SAND
	830	859	SAND, GRAY, FINE
	859	866	CLAY
	866	918	SAND, COARSER FROM 880 FT
	918	920	CLAY
85- 13	0	29	CLAY
	29	40	CLAY, SAND AND GRAVEL
	40	56	SAND AND GRAVEL, COARSE
	56	86	SAND, GRAVEL AND CLAY, NO WATER
	86	90	SAND, YELLOW
	90	124	SAND AND CLAY, GRAY
	124	136	SAND, GRAY, WATER STRUCK AT 124 FT AND LOST AT 136 FT
	136	138	SAND AND CLAY
	138	145	CLAY
	145	148	CLAY, BLUE
	148	158	SAND, GRAY, MEDIUM, WITH CLAY
	158	170	CLAY AND FINE SAND, WATER STRUCK AT 158 FT AND LOST AT 166 FT
	170	181	SAND, FINE, WITH WHITE CLAY
	181	187	SAND, FINE , WITH GRAY CLAY
	187	205	CLAY, BLUE
	205	250	CLAY, BLUE AND GRAY
	250	282	CLAY, BLUE
	282	298	CLAY
	298	303	CLAY AND SAND
	303	360	NO DATA
	360		BEDROCK (MICA SCHIST)
85- 14	0	26	CLAY
	26	27	SAND
	27	43	SAND AND CLAY
	43	47	CLAY
	47	55	SAND AND GRAVEL
	55	90	CLAY, GRAY
	90	177	CLAY
	177	182	SAND
	182	228	SAND
85- 15	0	2	CLAY, RED, WITH GRAVEL
	2	3	SAND, BROWN
	3	30	SAND, YELLOW
	30	60	CLAY AND GRAVEL
	60	63	SAND, BROWN, WATER
	63	69	SAND, COARSE, WITH CLAY
	69	72	SAND, BROWN, WATER
	72	73	SAND, COARSE, WITH CLAY
	73	78	CLAY
	78	116	CLAY, BLUE, WITH SAND
	116	117	SAND, FINE
	117	128	CLAY, PINK
	128	130	CLAY, BLACK
	130	134	SAND, WATER
	134	147	SAND AND CLAY,
	147	151	SAND, WATER
	151	154	SAND, WHITE, COARSE, WATER
	154	163	SAND
85- 16	0	5	TOPSOIL
	5	8	CLAY, SAND, GRAVEL AND BOULDERS
	8	20	SAND, RED
	20	26	SAND, BROWN, FINE
	26	33	SAND, BROWN, COARSE
	33	39	SAND, FINE
	39	50	SAND, COARSE, WITH GRAVEL
	50	55	SAND, BROWN, COARSE, WITH GRAVEL
	55	56	CLAY, WHITE

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
85- 16	56	59	SAND, AND SOME GRAVEL
	59	62	SAND, BROWN
	62	65	SAND, BROWN
	65	72	SAND, BROWN, COARSE
	72	75	SAND, BROWN, COARSE, WITH GRAVEL
	75	77	CLAY, WHITE, WITH GRAVEL
	77	100	CLAY, WHITE
	100	110	SAND, BROWN
	110	121	CLAY, BLUE
	121	122	CLAY, WHITE
	122	149	CLAY, BLUE
	149	151	CLAY, BLUE, WITH HARDPAN
	151	192	CLAY, BLUE
	192	206	CLAY, GRAY, TRACE HARDPAN
	206	210	CLAY, GRAY
	210	214	CLAY, RED, BLUE AND GRAY, IN STREAKS
	214	218	CLAY, GRAY, TRACE HARDPAN
	218	229	CLAY, RED, MIXED WITH GRAY CLAY
	229	238	CLAY, RED, WITH SAND
	238	242	CLAY, RED, BLUE AND GRAY
	242	246	SAND, WHITE
	246	250	CLAY, GRAY, TRACE LIGNITE
	250	270	CLAY, BLUE, RED AND GRAY, SOME MICA
	270	319	BEDROCK (SOAPSTONE WITH MICA)
85- 17	0	18	FILL
	18	73	HARDPAN, SAND AND CLAY
	73	84	SAND AND GRAVEL WATER BEARING
	84	160	CLAY, GRAY, WITH A LITTLE RED CLAY
	160	197	CLAY, GRAY, WITH SOME SAND
	197	217	CLAY, GRAY
	217	275	CLAY, RED
	275	301	HARDPAN, SAND AND CLAY
	301	308	CLAY, HARD, WITH PIECES OF RED SANDSTONE
	308	353	CLAY, HARD
	353		BEDROCK
85- 18	0	16	SAND
	16	31	SAND, COARSE, WITH GRAVEL
	31	56	MUD
	56	70	SAND, COARSE, WITH GRAVEL
	70	120	MUD
	120	121	SAND, FINE
	121	124	HARDPAN AND GRAVEL
	124	147	SAND, WHITE, FINE
85- 19	0	20	CLAY, RED, HARD
	20	60	CLAY, SOFTED, WITH SOME FINE SAND
	60	70	GRAVEL, COARSE
	70	150	CLAY, HARD
	150	173	SAND, COARSE, WATER BEARING
85- 20	0	48	CLAY AND SAND AND GRAVEL, RED
	48	58	SAND, RED
	58	62	CLAY, BLACK
	62	68	SAND, WHITE
85- 21	0	20	SAND, RED
	20	45	SILT, BLACK, WITH SAND AND SHELLS (20-40 FT)
	45	55	SAND, RED
	55	145	SAND, WHITE
	145	149	CLAY, BLACK
85- 22	0	7	WATER
	7	37	SILT, BLACK
	37	57	SAND, FINE, WITH BROKEN SHELLS
	57	87	CLAY, DARK
	87	100	SILT, BLACK
85- 23	0	20	WATER
	20	150	SILT, BLACK, SAND AND SHELLS (90-100 FT), SAND (130-150 FT)
	150	160	SAND, GRAY (RIVER MUD)
	160	180	SILT, BLACK
85- 24	0	19	WATER
	19	125	SILT, BLACK, WITH SAND AND SHELLS (89-125 FT)
85- 25	0	450	SAND, CLAY, AND GRAVEL, WITH SALT WATER

Table 4.--Drillers' logs of selected wells and test boreholes--Continued
[Locations shown on plate 1.]

Well number	Top (ft)	Bottom (ft)	Lithologic description
85- 25	450	750	BEDROCK, WITH SALT WATER
	750	1,000	BEDROCK, WITH FRESH WATER
85- 26	0	20	WATER
	20	35	SILT, WITH SHELLS TO 30 FT, WITH RED SAND (30-35 FT)
	35	55	SAND, RED
	55	80	SABD, GRAY, WITH YELLOW CLAY (75-80 FT)

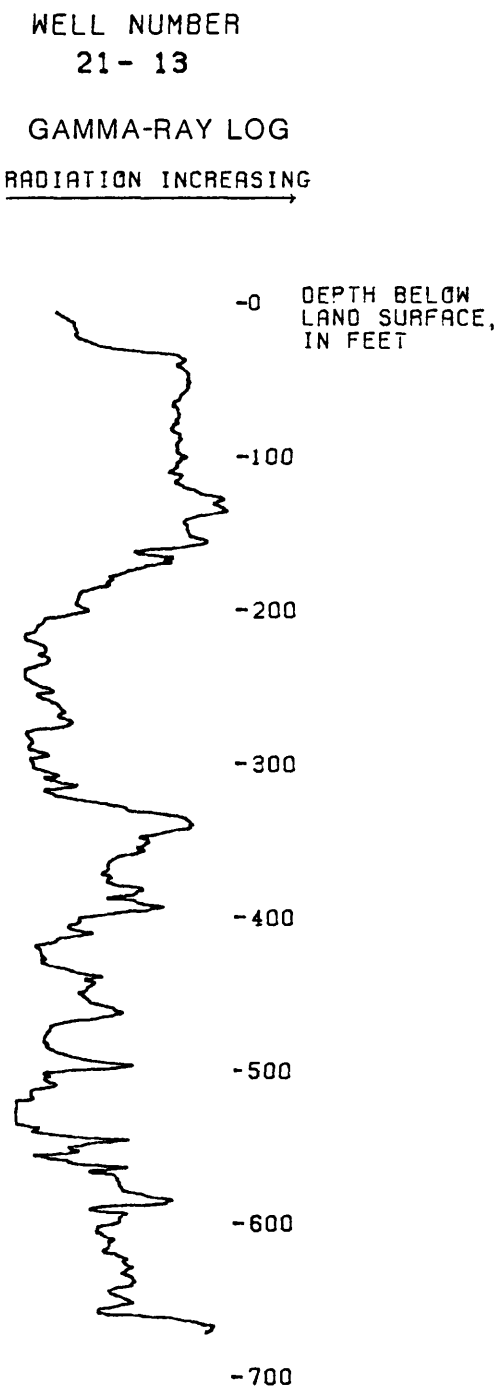


Figure 3.--Geophysical log of well 21-13.

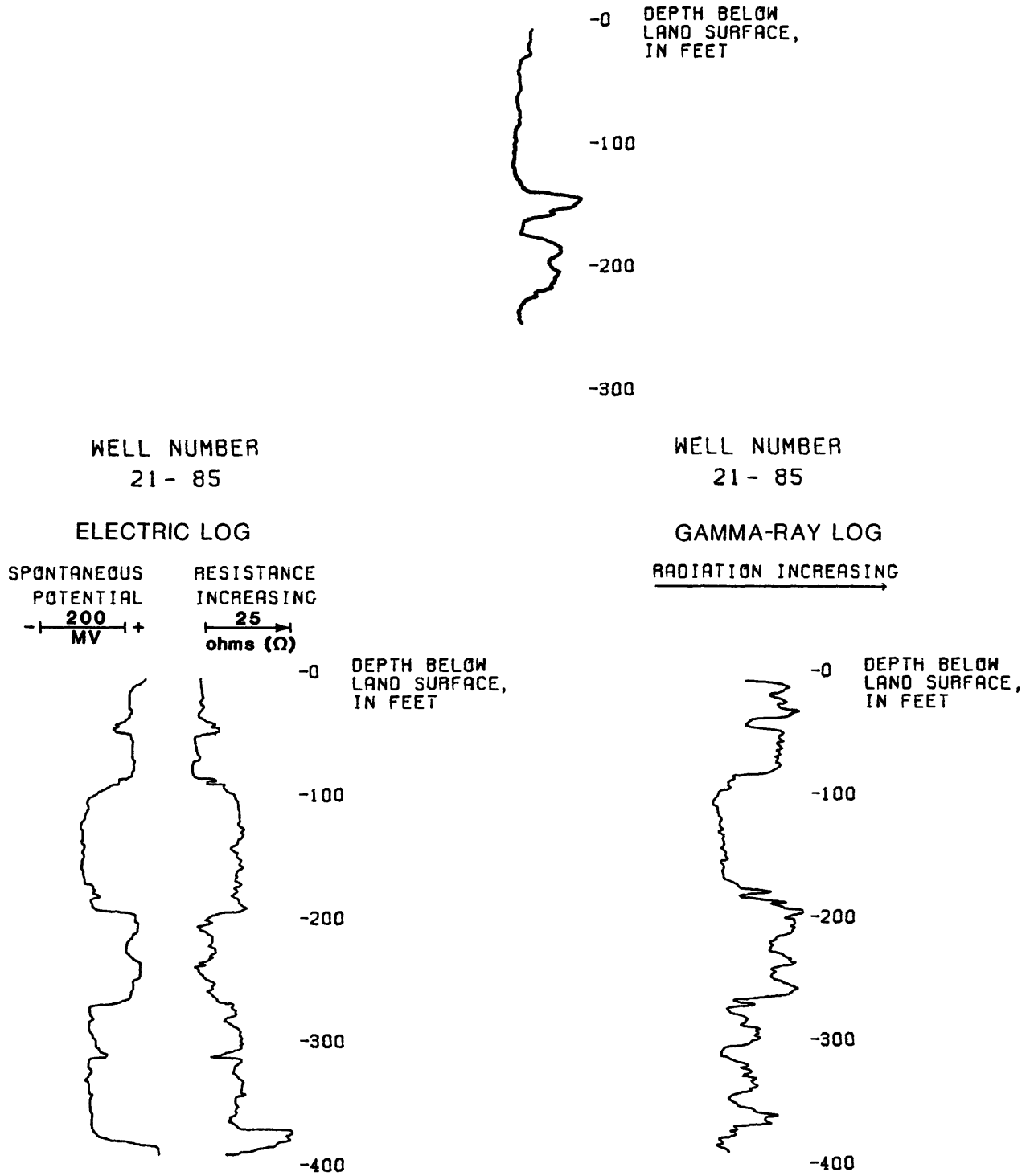


Figure 4.--Geophysical logs of wells 21-19 and 21-85.

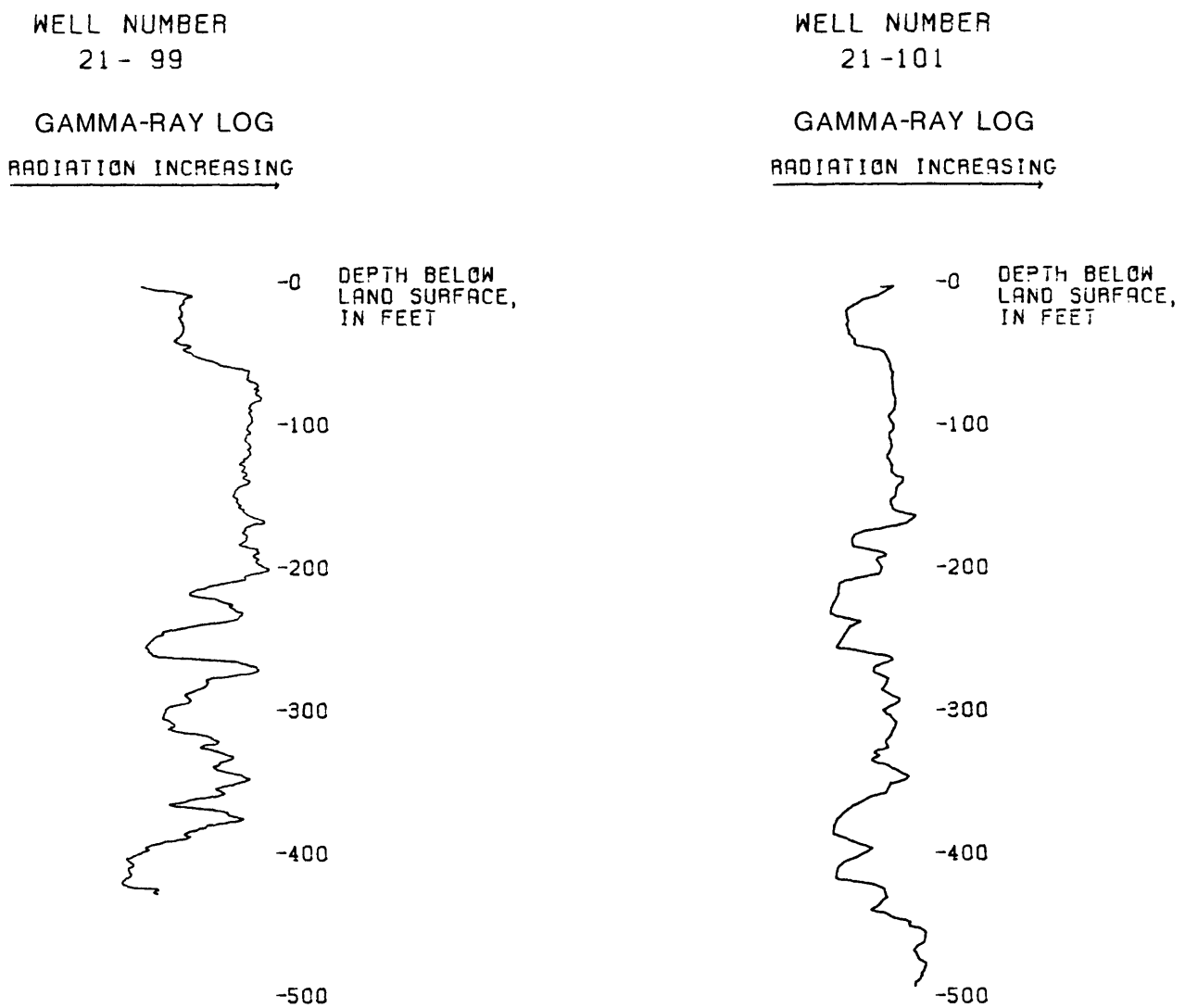


Figure 5.--Geophysical logs of wells 21-99 and 21-101.

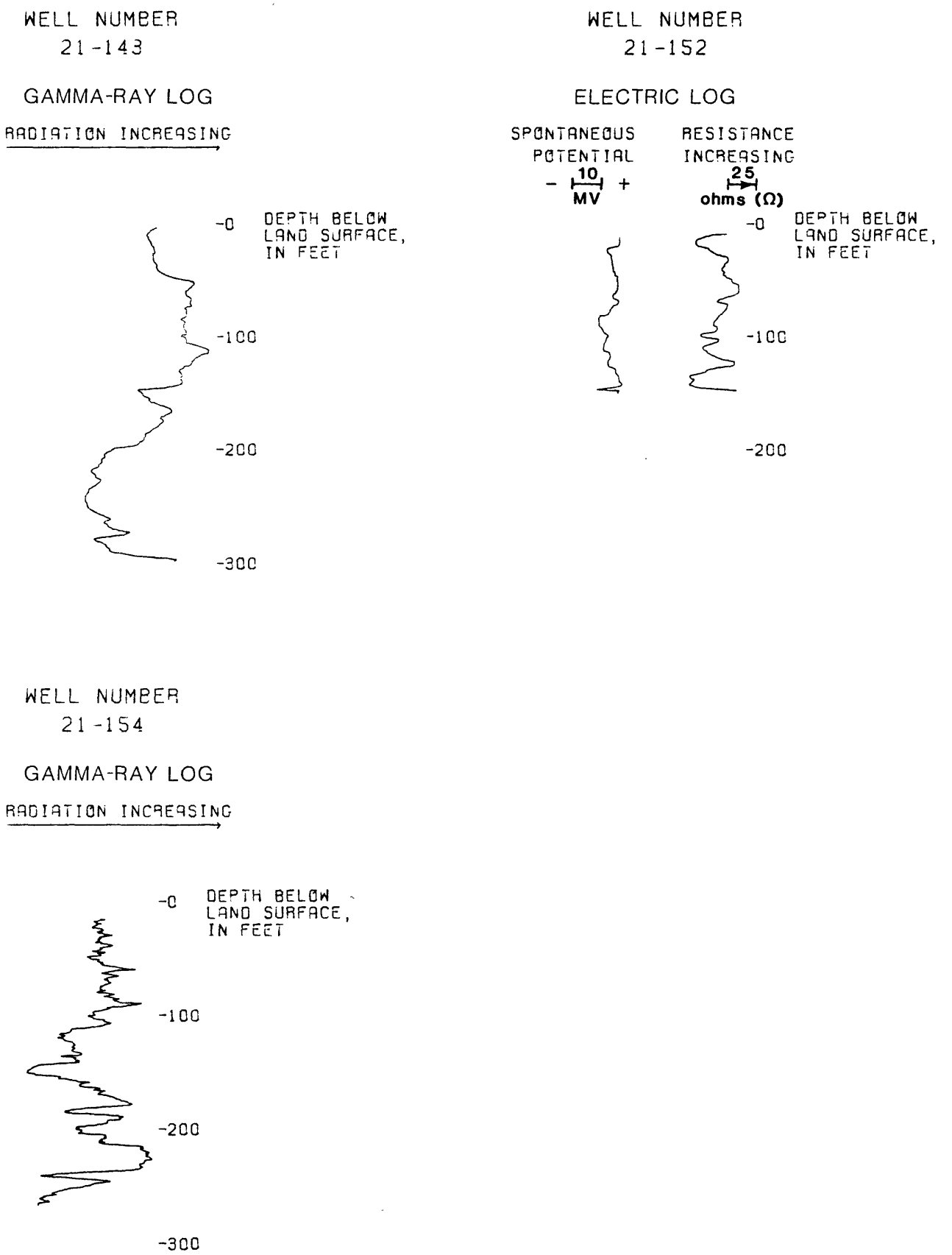
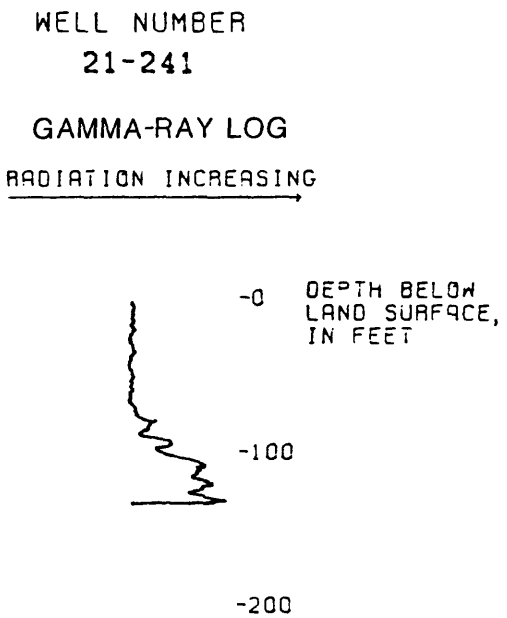


Figure 6.--Geophysical logs of wells 21-143, 21-152 and 21-154.



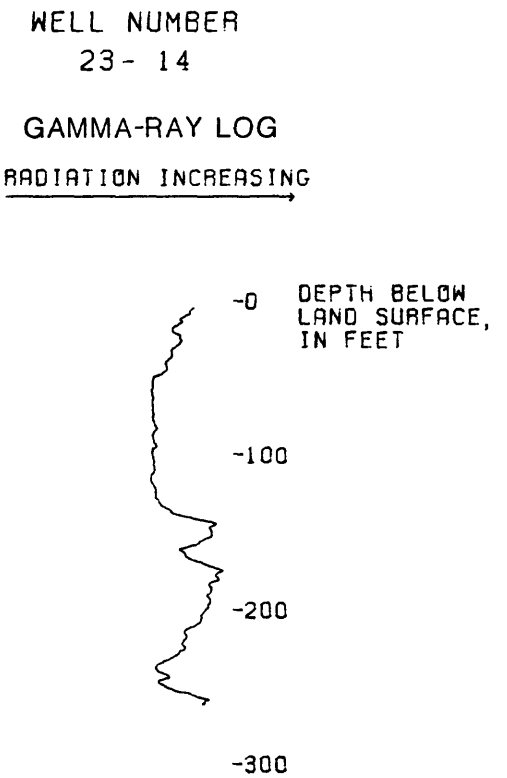


Figure 7.--Geophysical logs of wells 21-241 and 23-14.

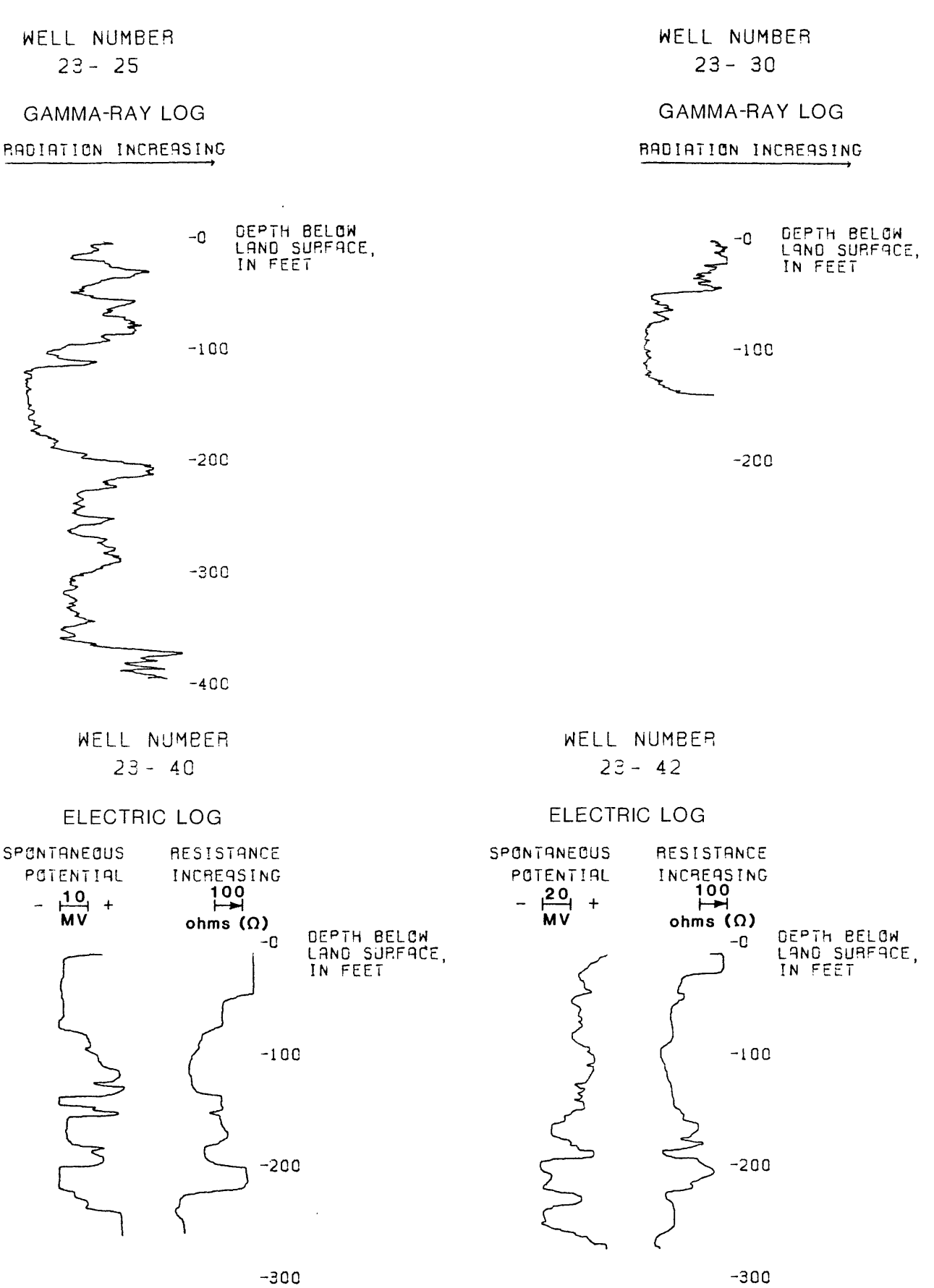


Figure 8.--Geophysical logs of wells 23-25, 23-30, 23-40 and 23-42.

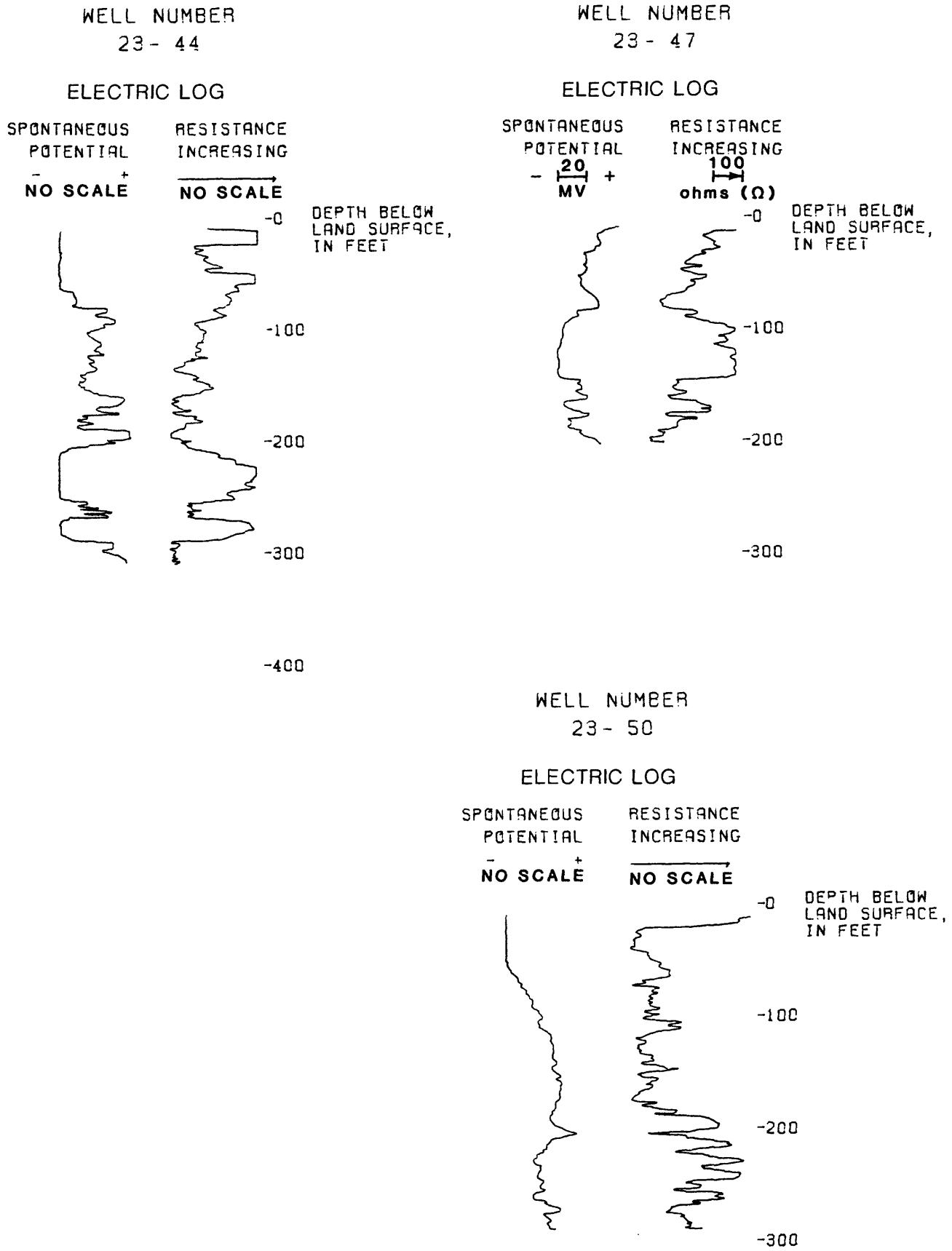


Figure 9.--Geophysical logs of wells 23-44, 23-47, and 23-50.

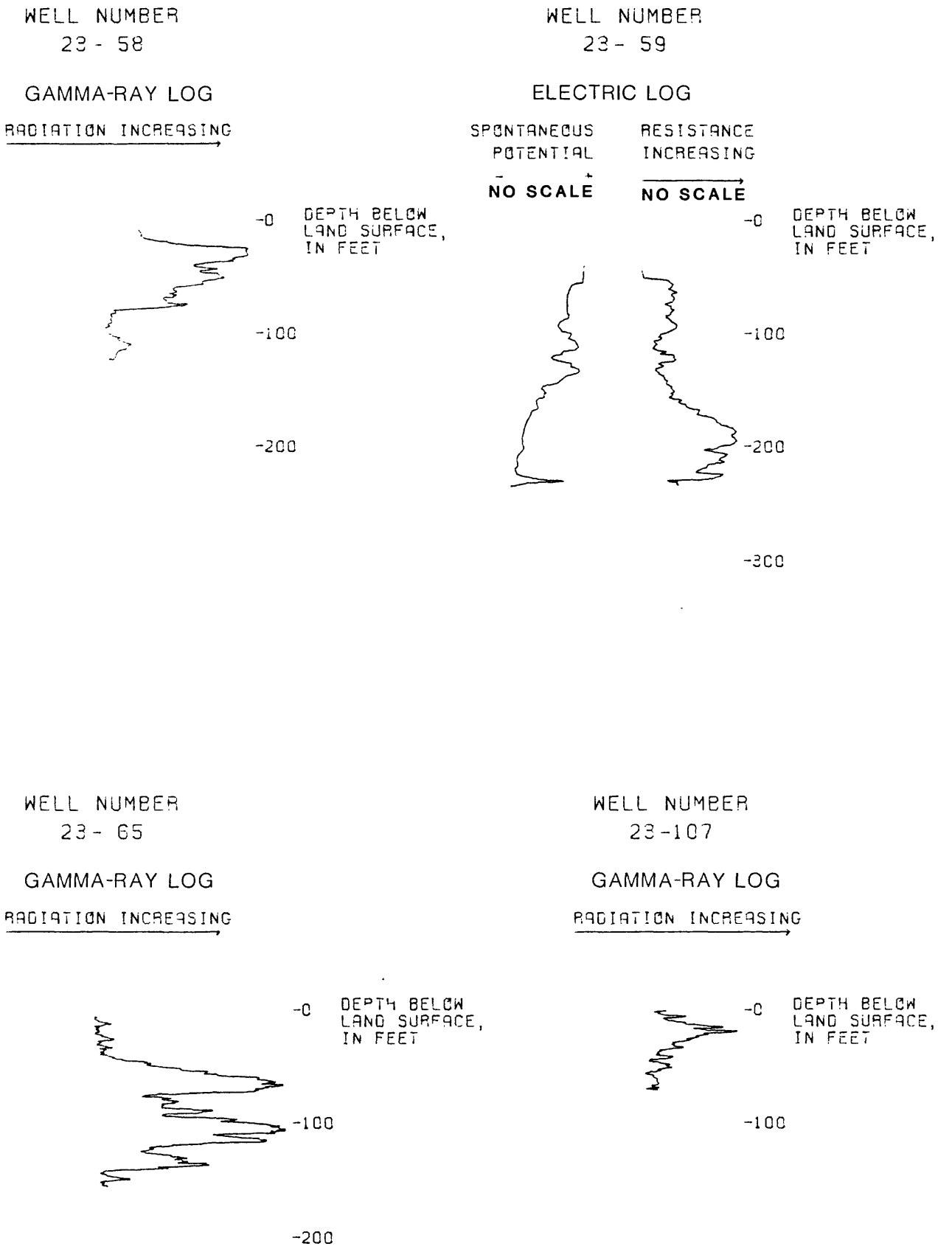


Figure 10.--Geophysical logs of wells 23-58, 23-59, 23-65 and 23-107.

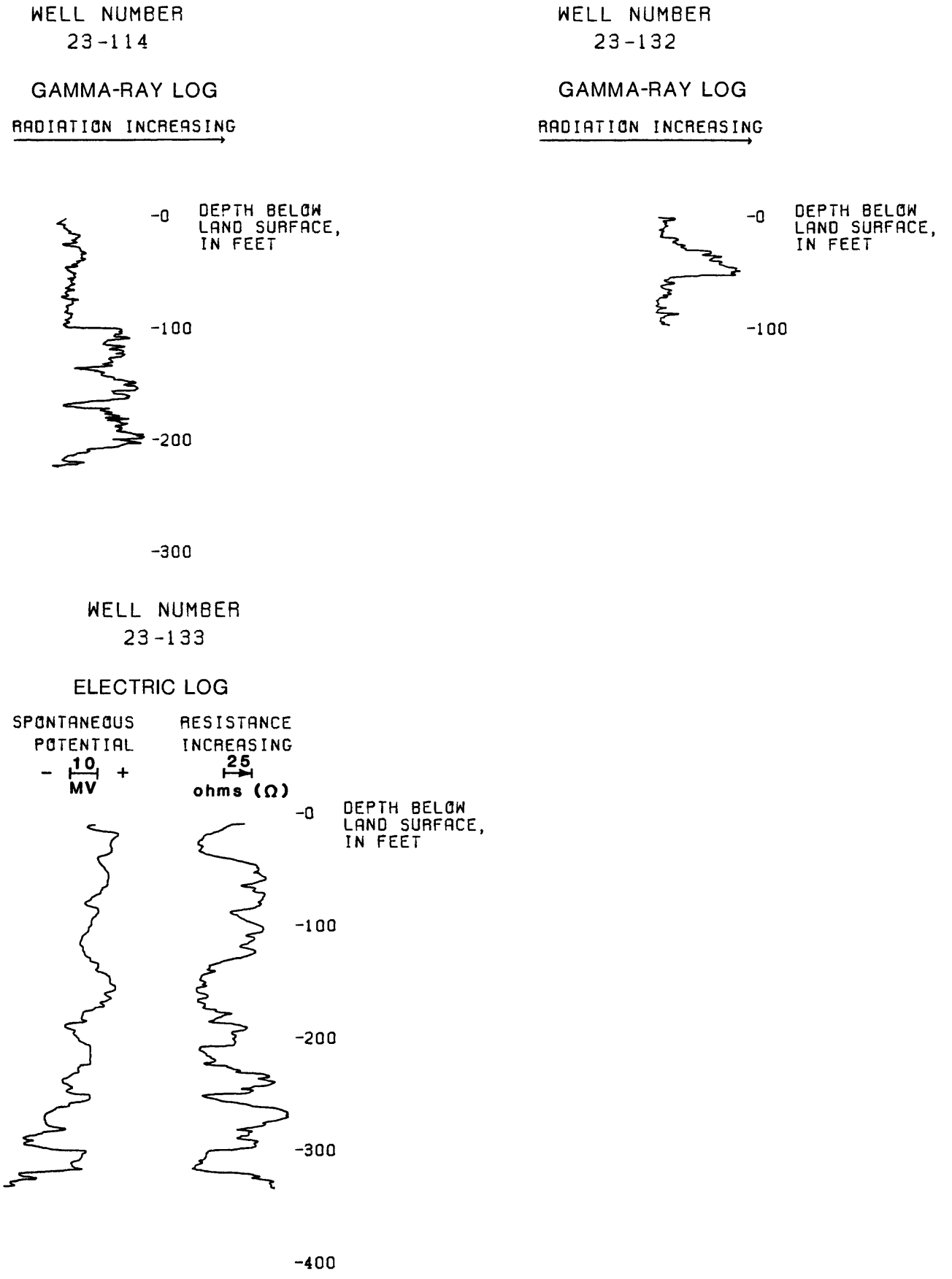


Figure 11.--Geophysical logs of wells 23-114, 23-132, and 23-133.

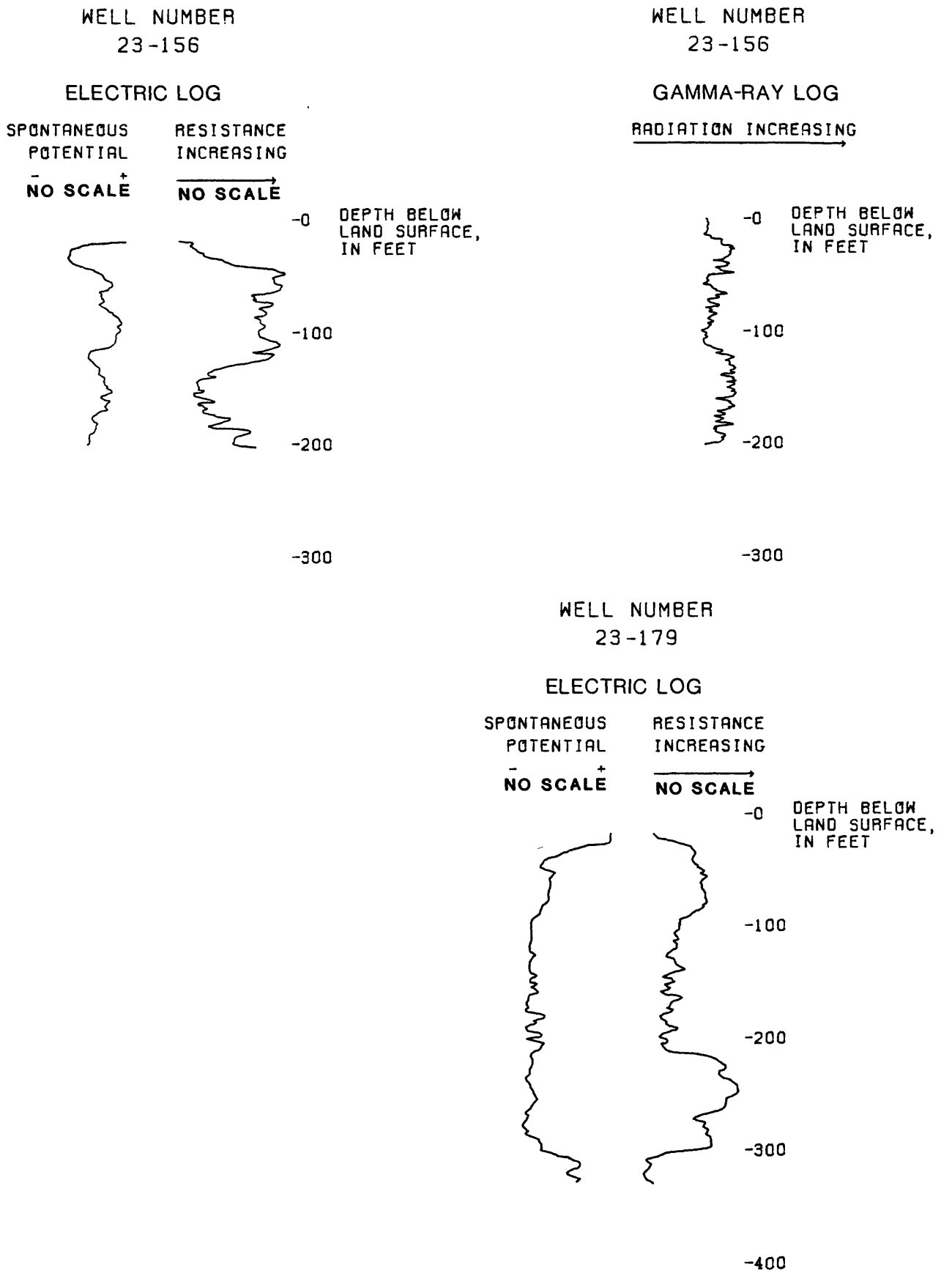


Figure 12.--Geophysical logs of wells 23-156 and 23-179.

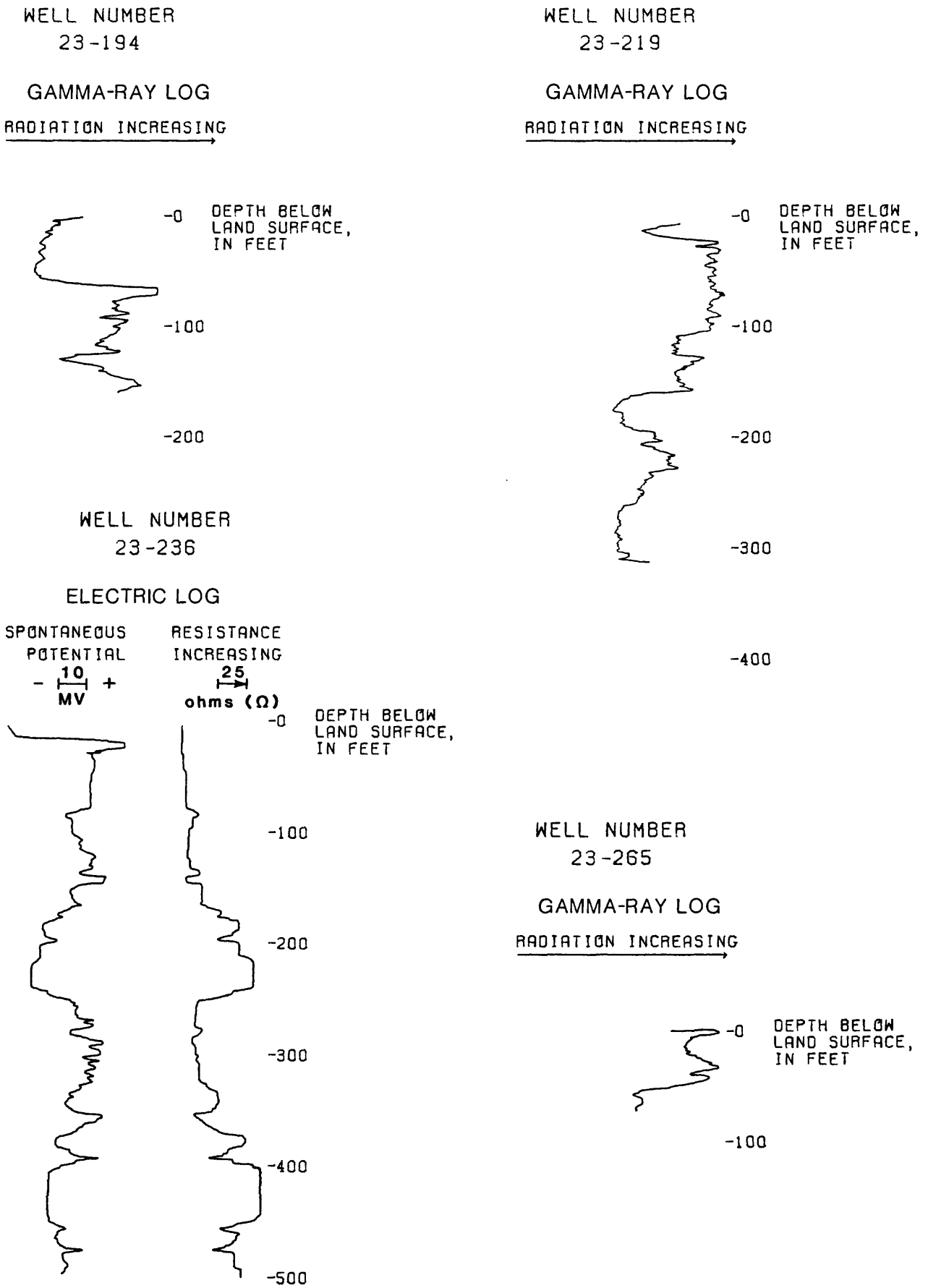


Figure 13.--Geophysical logs of wells 23-194, 23-219, 23-236 and 23-265.

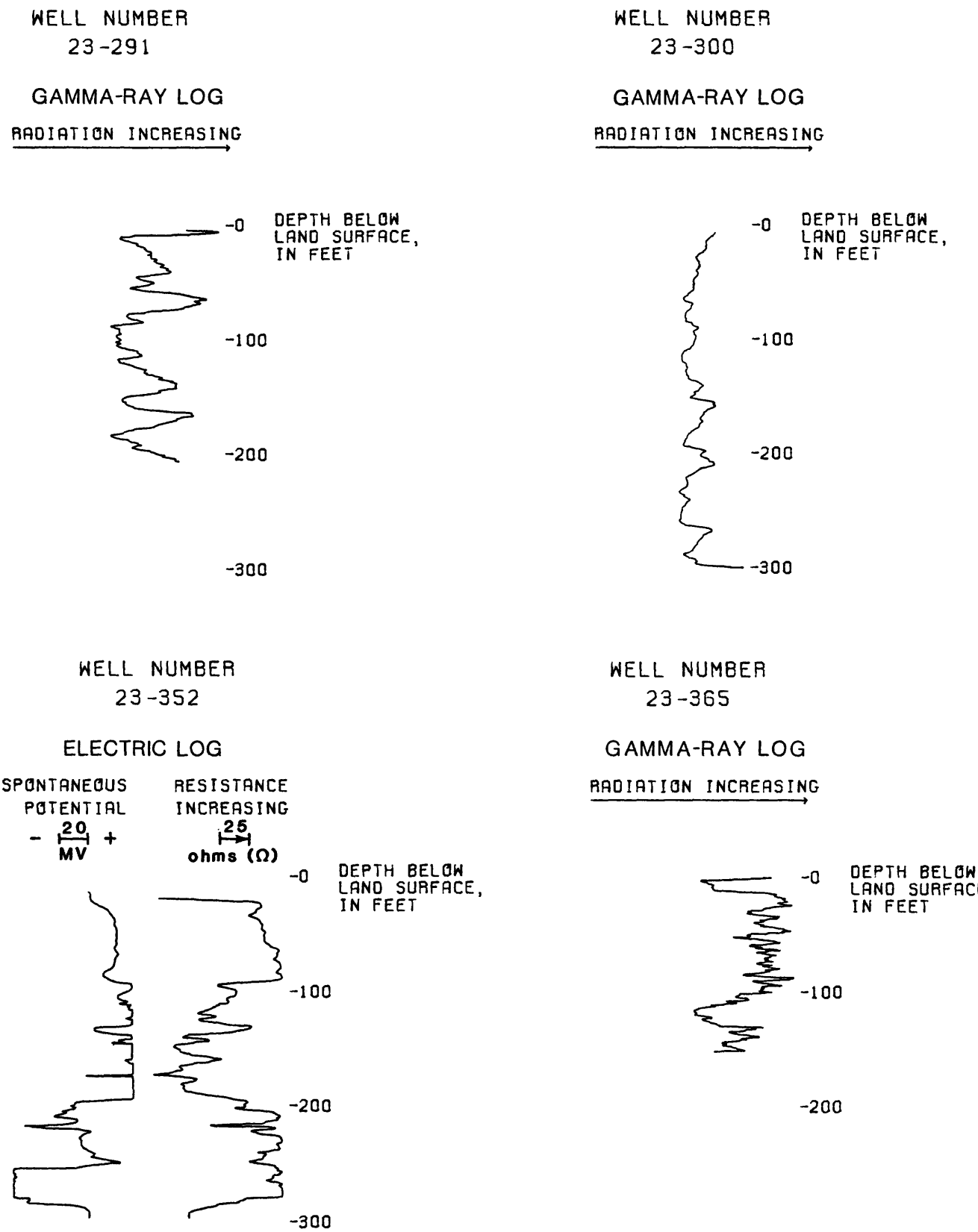
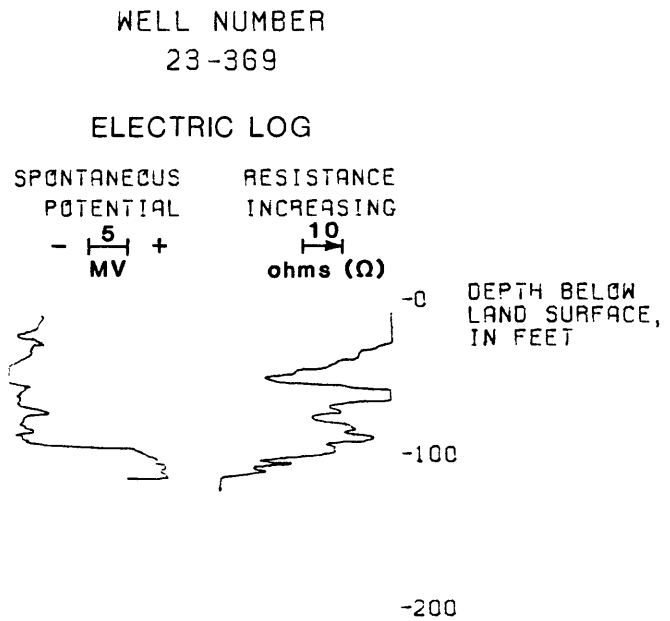


Figure 14.--Geophysical log of well 23-291, 23-300, 23-352, and 23-365.



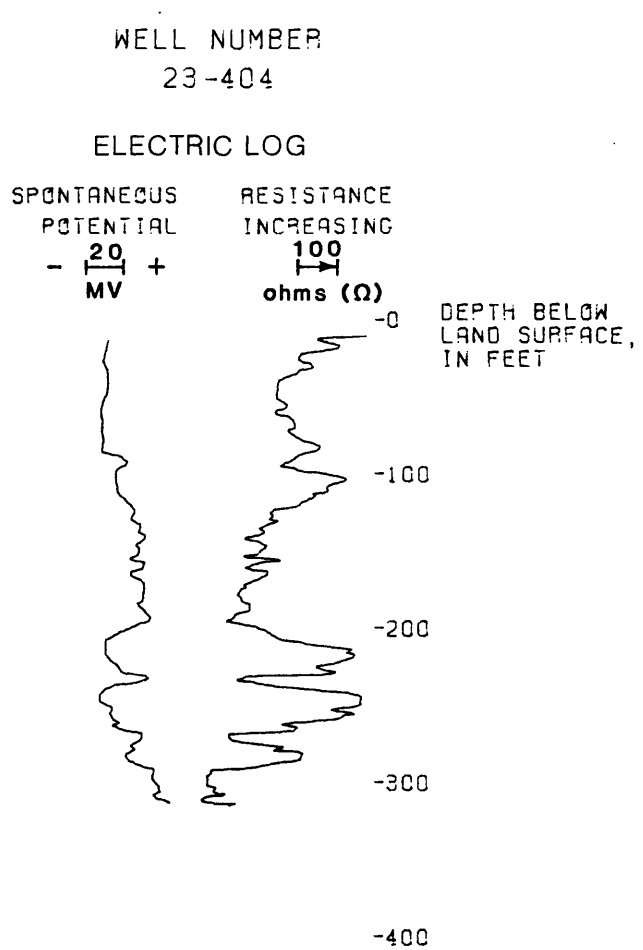


Figure 15.--Geophysical logs of wells 23-369 and 23-404.

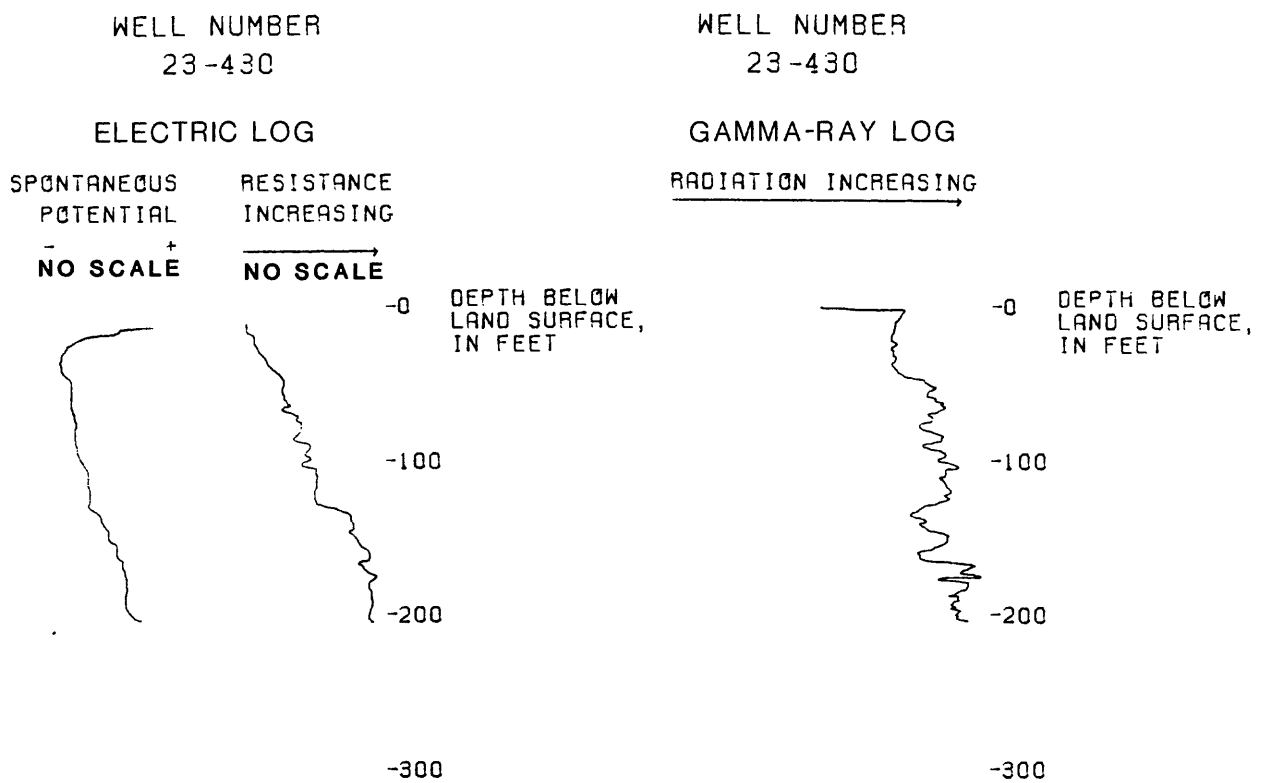


Figure 16.--Geophysical logs of well 23-430.

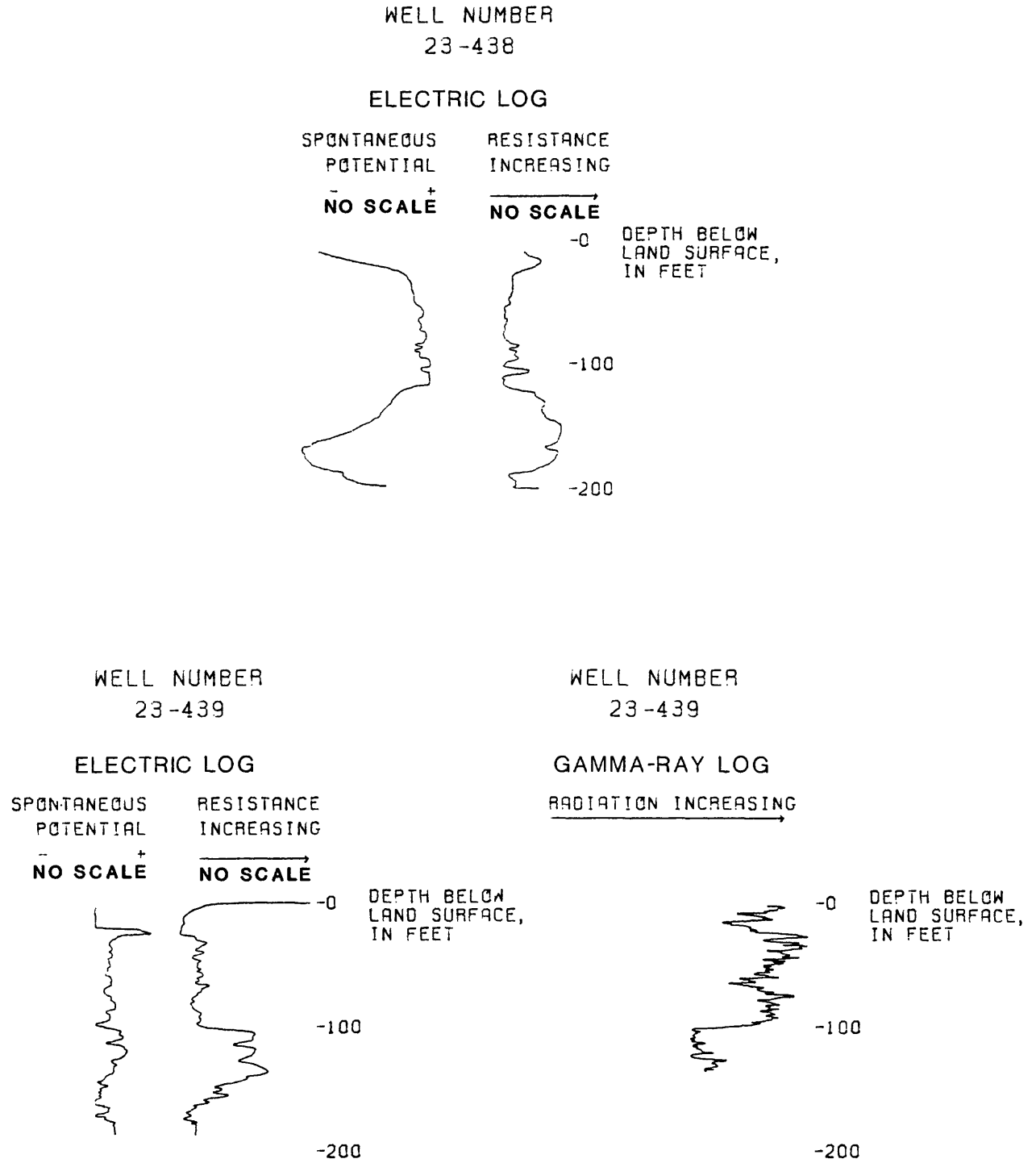


Figure 17.--Geophysical logs of wells 23-438 and 23-439.

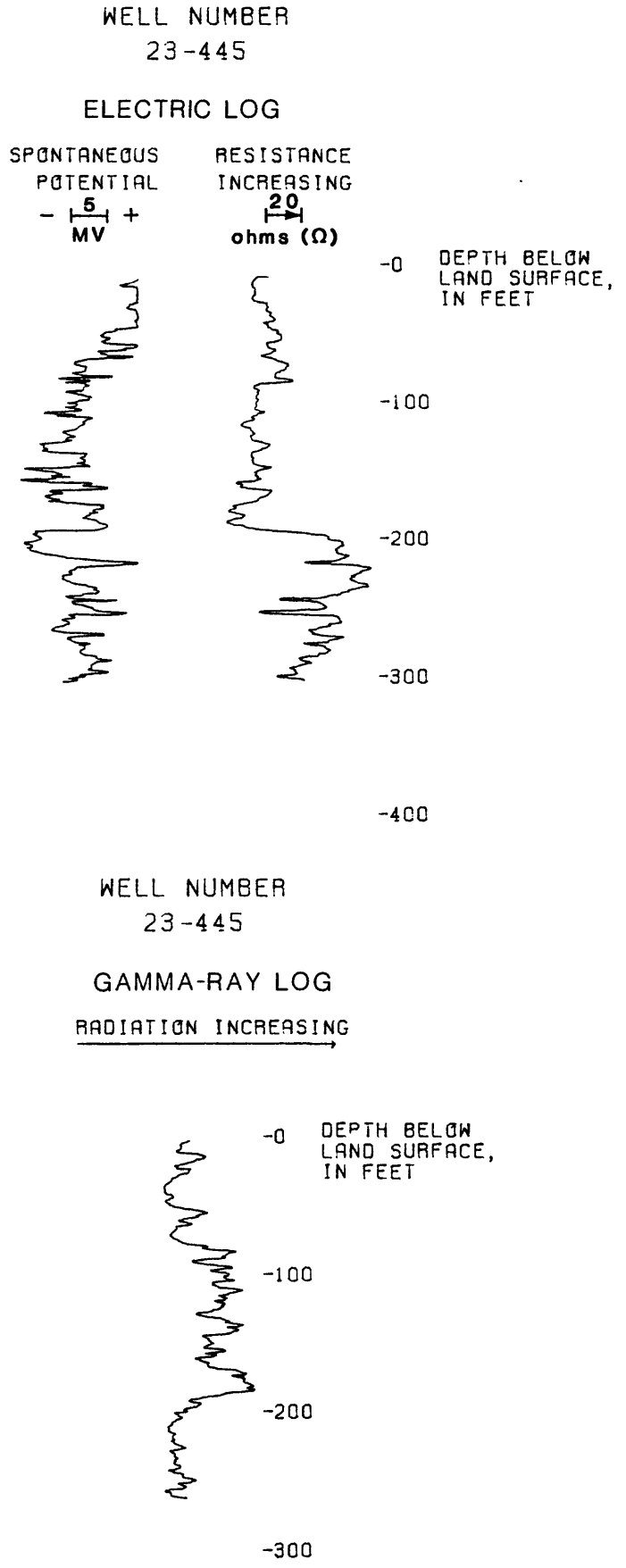
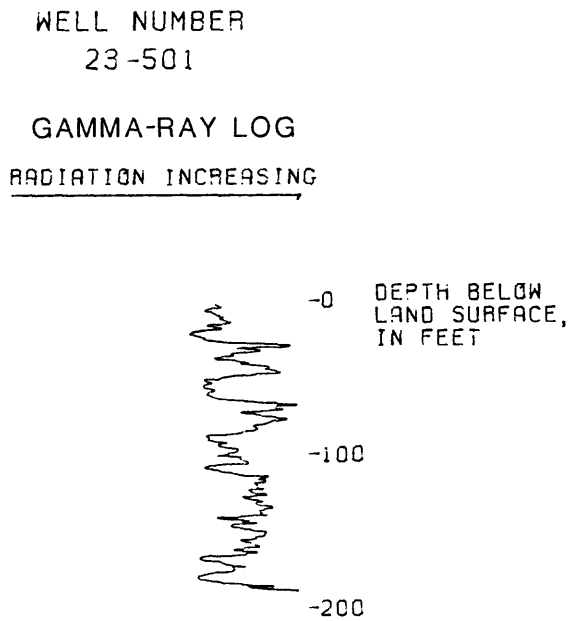


Figure 18.--Geophysical logs of well 23-445.



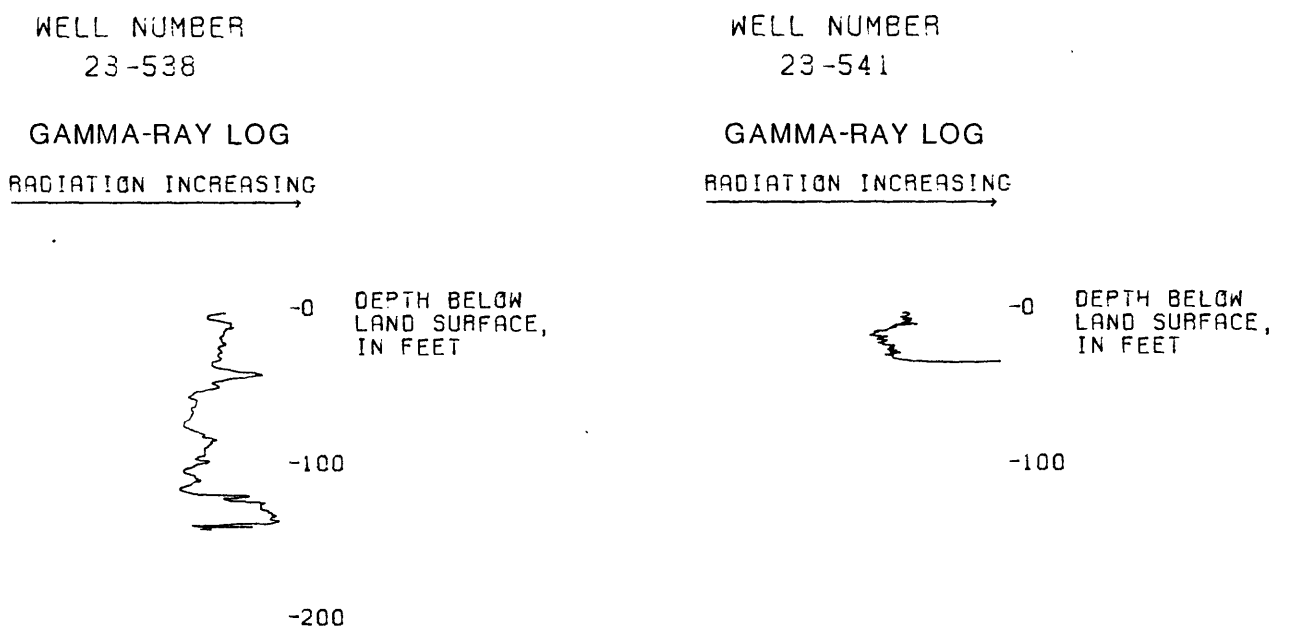


Figure 19.--Geophysical logs of wells 23-501, 23-538 and 23-541.

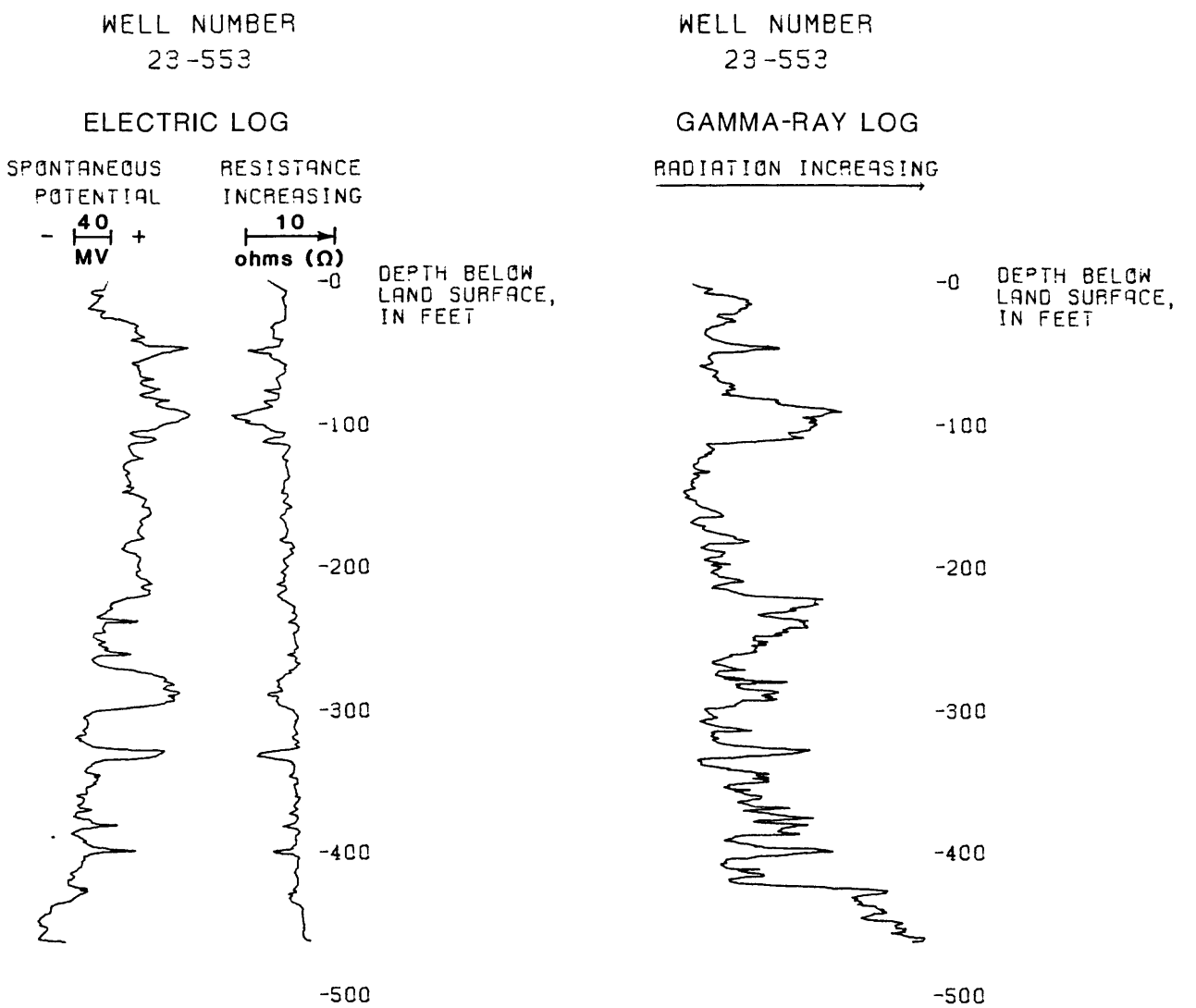
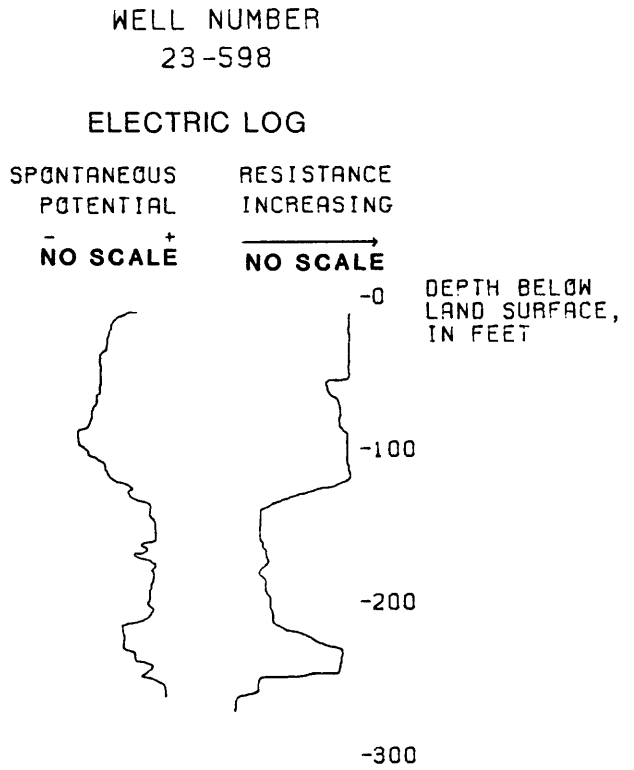


Figure 20.--Geophysical logs of well 23-553.



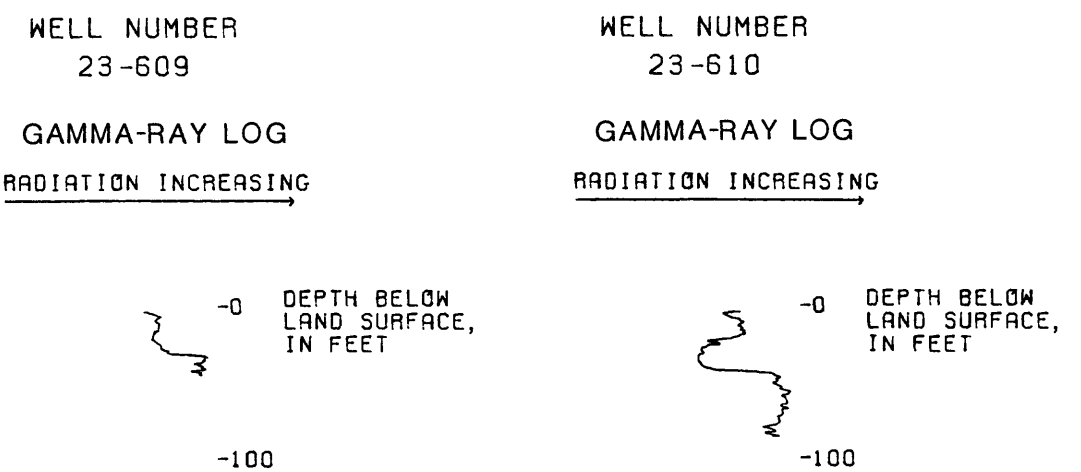


Figure 21.--Geophysical logs of wells 23-598, 23-609, and 23-610.

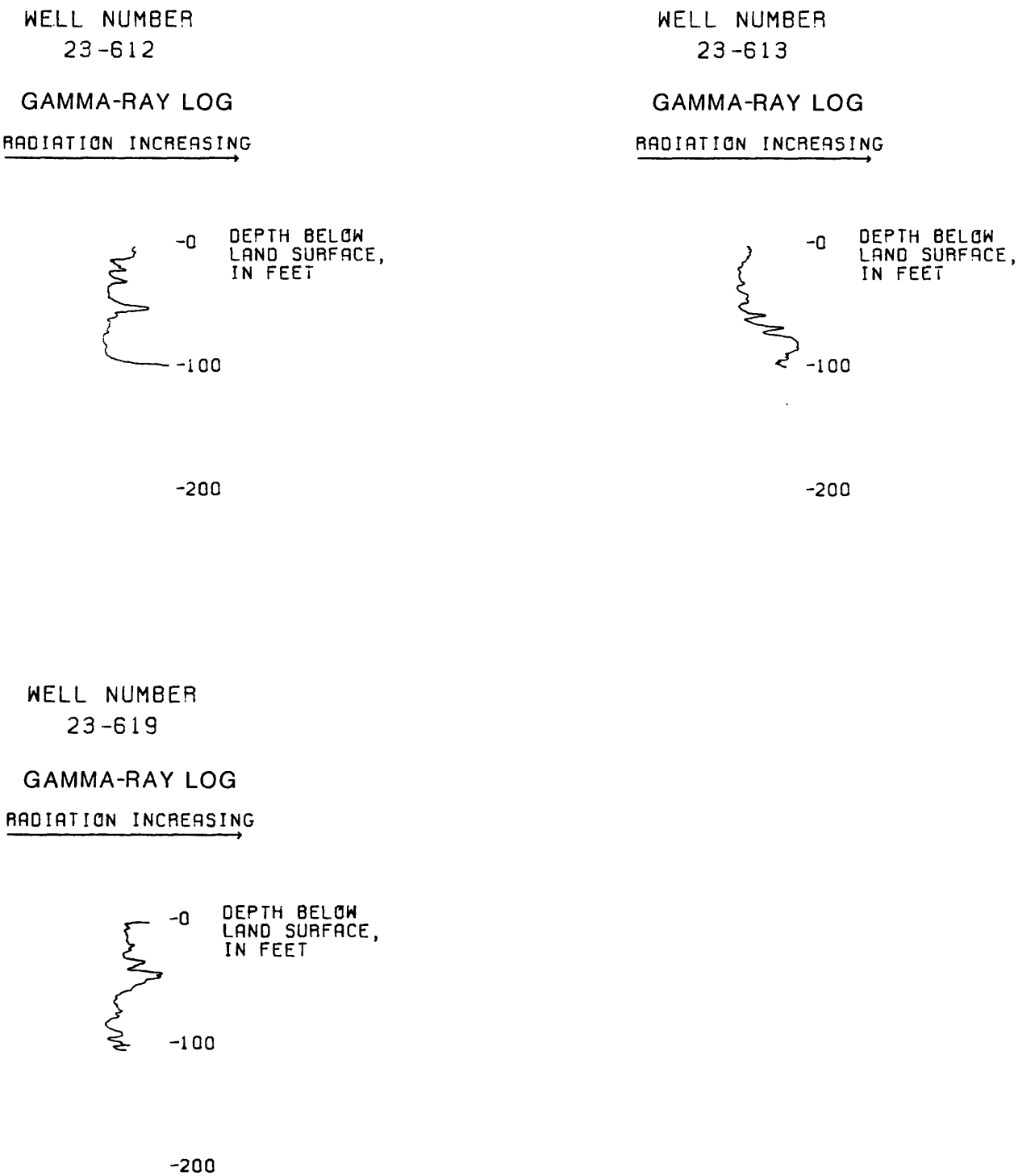


Figure 22.--Geophysical logs of wells 23-612, 23-613 and 23-619.

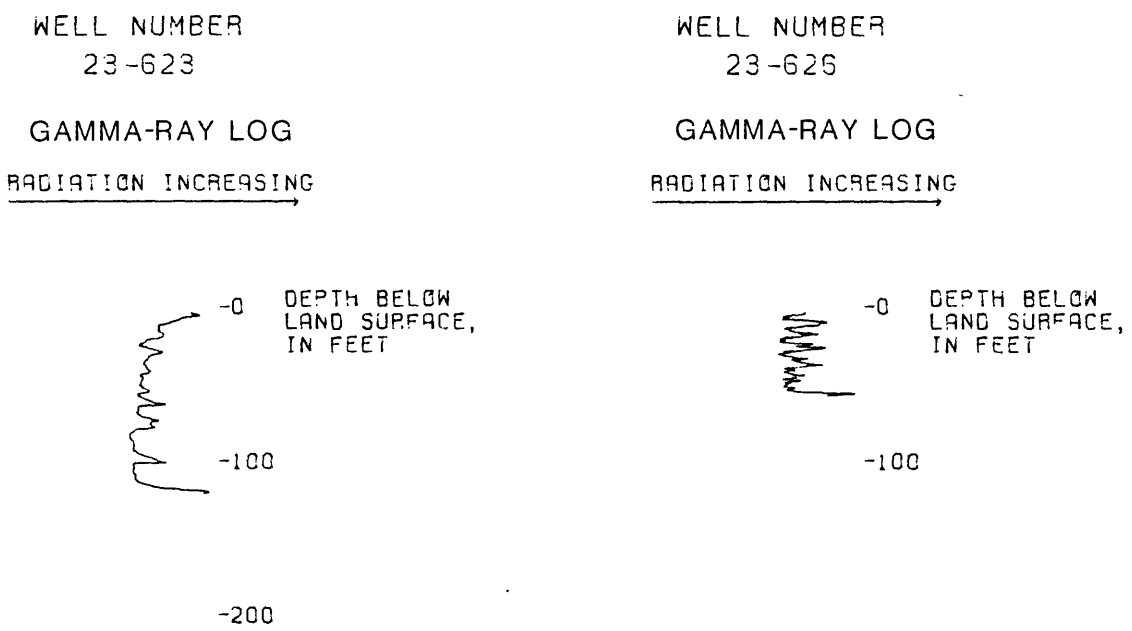
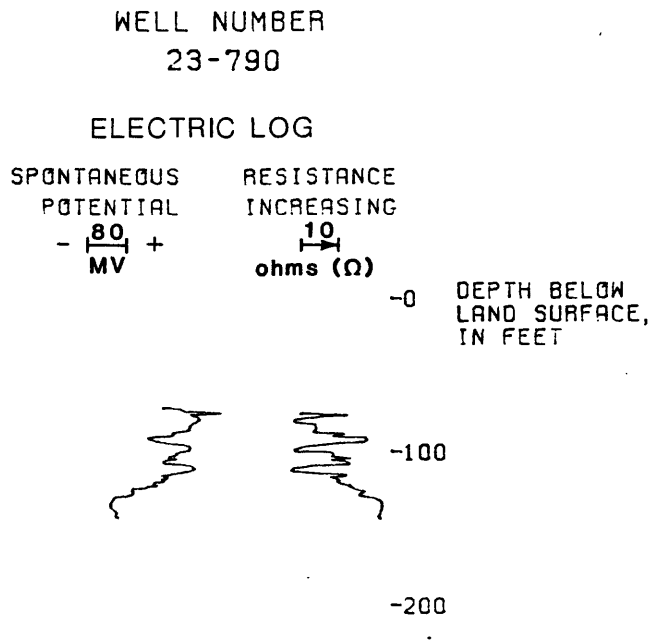
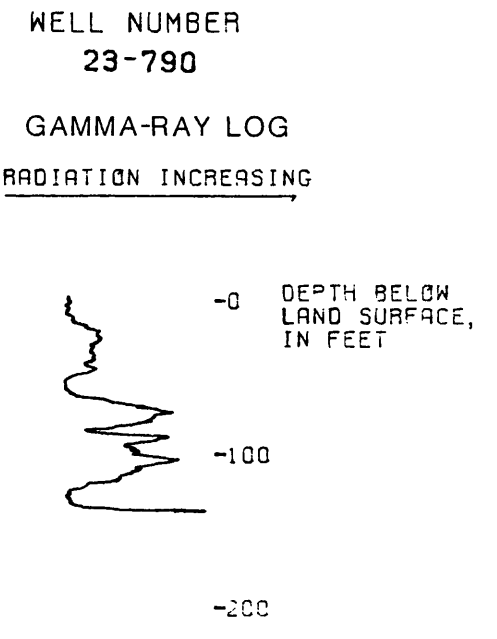
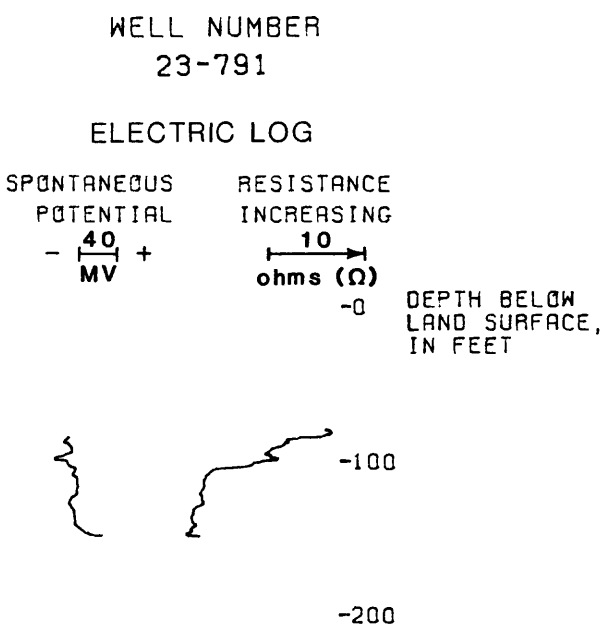


Figure 23.--Geophysical logs of wells 23-623 and 23-626.







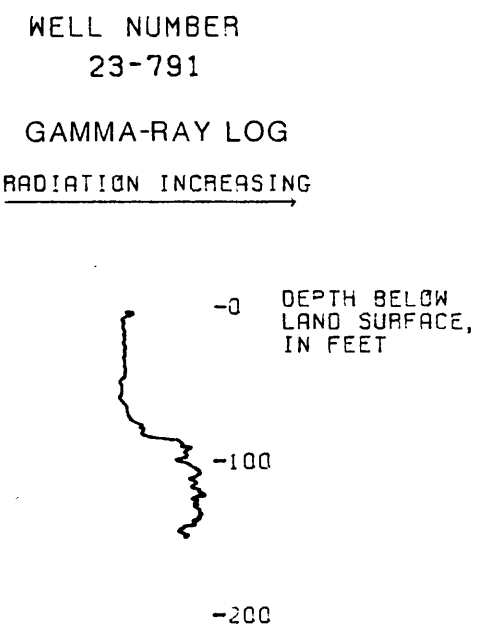


Figure 24.--Geophysical logs of wells 23-790 and 23-791.

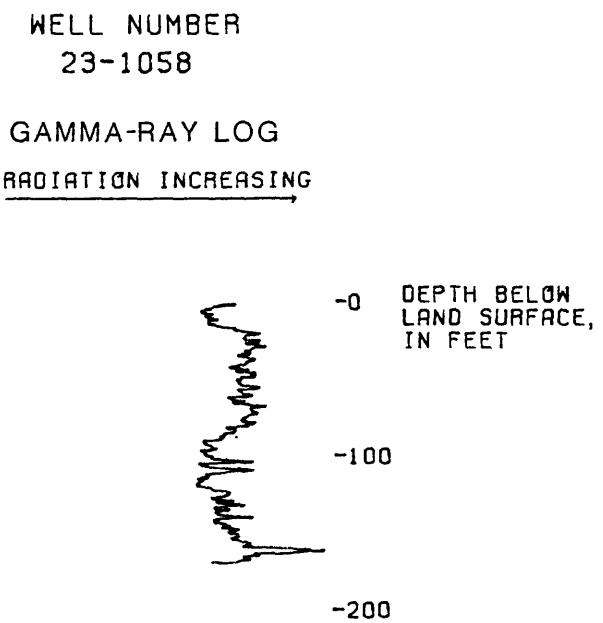


Figure 25.--Geophysical log of well 23-1058.

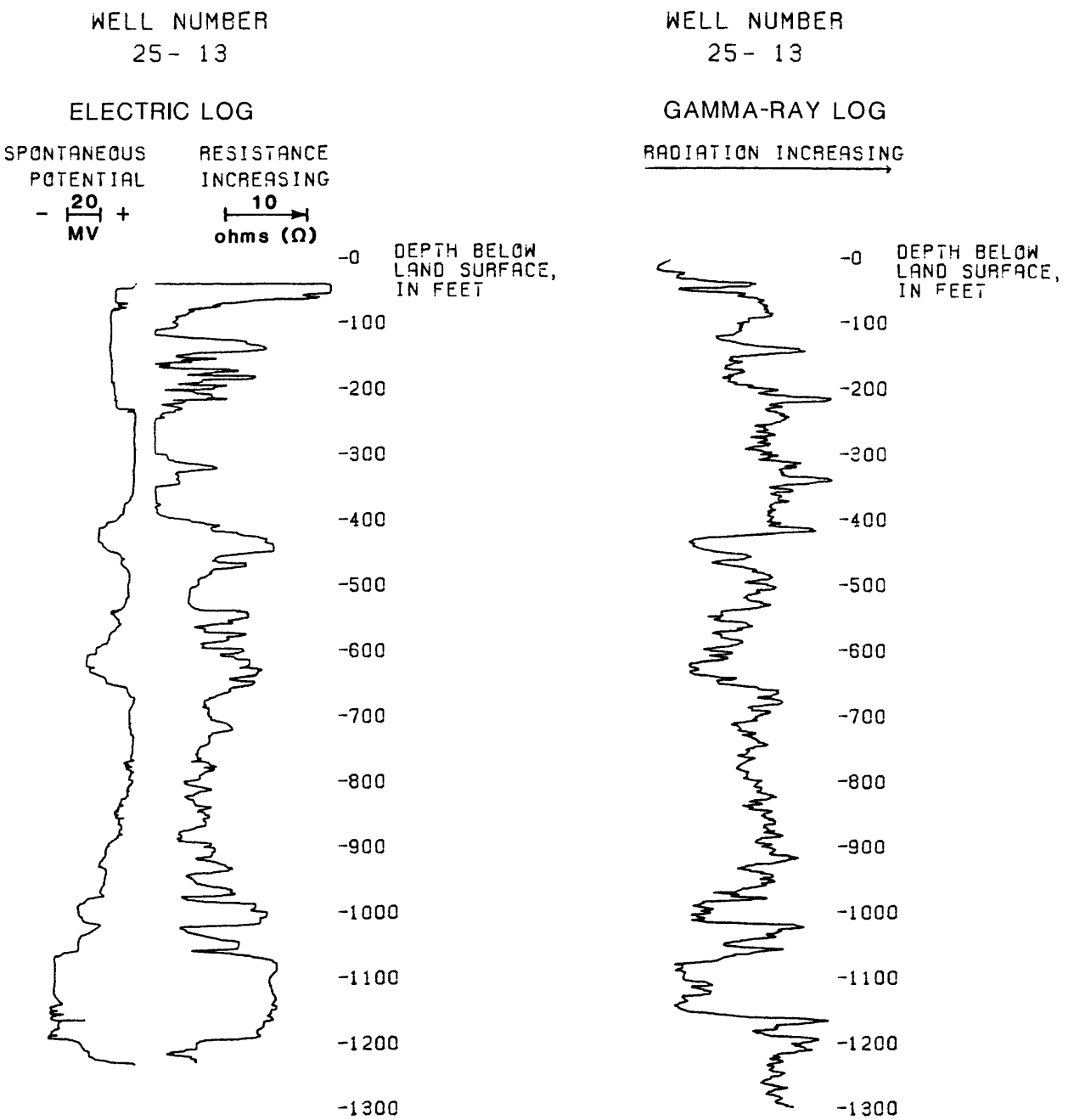


Figure 26.--Geophysical logs of well 25-13.

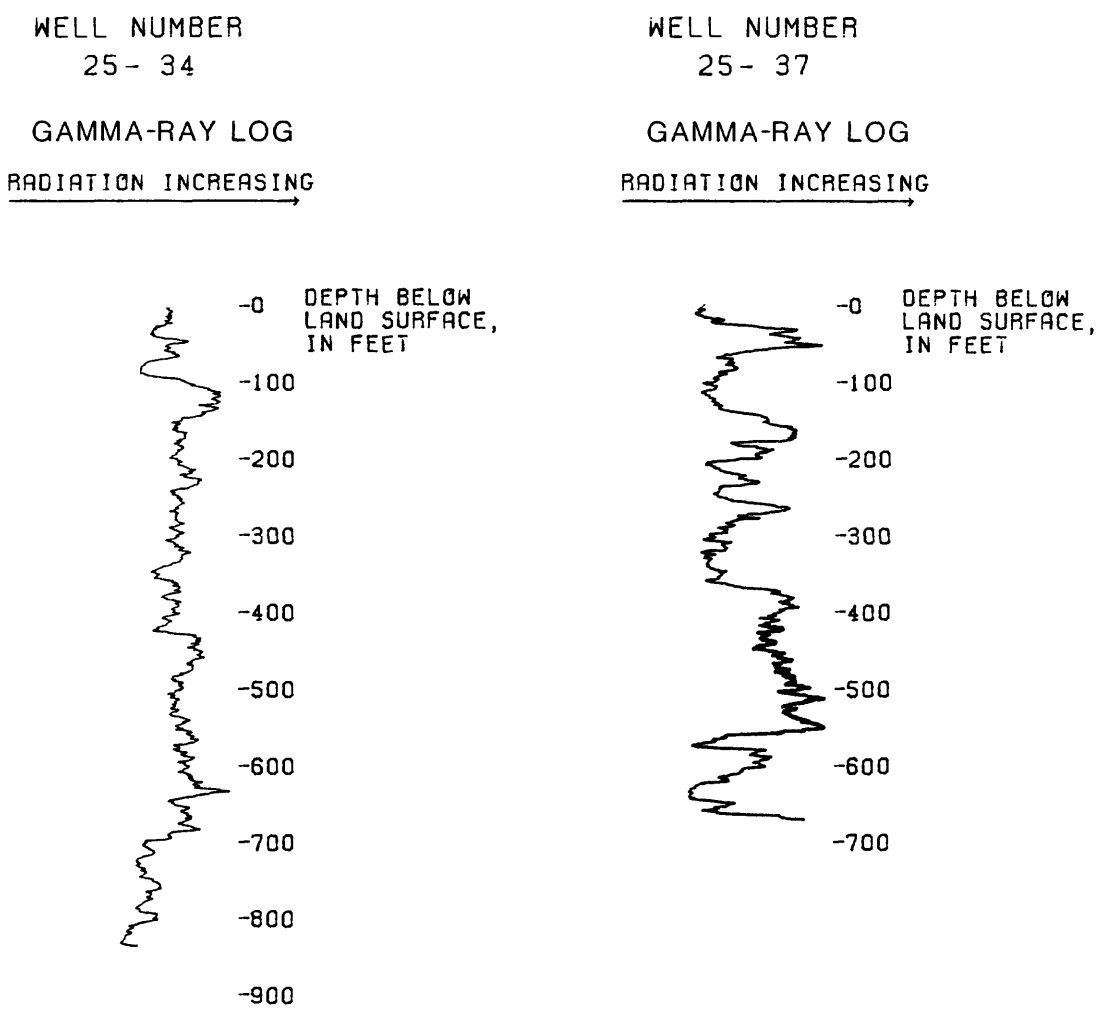


Figure 27.--Geophysical logs of wells 25-34 and 25-37.

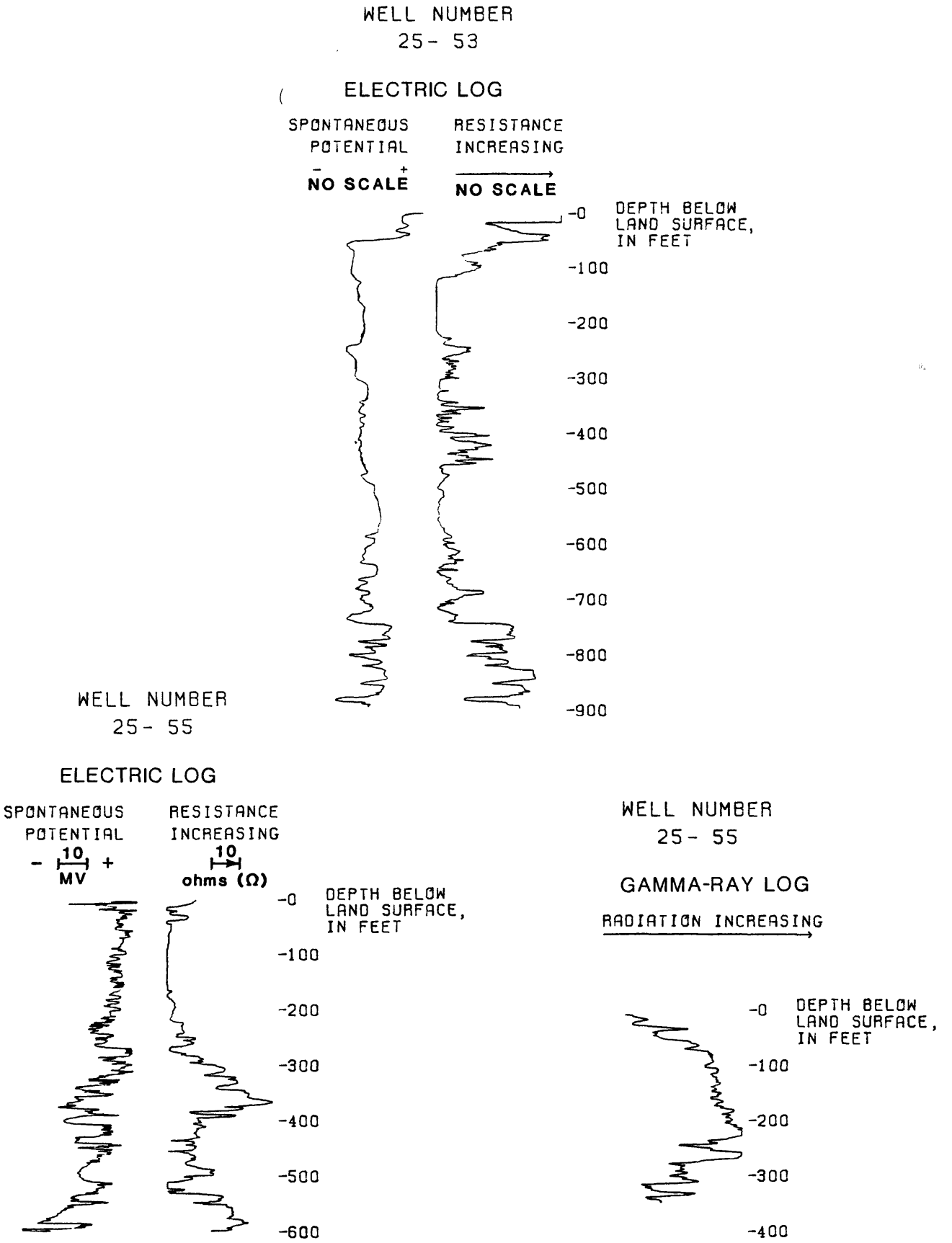


Figure 28.--Geophysical logs of wells 25-53 and 25-55.

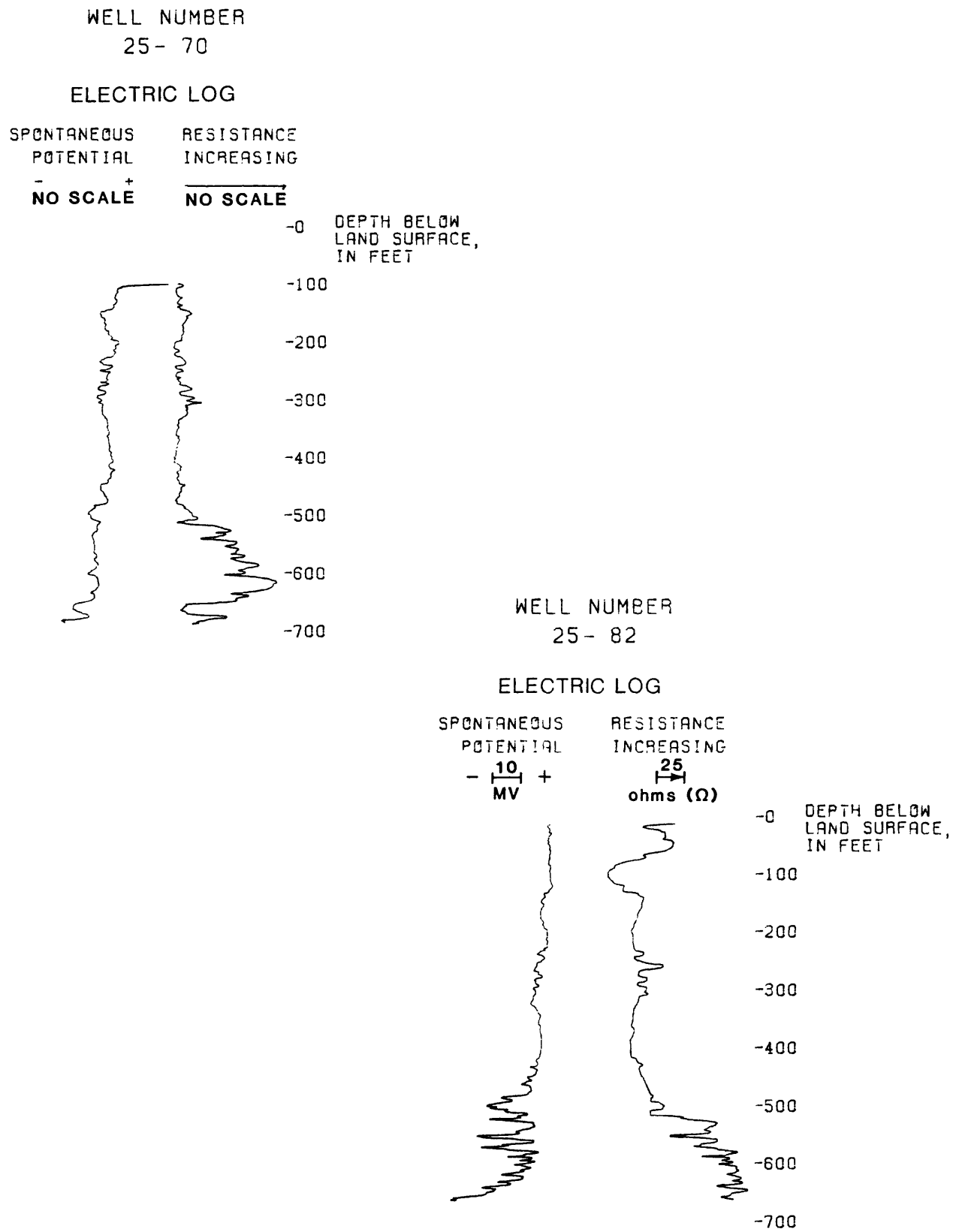


Figure 29.--Geophysical logs of wells 25-70 and 25-82.

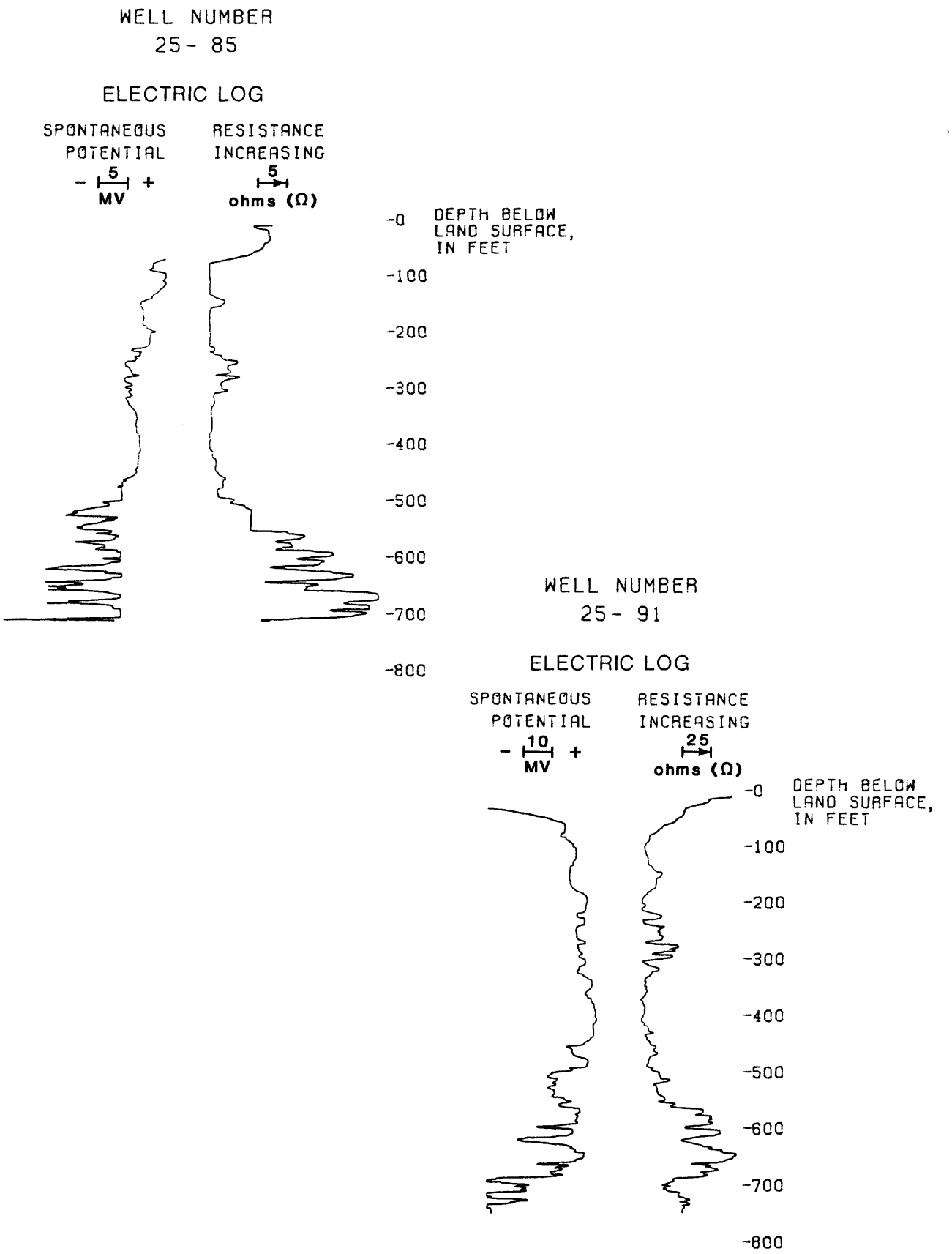


Figure 30.--Geophysical logs of wells 25-85 and 25-91.

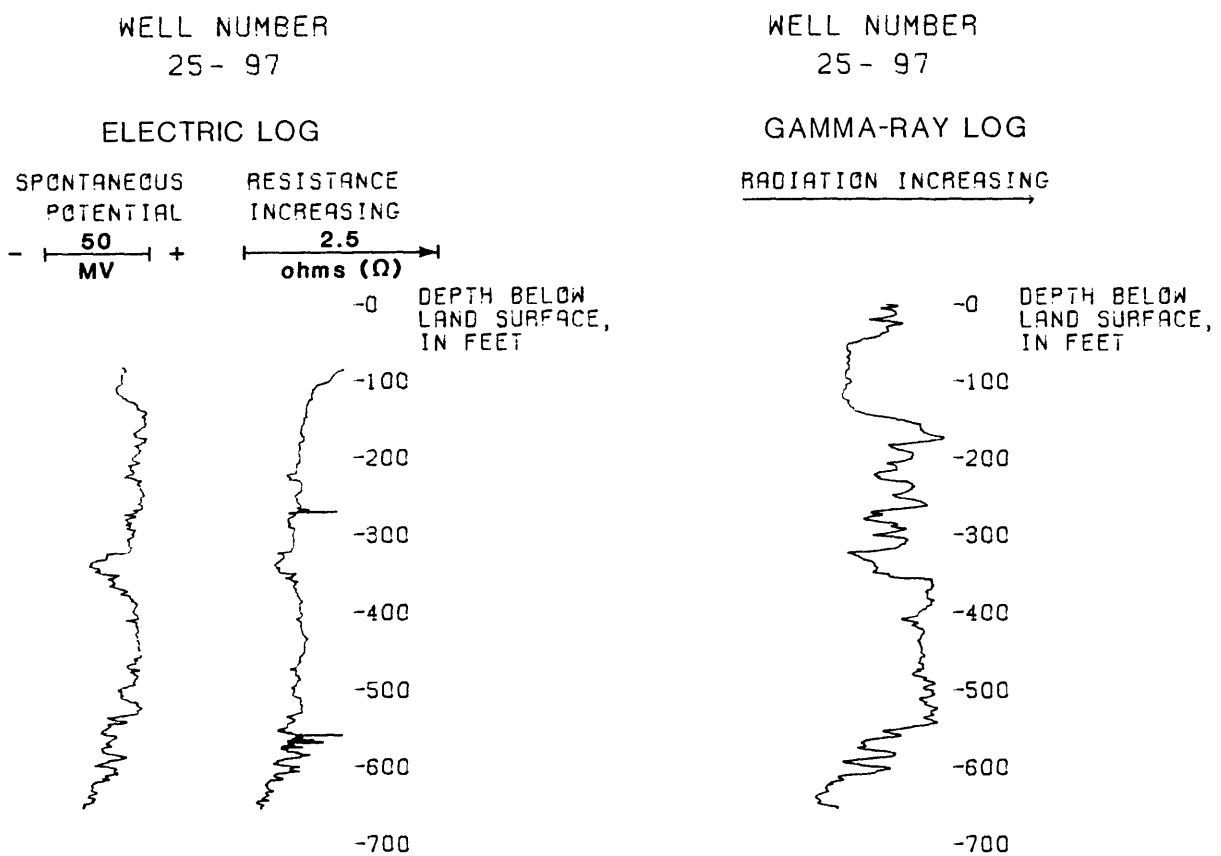


Figure 31.--Geophysical logs of well 25-97.

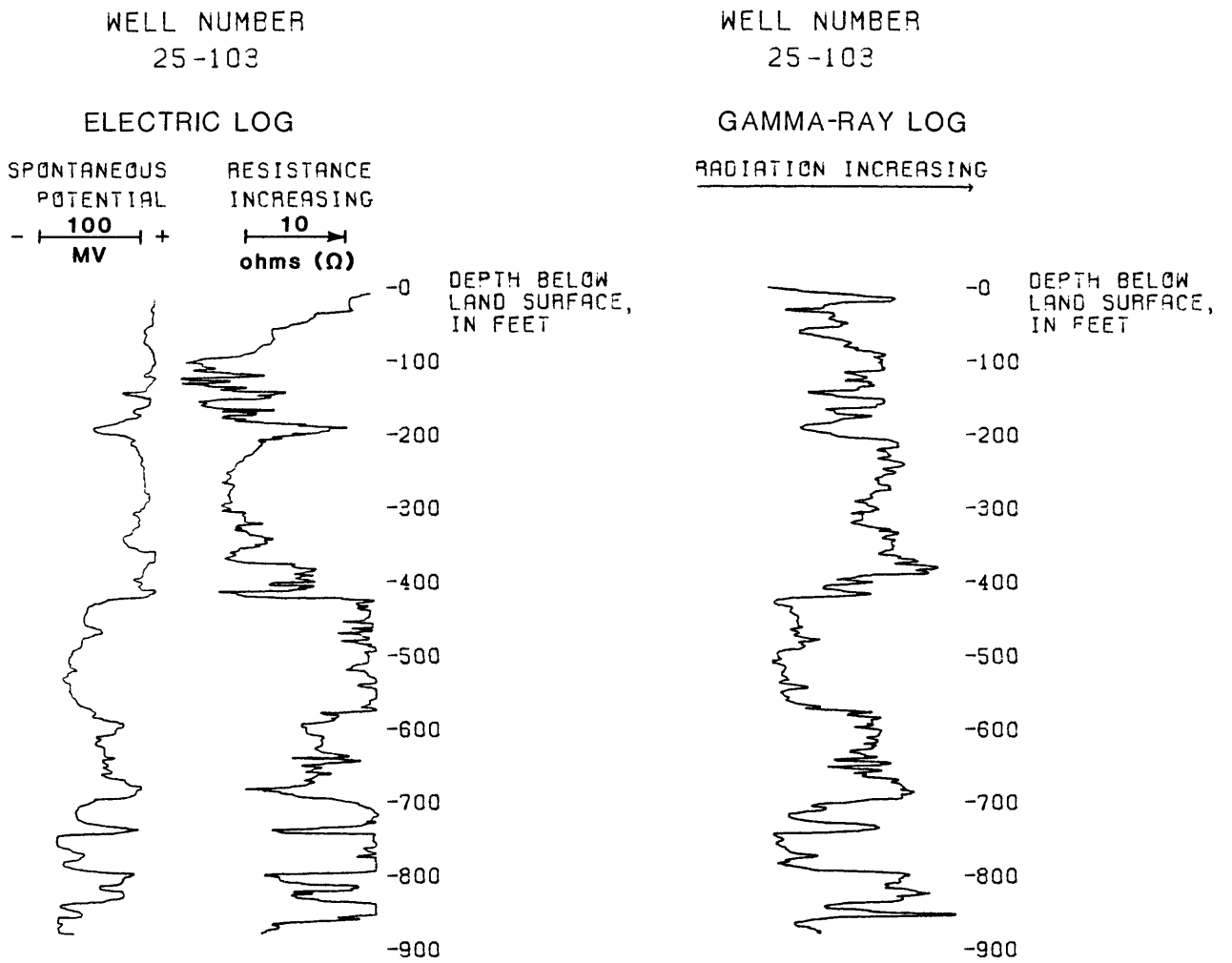


Figure 32.--Geophysical logs of well 25-103.

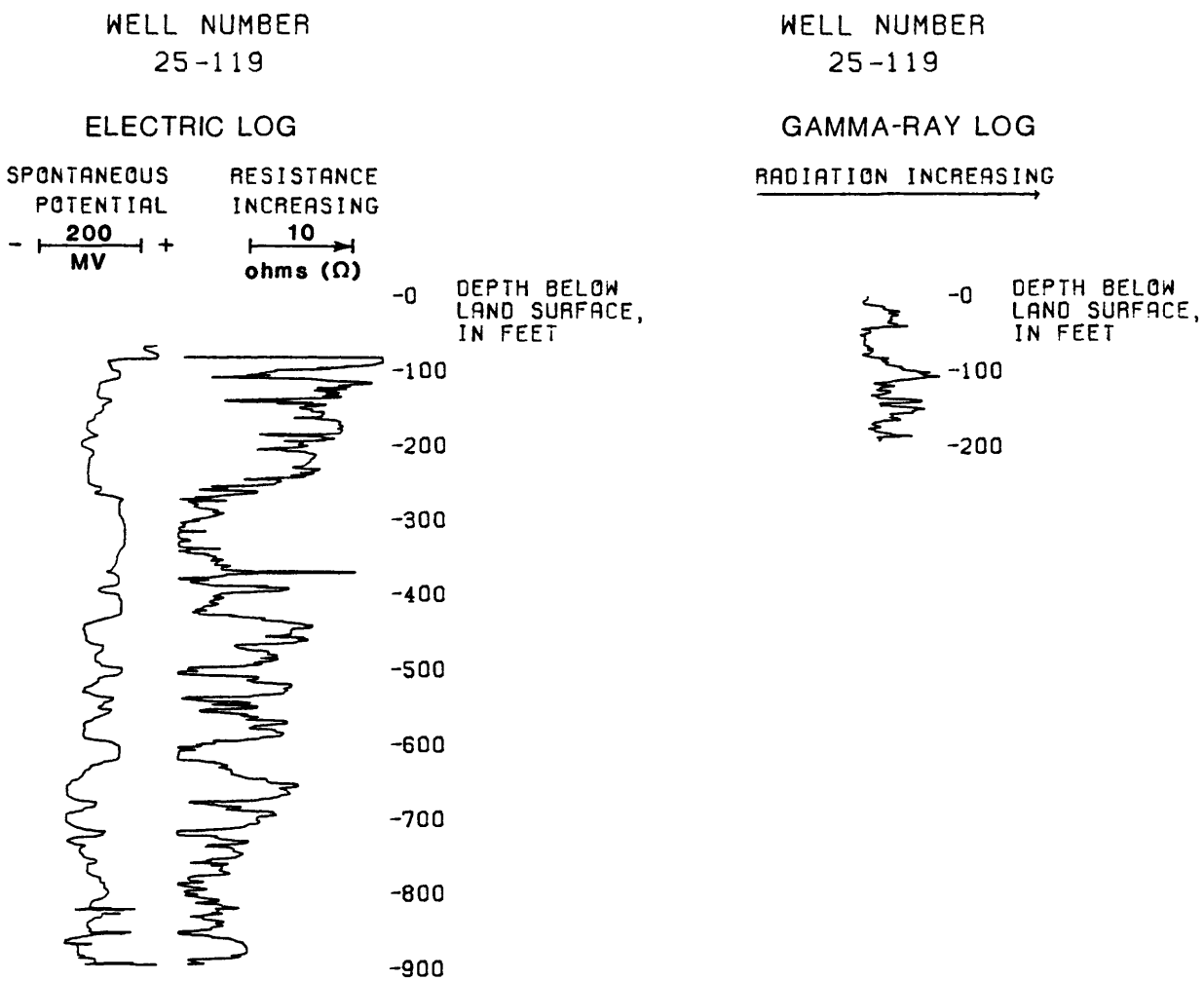


Figure 33.--Geophysical logs of well 25-119.

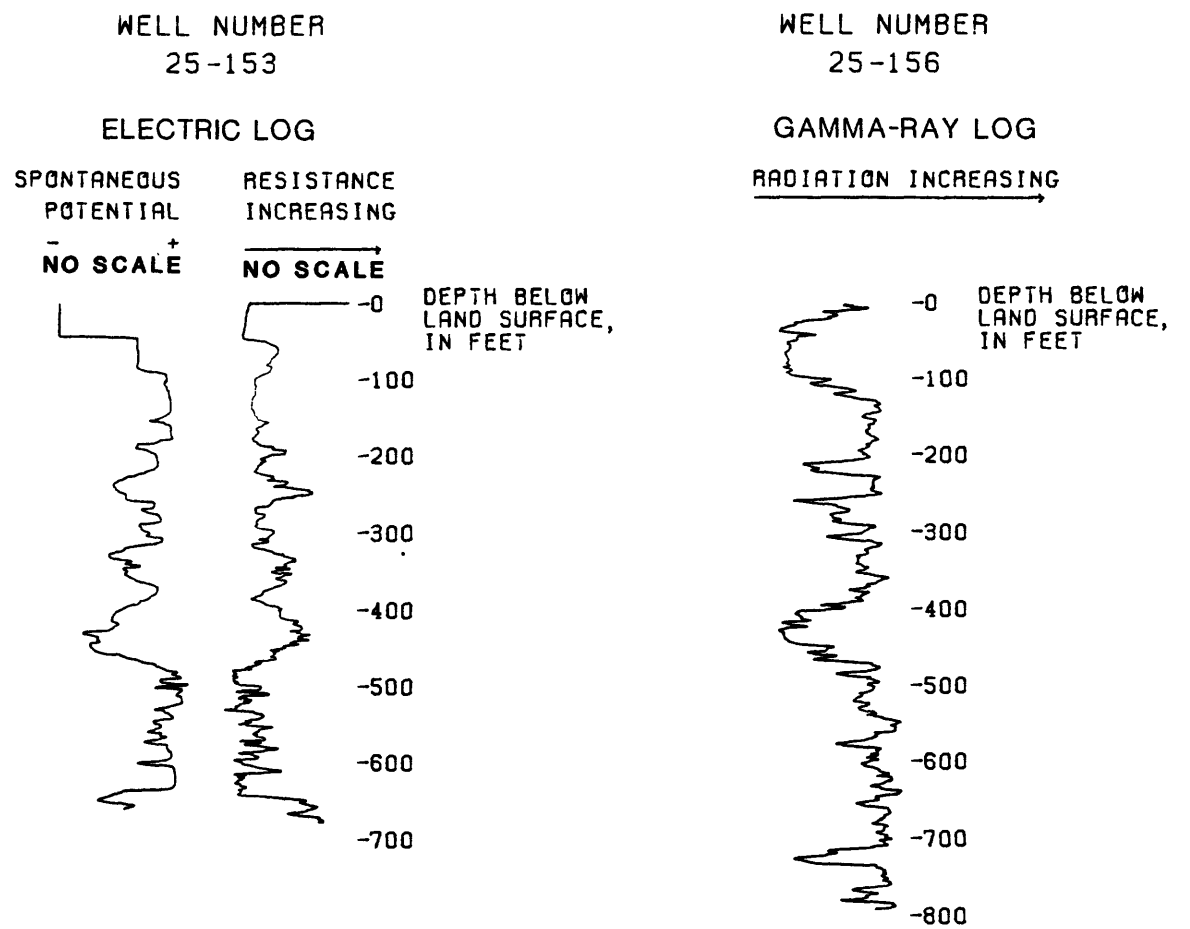


Figure 34.--Geophysical logs of wells 25-153 and 25-156.

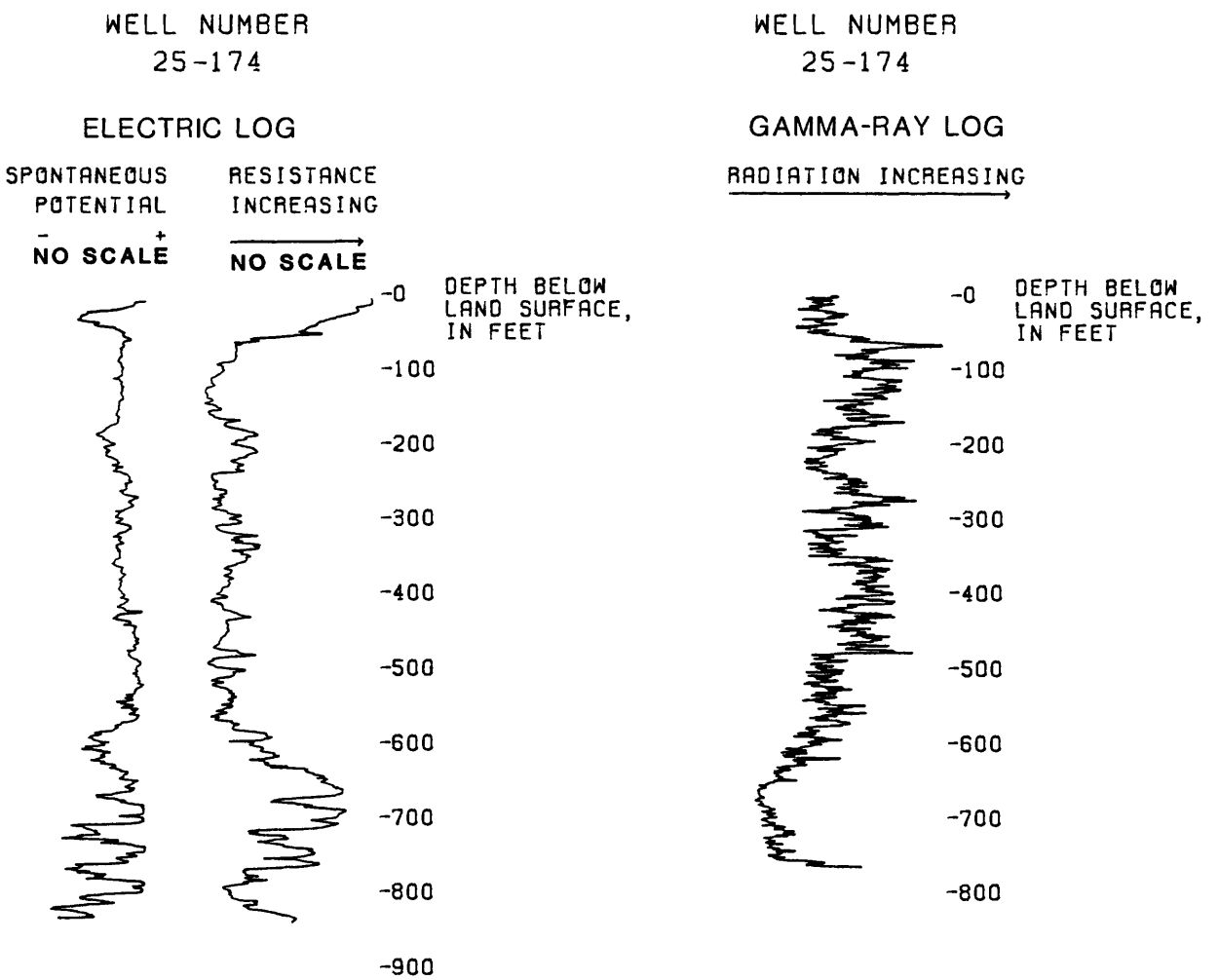


Figure 35.--Geophysical logs of well 25-174.

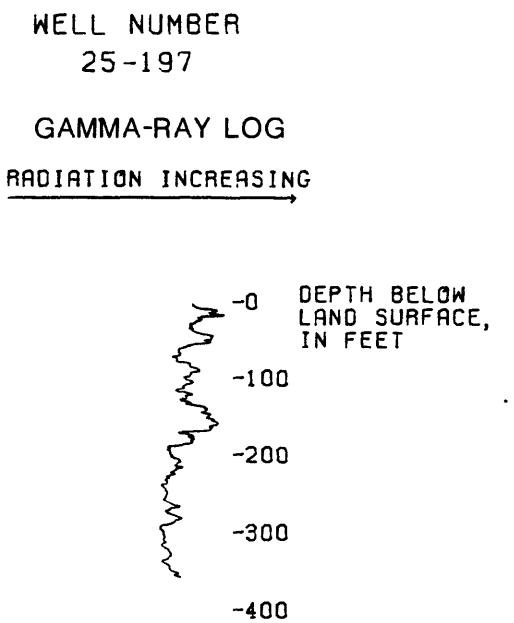


Figure 36.--Geophysical log of well 25-197.

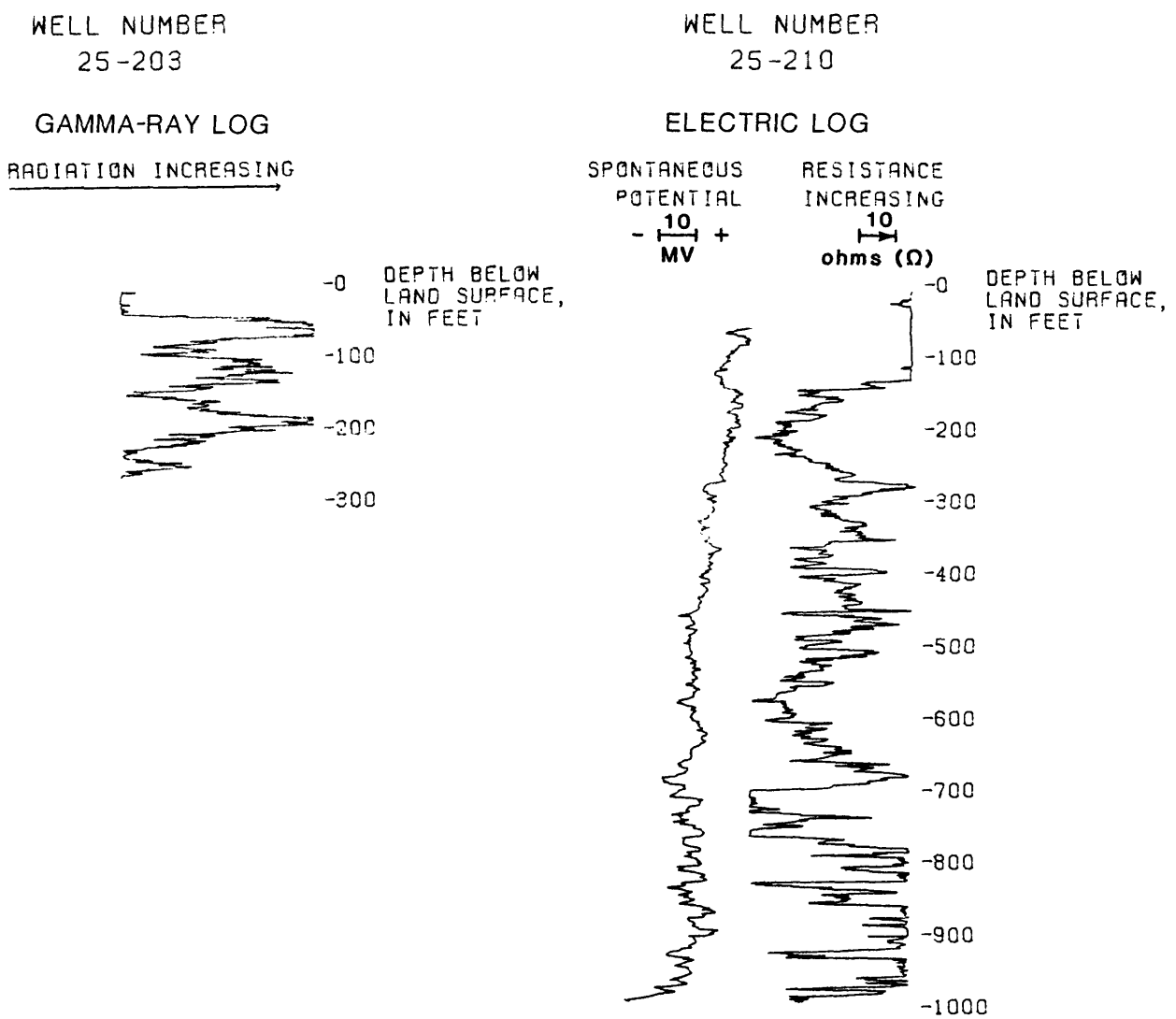


Figure 37.--Geophysical logs of wells 25-203 and 25-210.

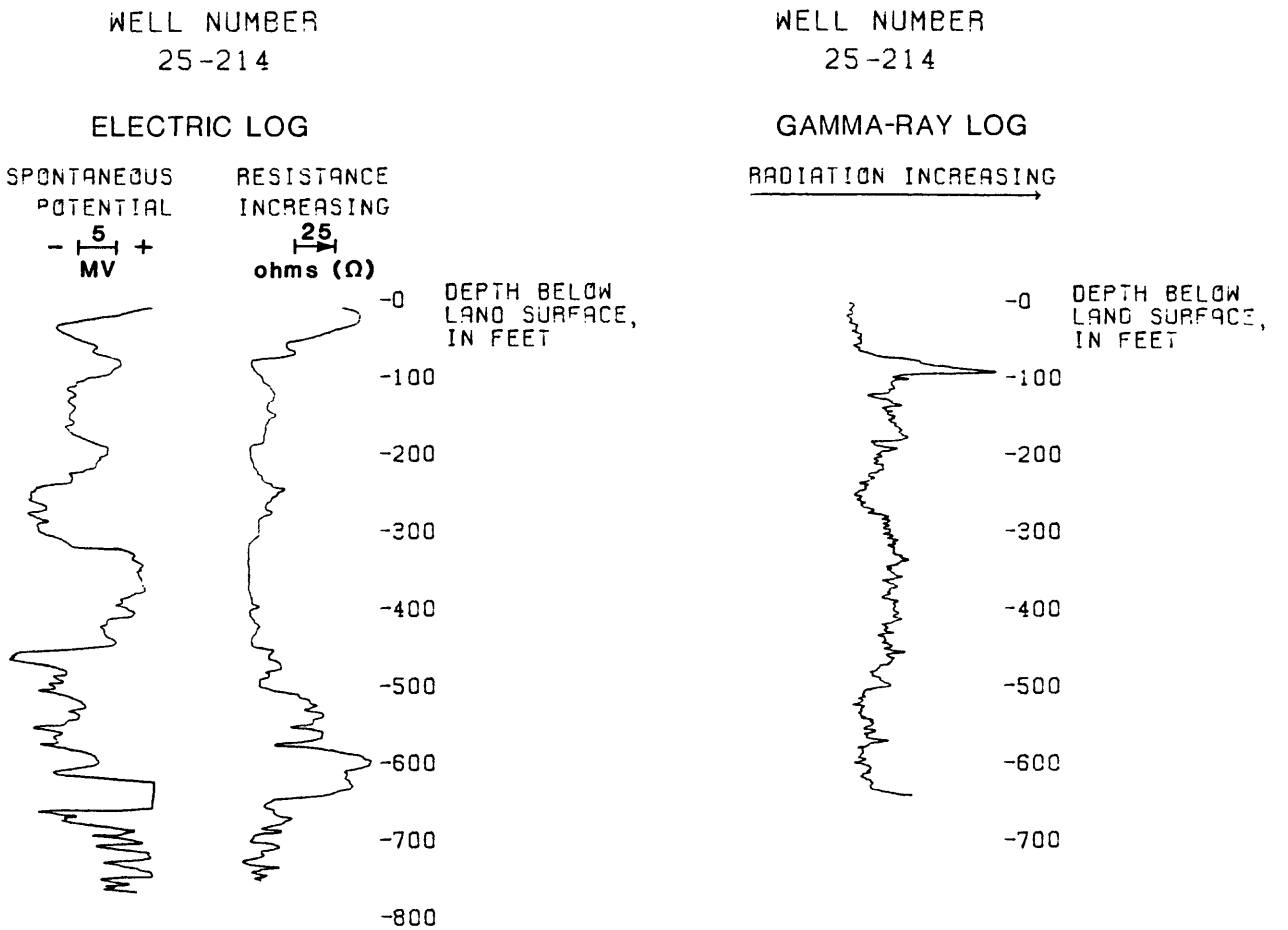


Figure 38.--Geophysical logs of well 25-214.

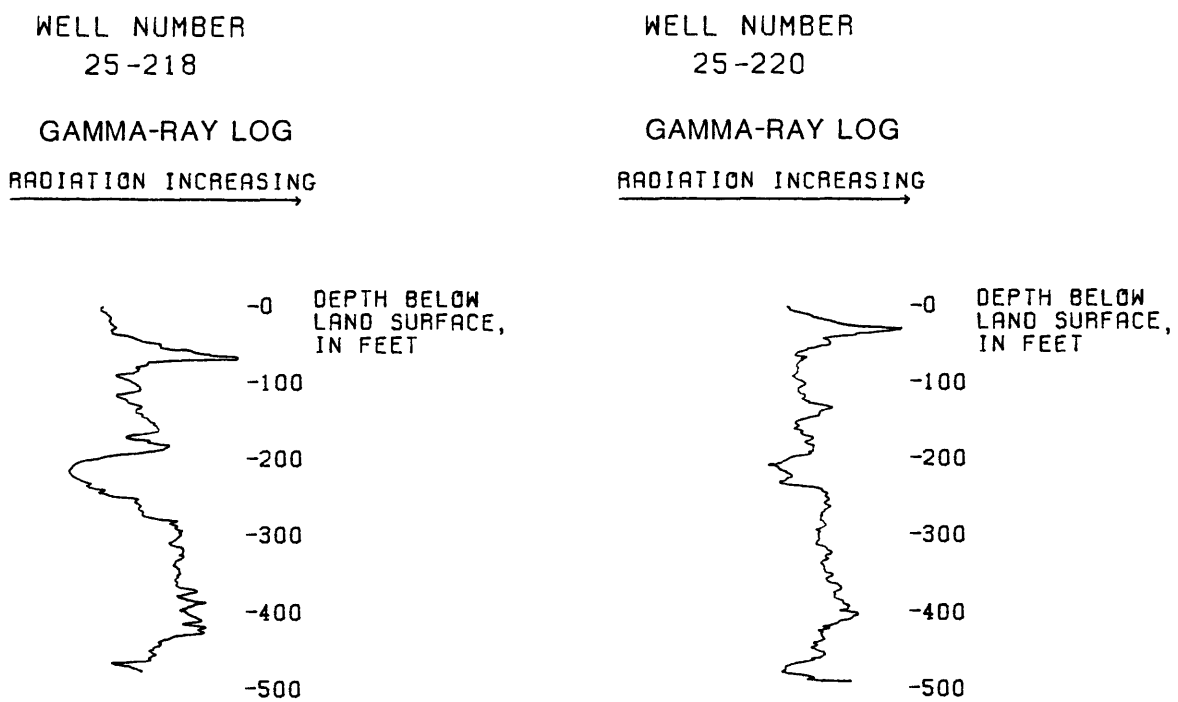


Figure 39.--Geophysical logs of wells 25-218 and 25-220.

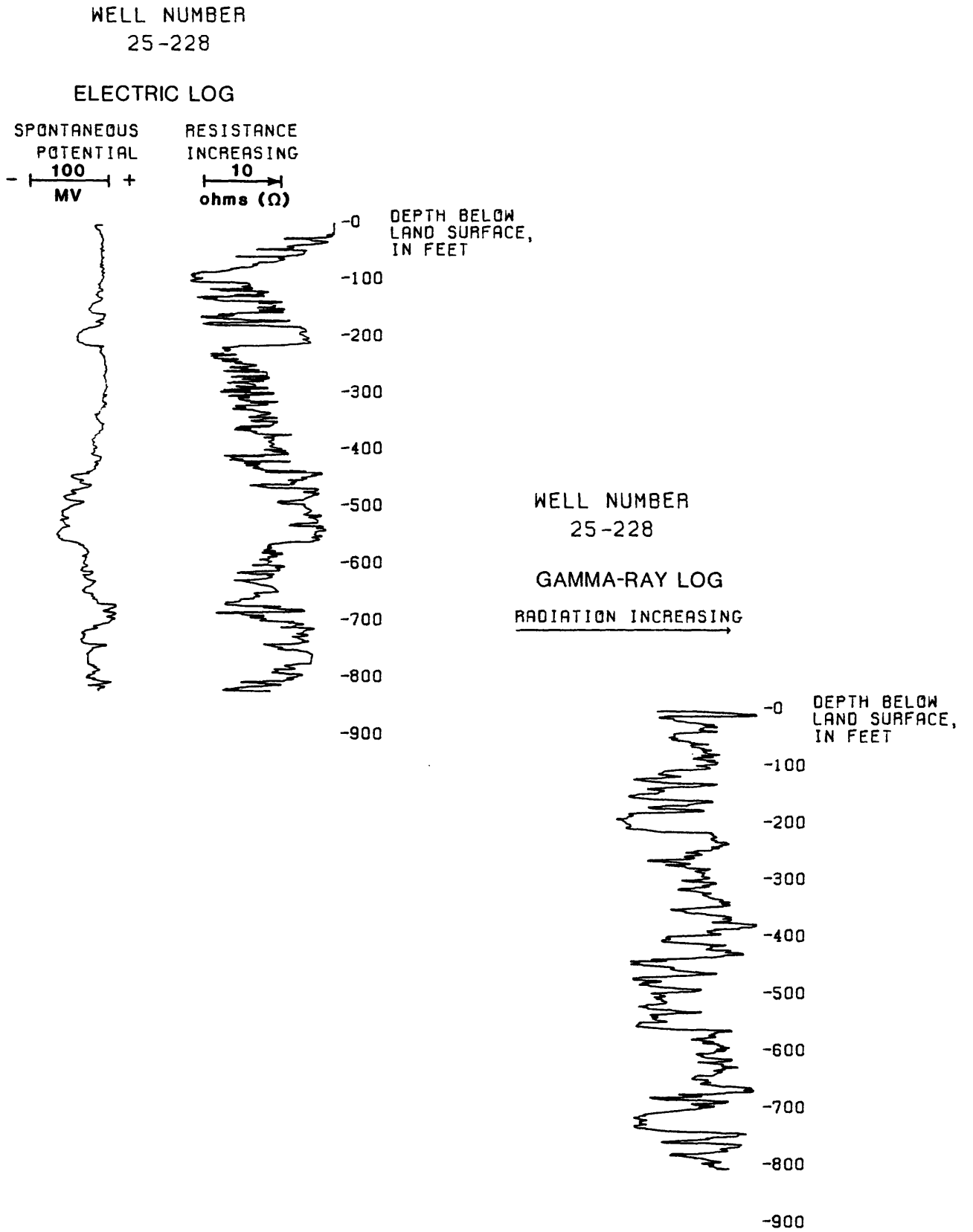


Figure 40.--Geophysical logs of well 25-228.

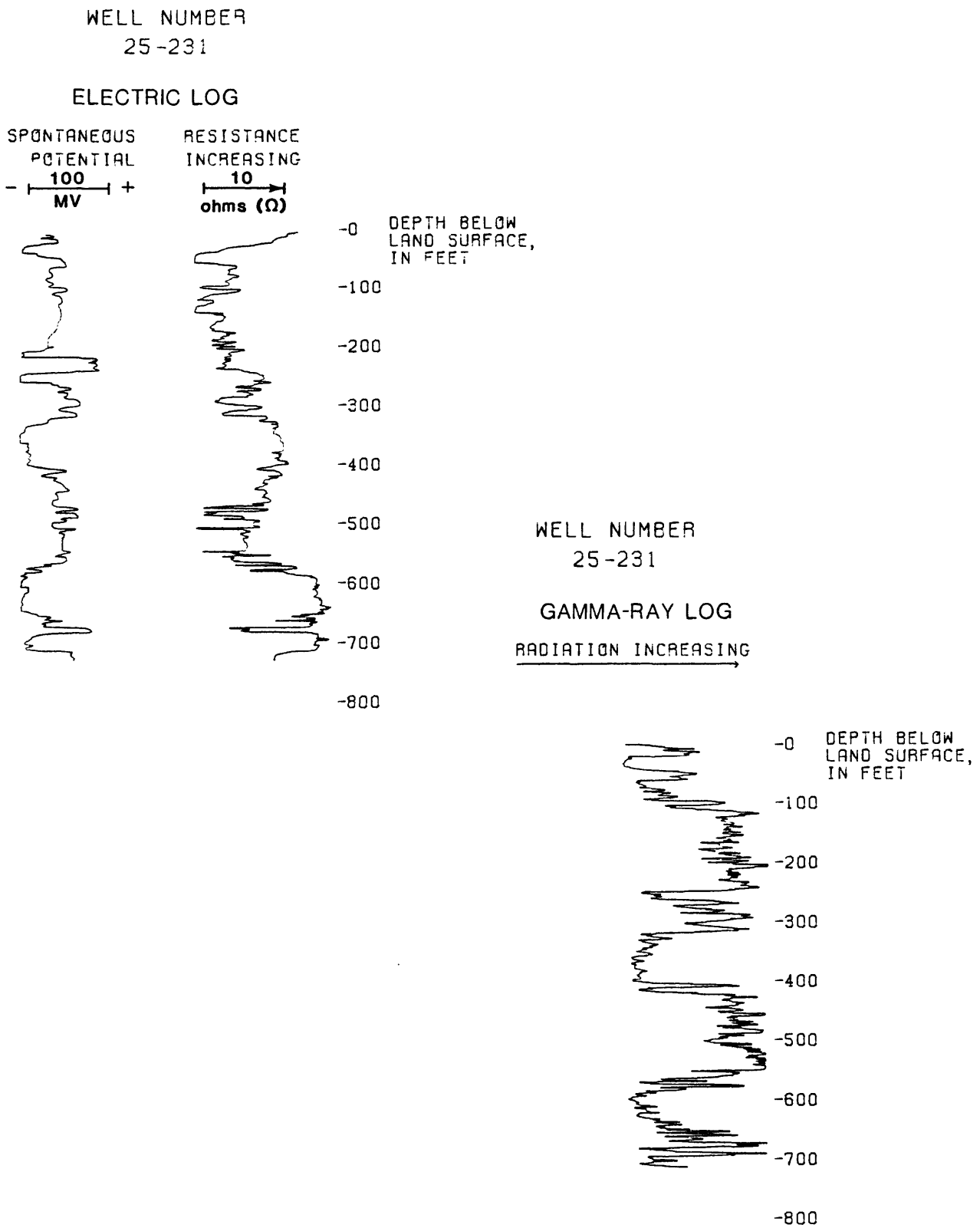


Figure 41.--Geophysical logs of well 25-231.

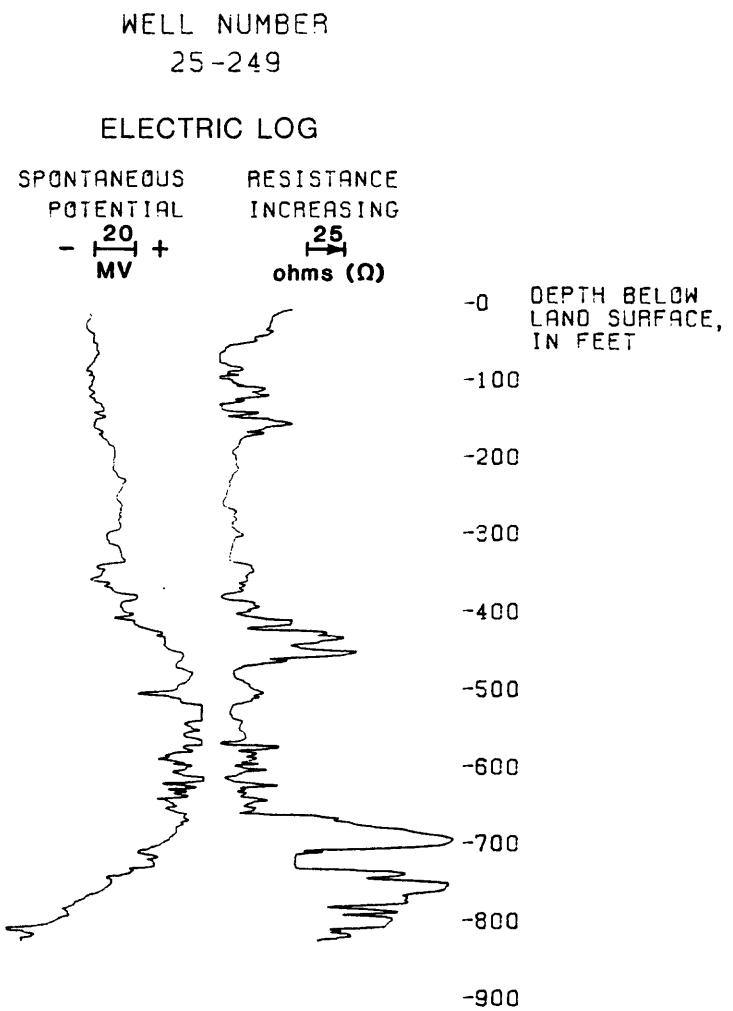


Figure 42.--Geophysical log of well 25-249.

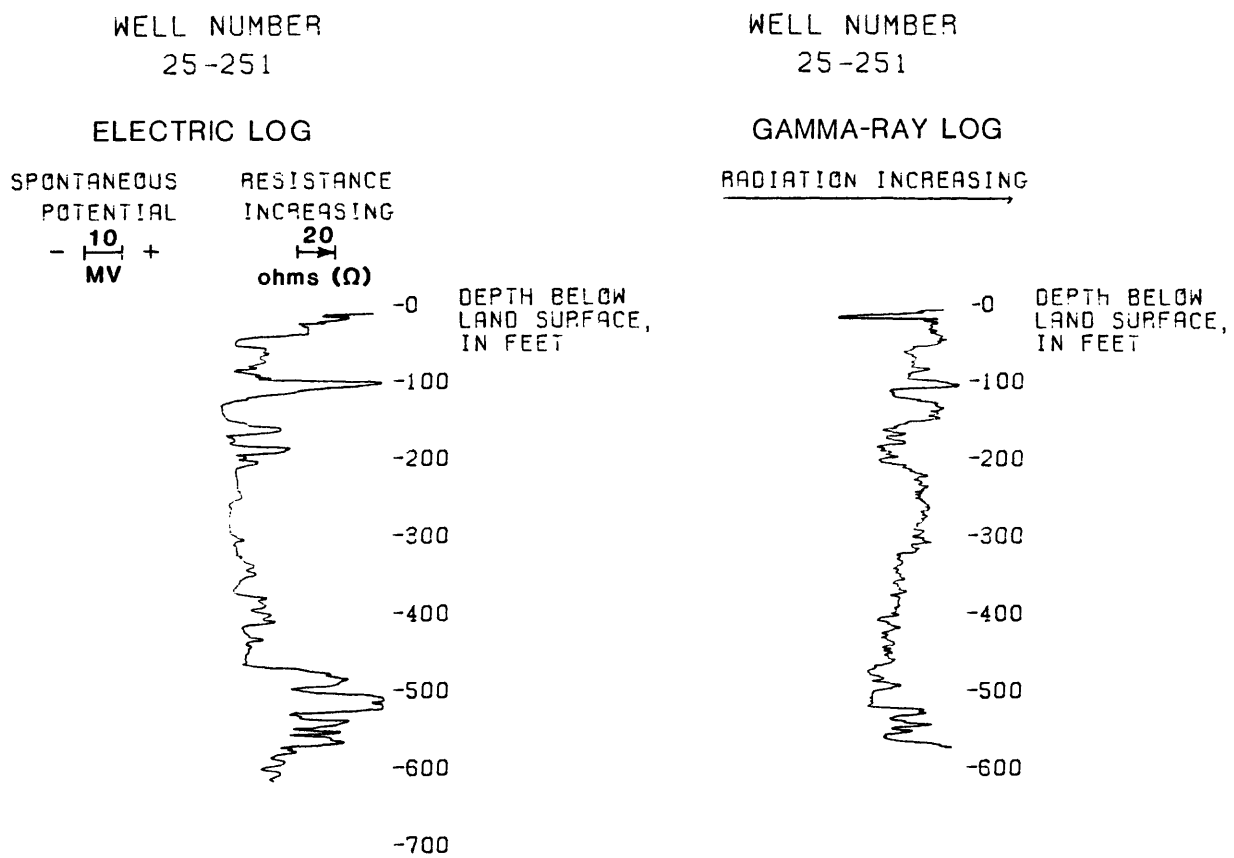


Figure 43.--Geophysical logs of well 25-251.

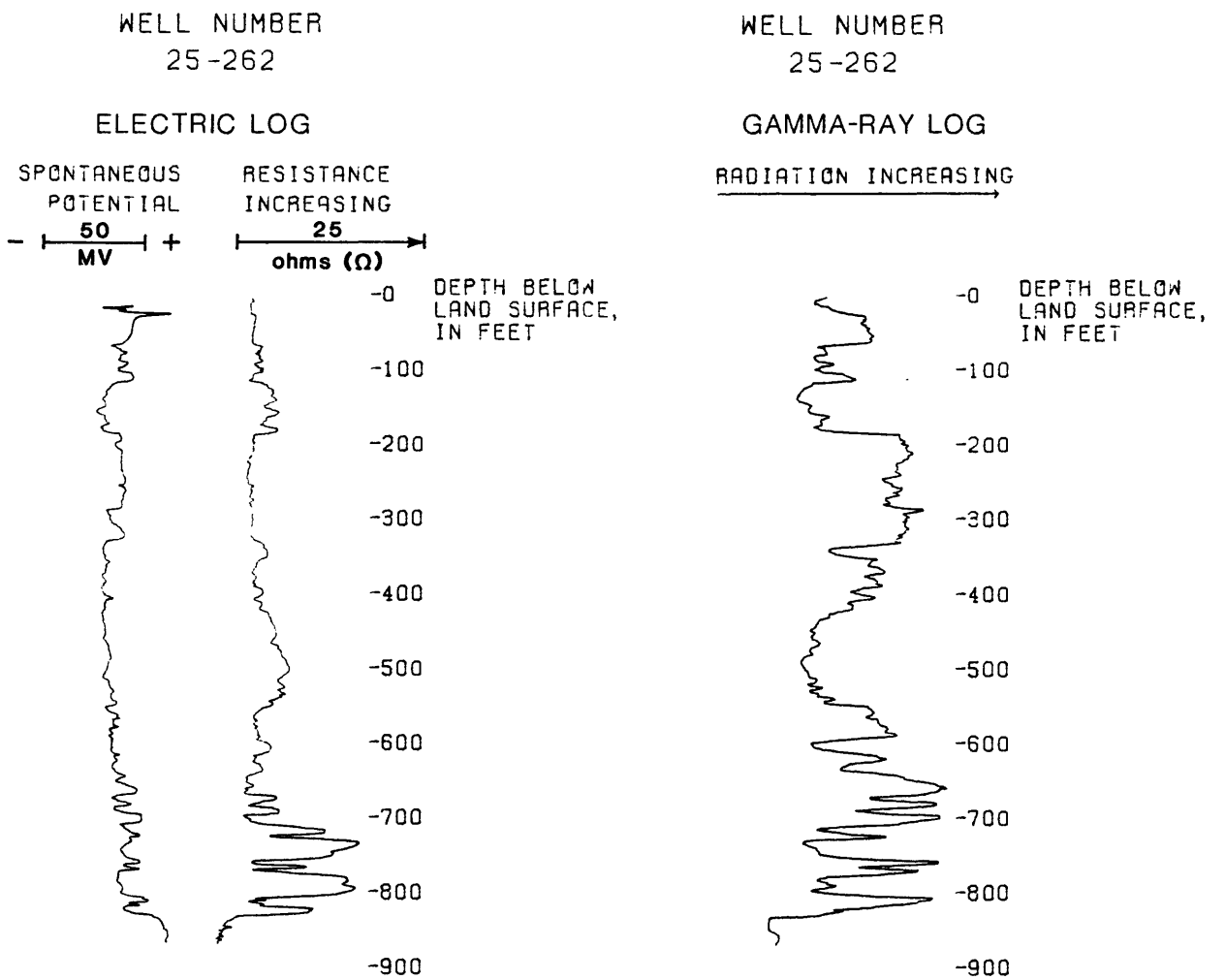


Figure 44.--Geophysical logs of well 25-262.

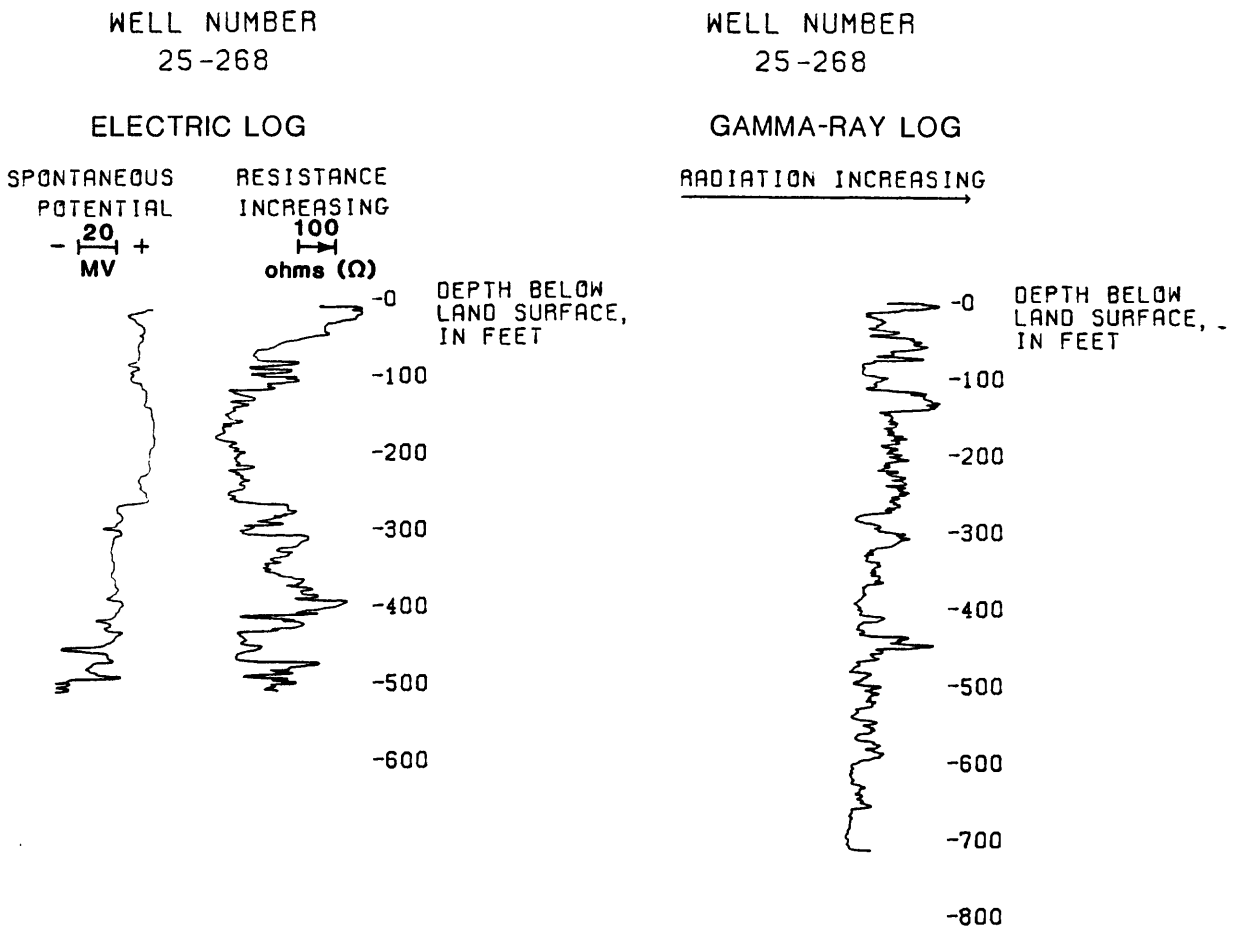


Figure 45.--Geophysical logs of well 25-268.

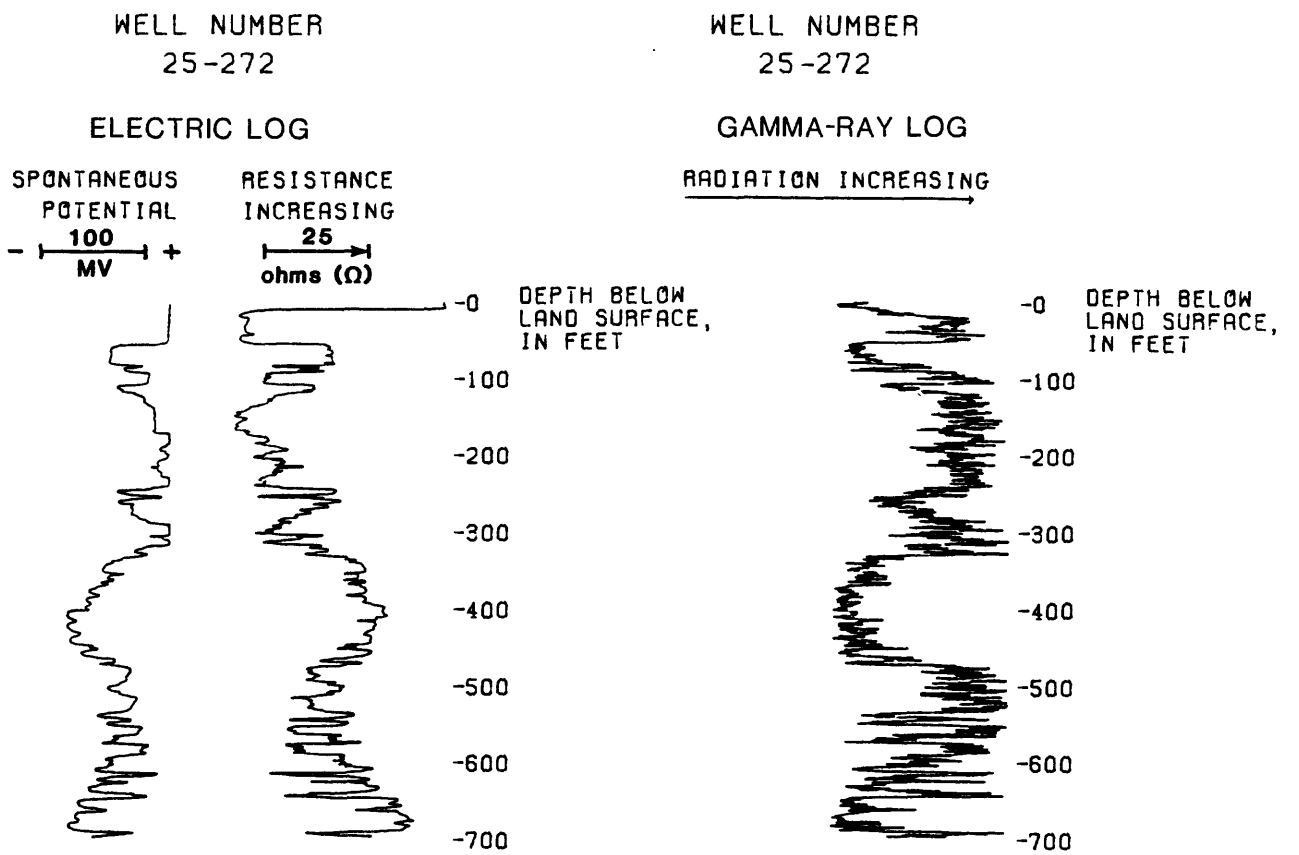
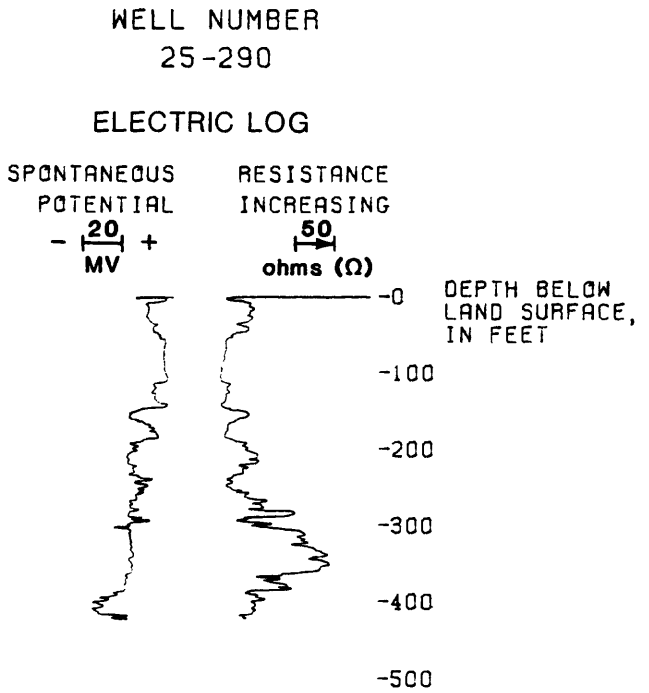


Figure 46.--Geophysical logs of well 25-272.



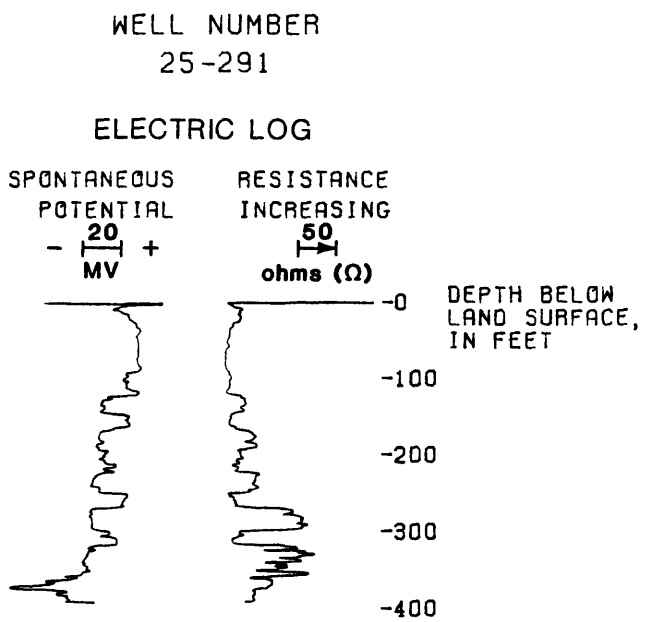


Figure 47.--Geophysical logs of wells 25-290 and 25-291.

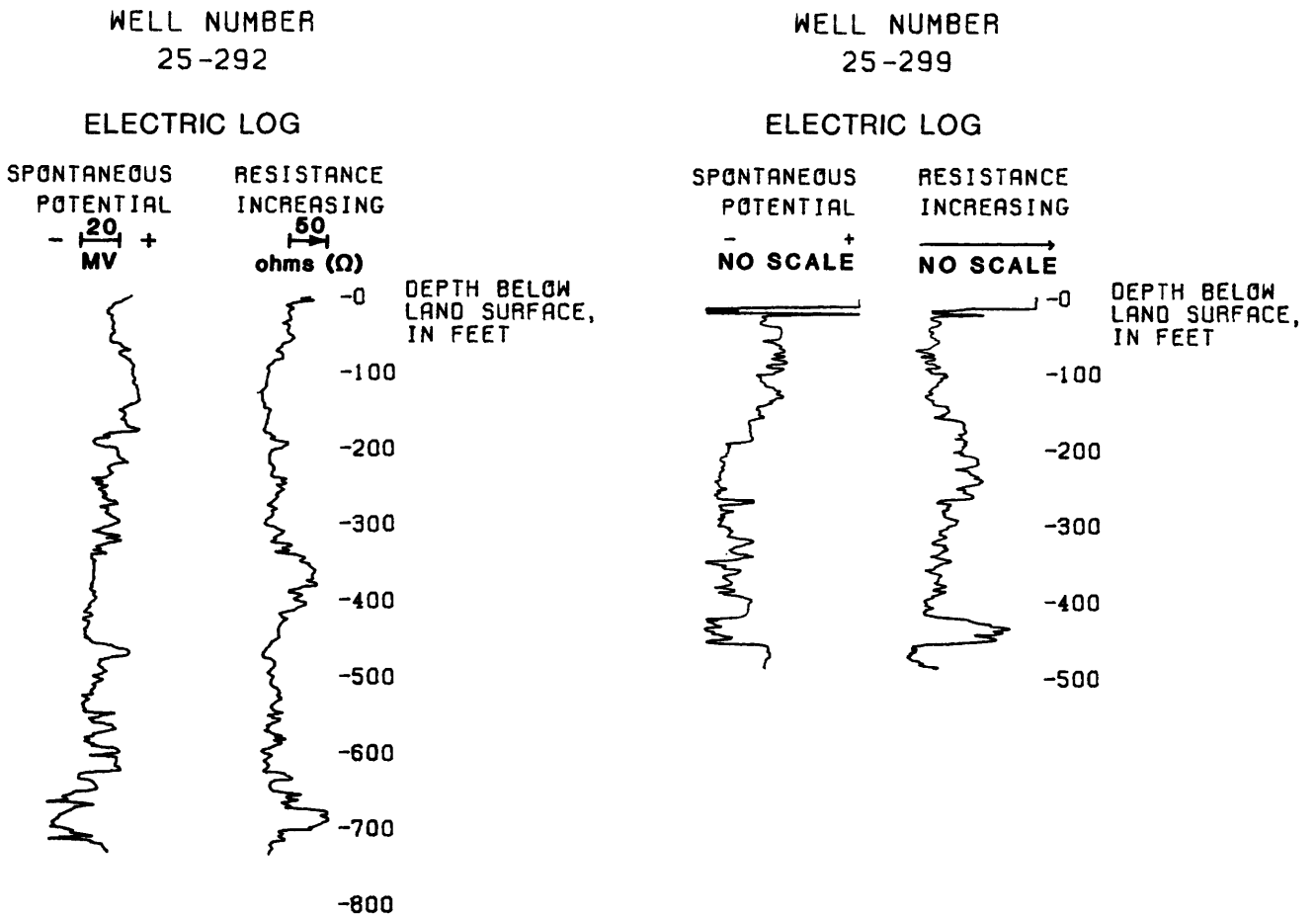


Figure 48.--Geophysical logs of wells 25-292 and 25-299.

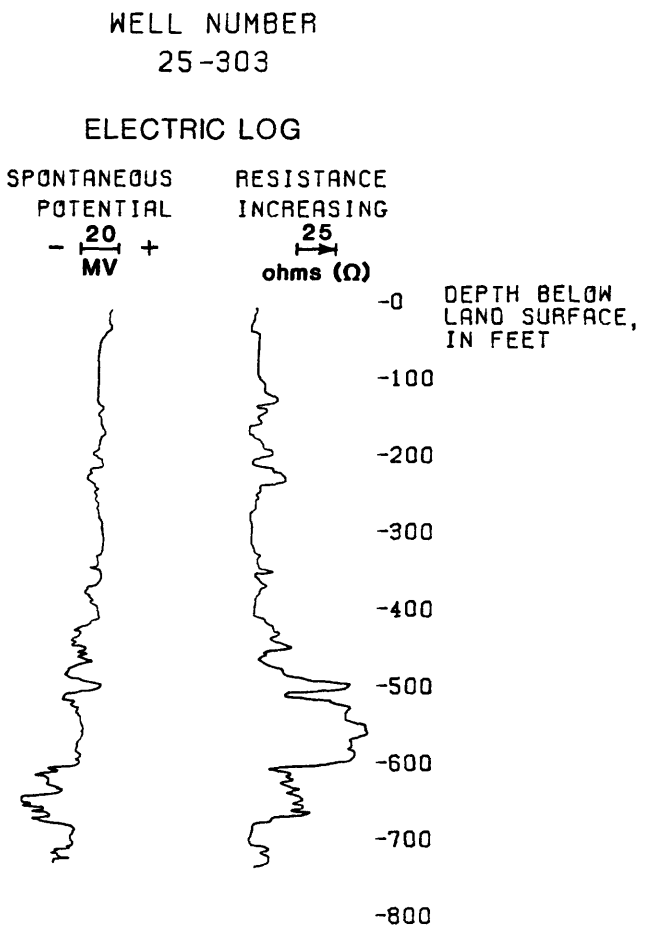


Figure 49.--Geophysical log of well 25-303.

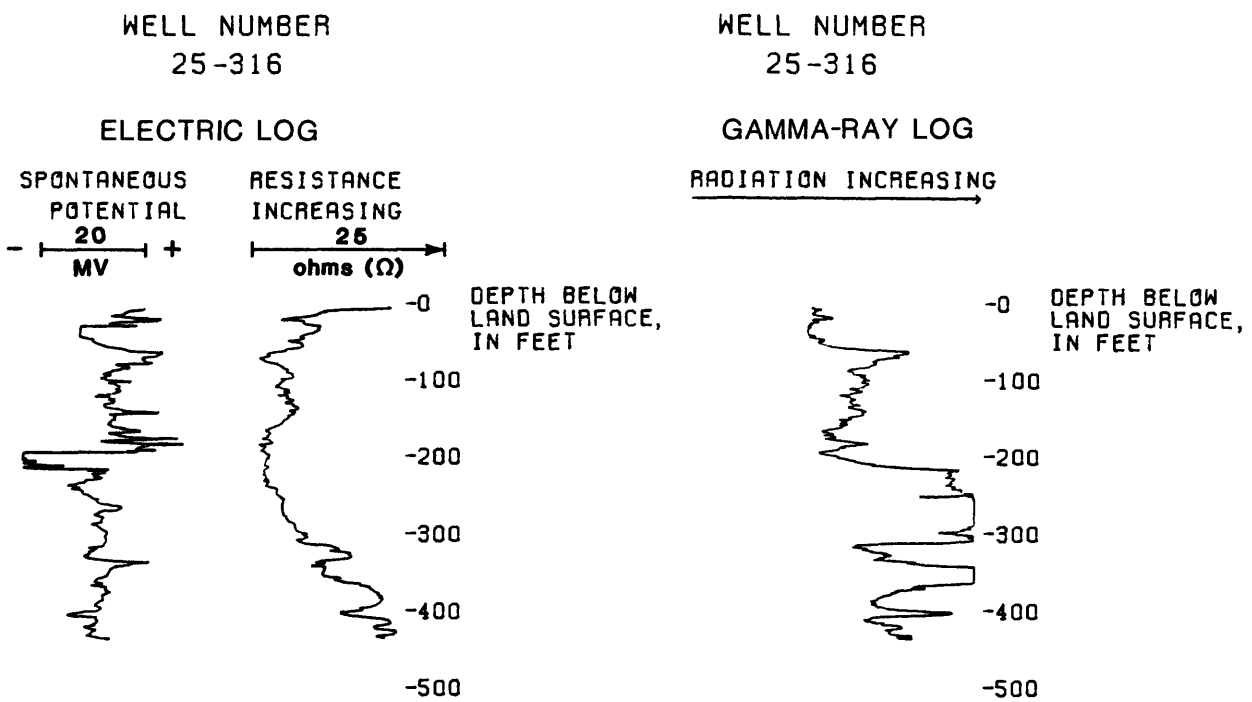


Figure 50.--Geophysical logs of well 25-316.

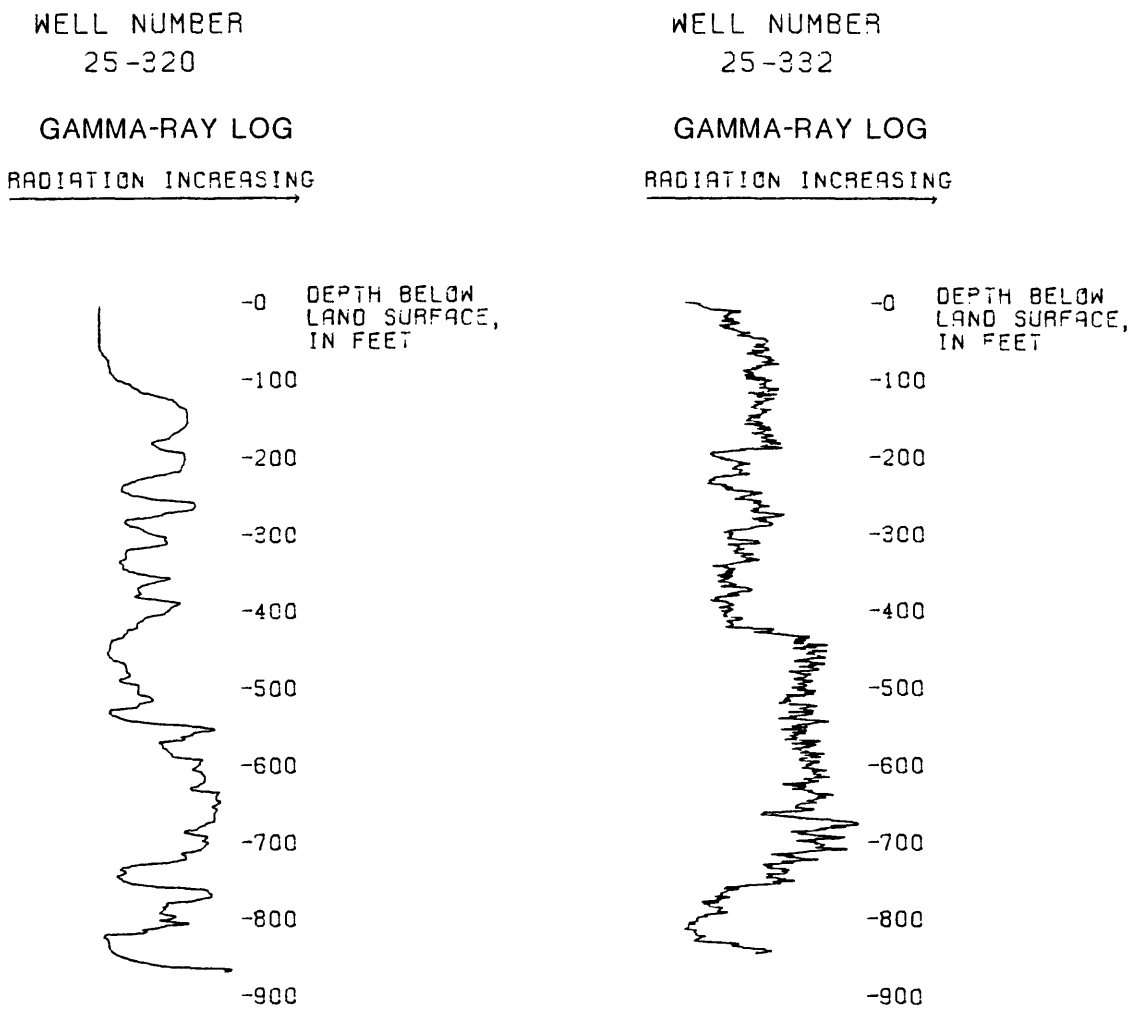


Figure 51.--Geophysical logs of wells 25-320 and 25-332.

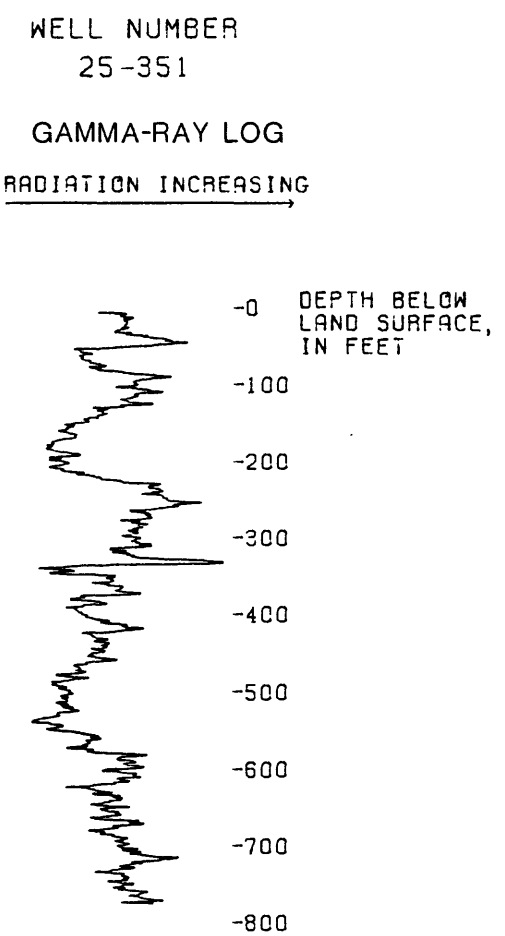


Figure 52.--Geophysical log of well 25-351.

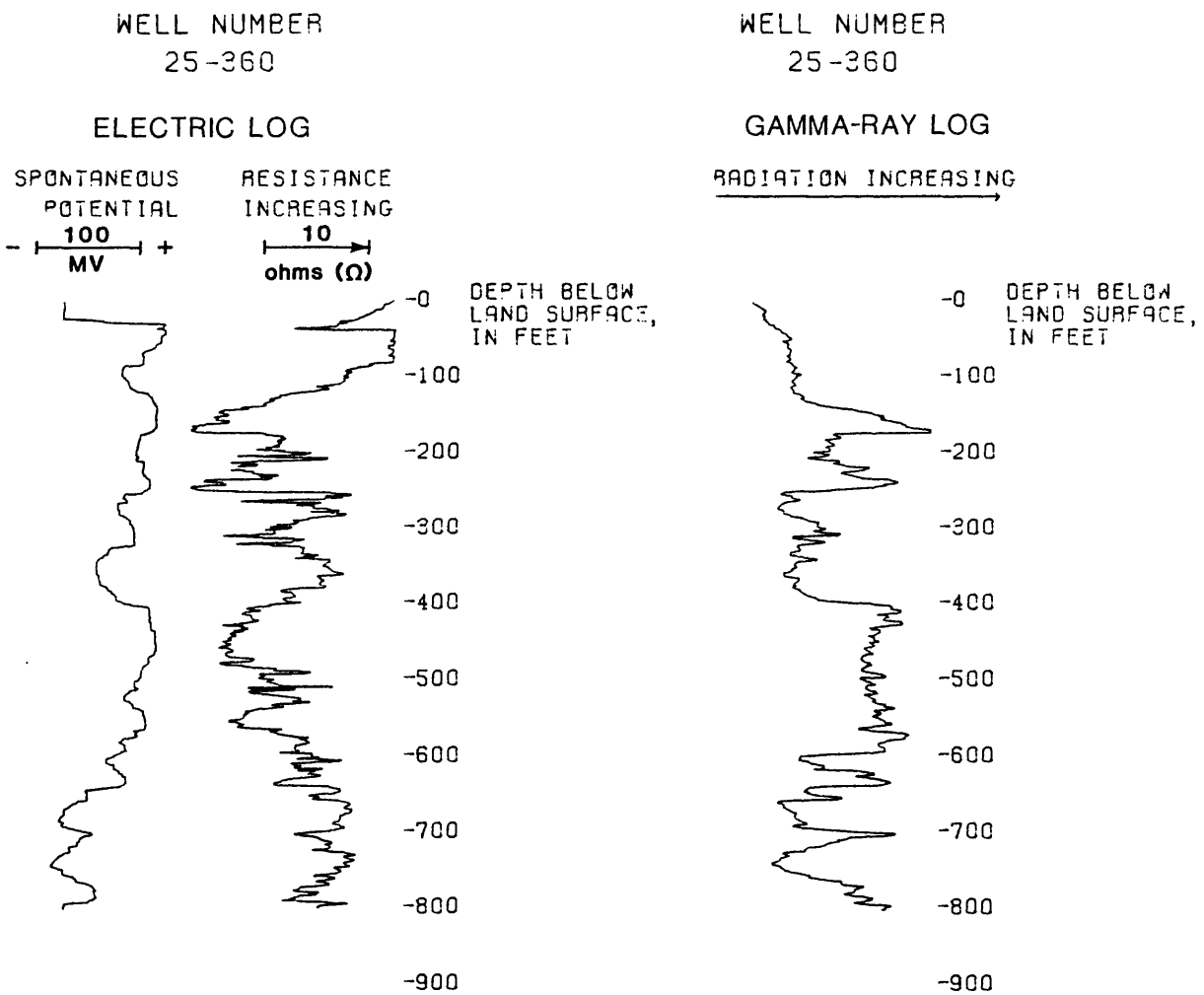


Figure 53.--Geophysical logs of well 25-360.

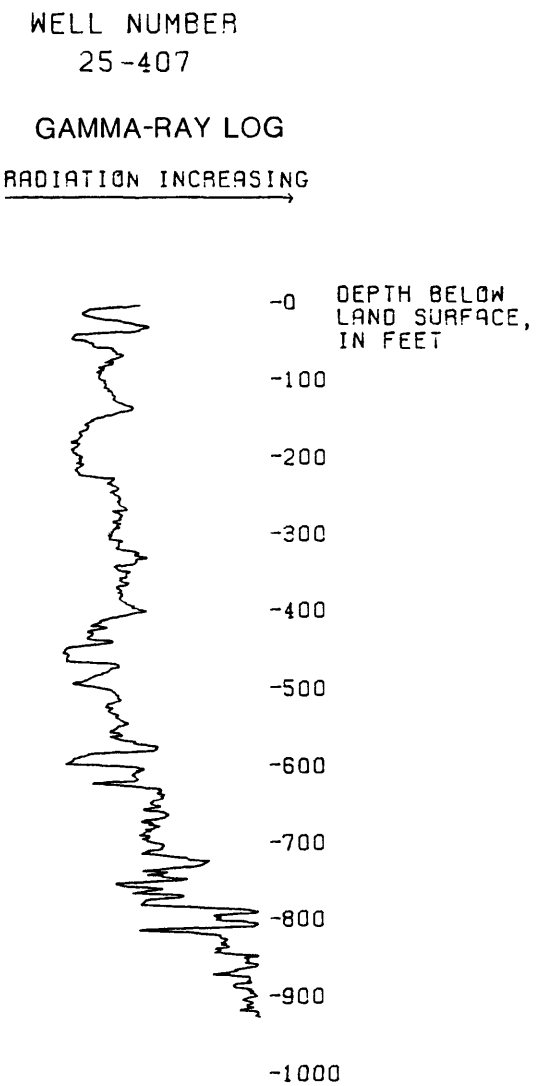


Figure 54.--Geophysical log of well 25-407.

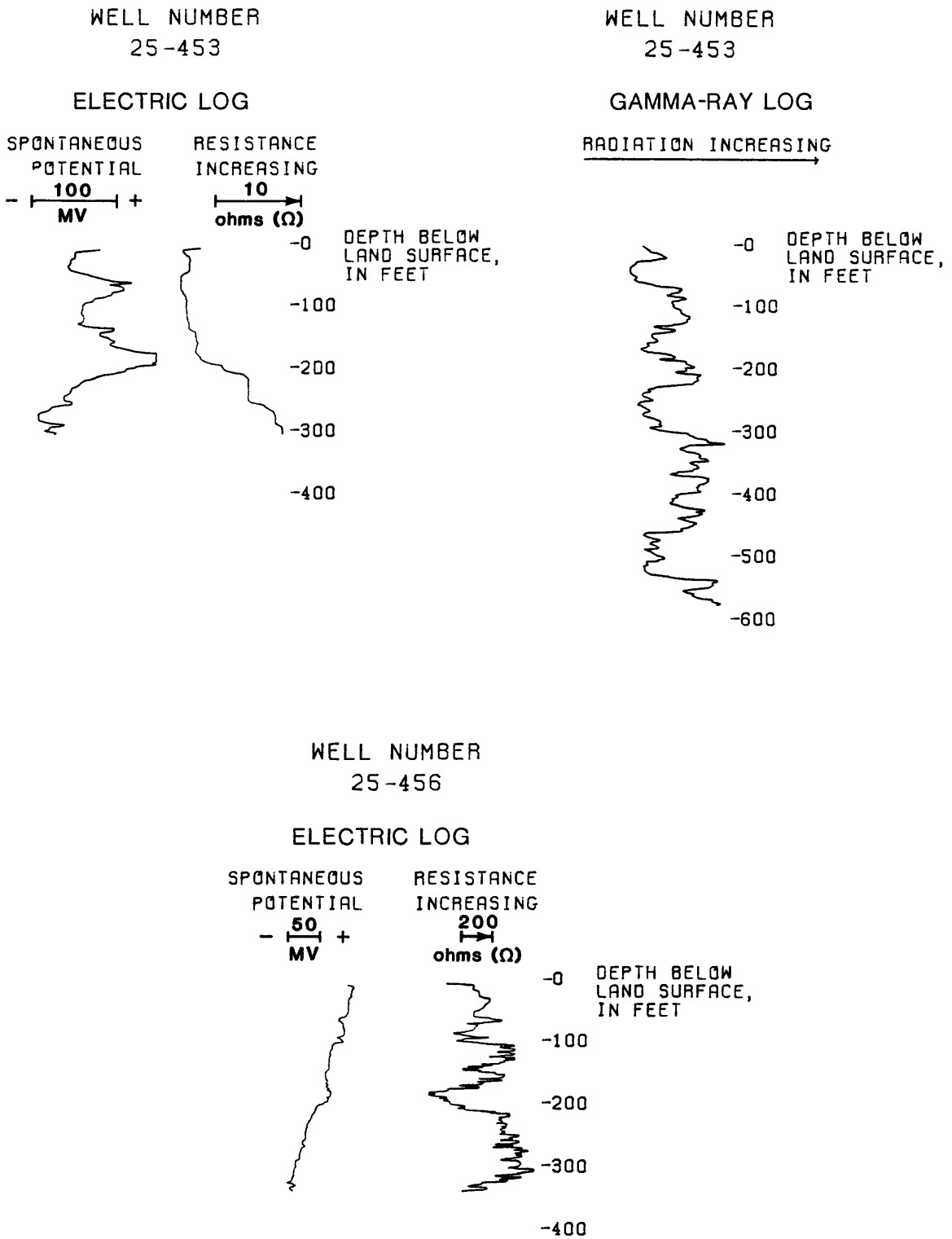


Figure 55.--Geophysical logs of wells 25-453 and 25-456.

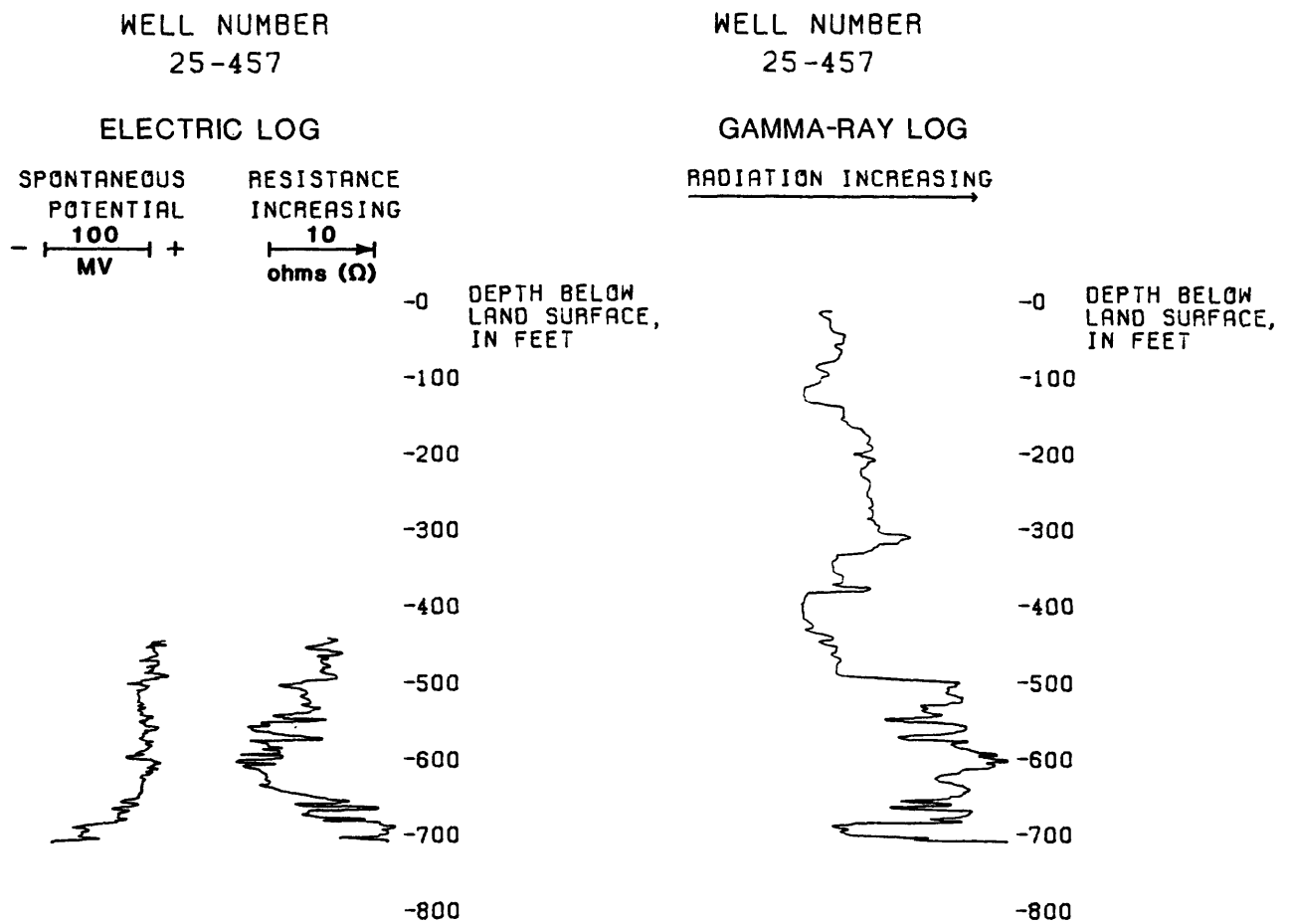


Figure 56.--Geophysical logs of well 25-457.

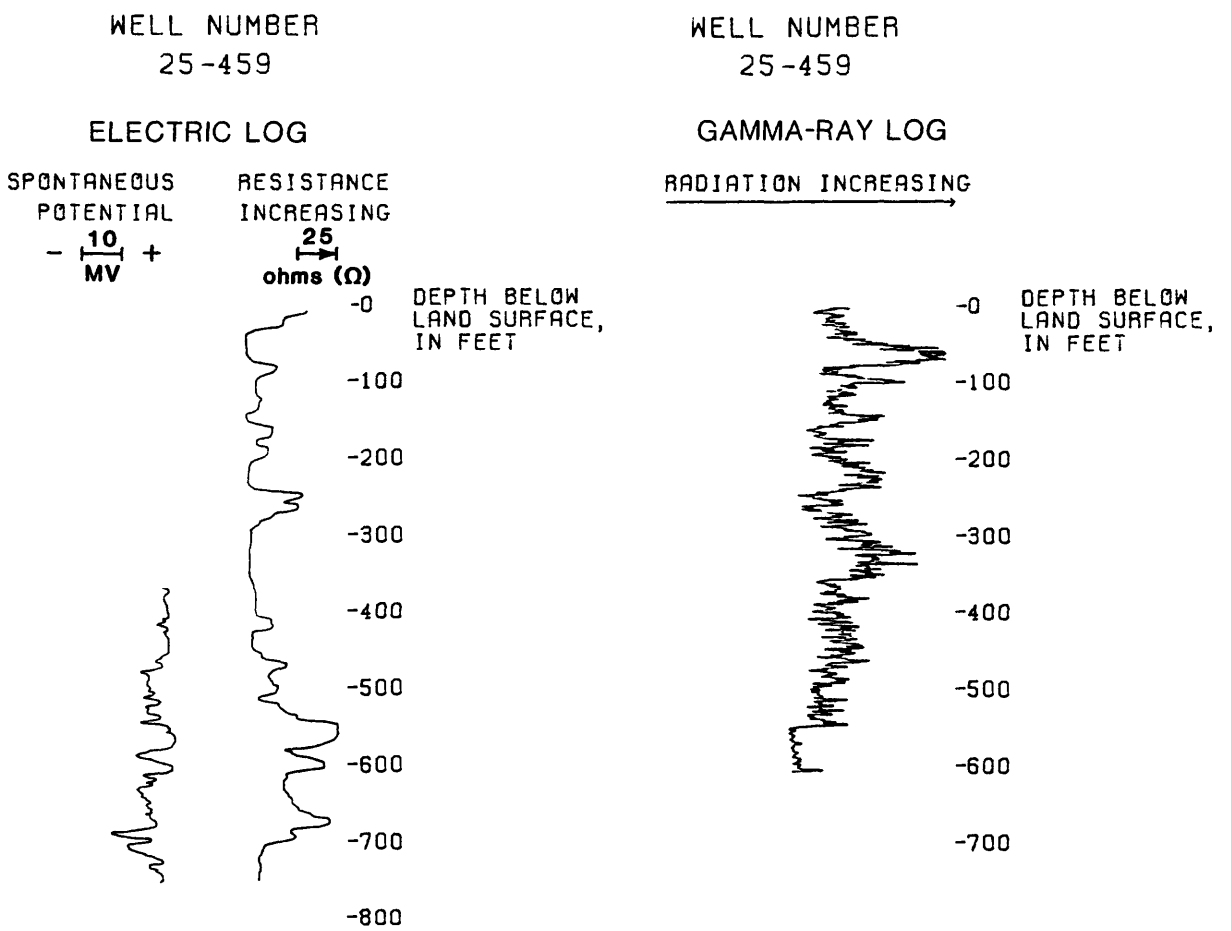


Figure 57.--Geophysical logs of well 25-459.

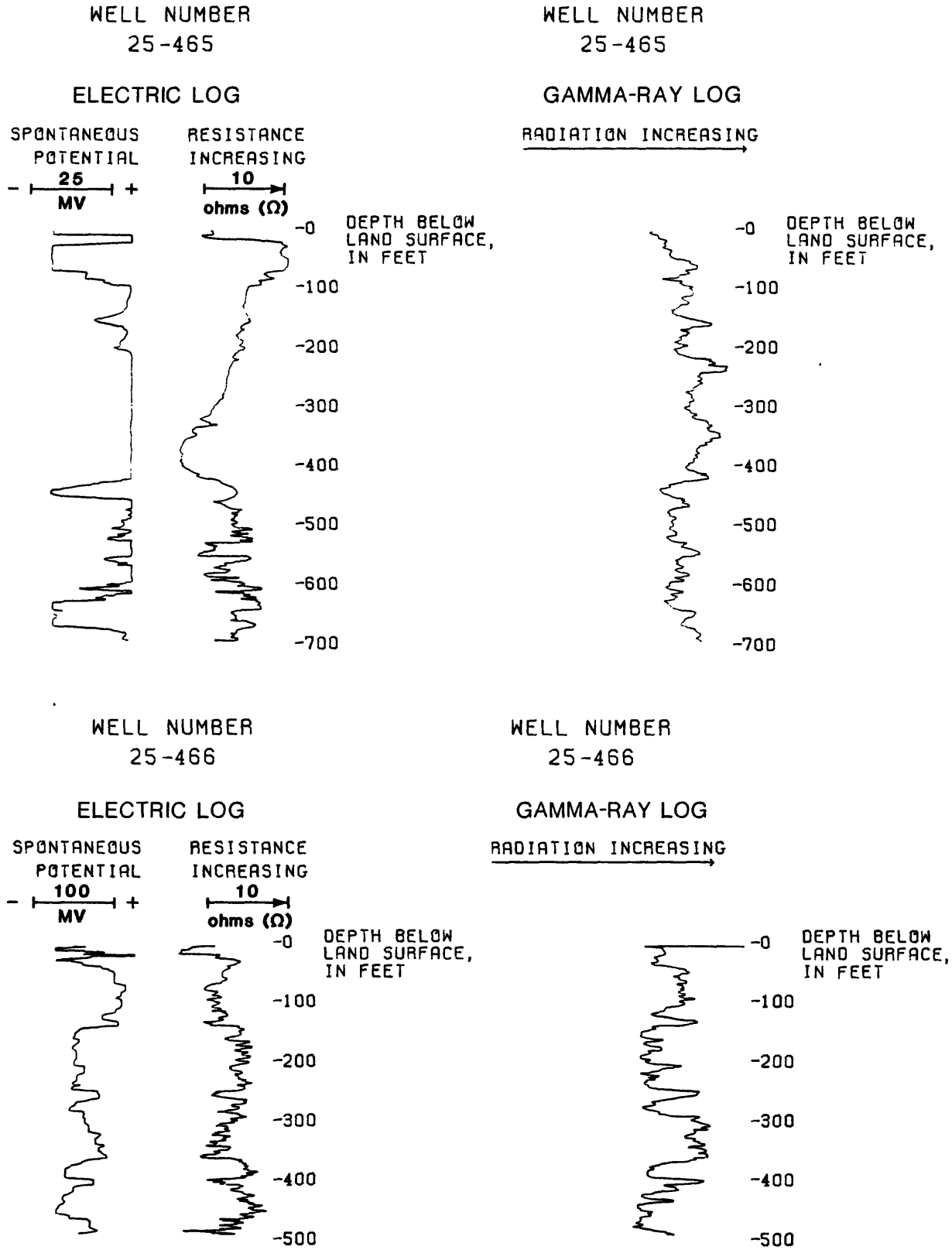


Figure 58.--Geophysical logs of wells 25-465 and 25-466.

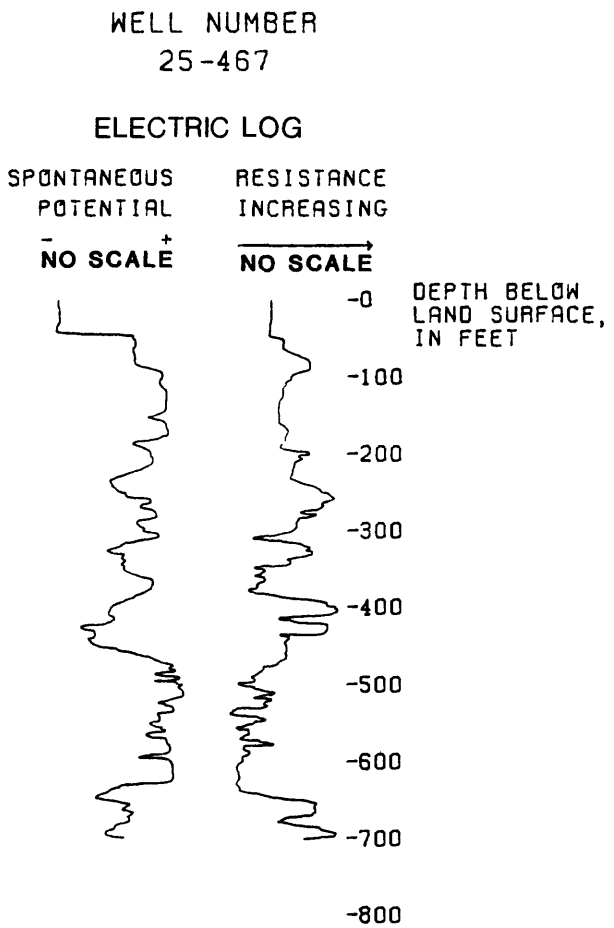


Figure 59.--Geophysical log of well 25-467.

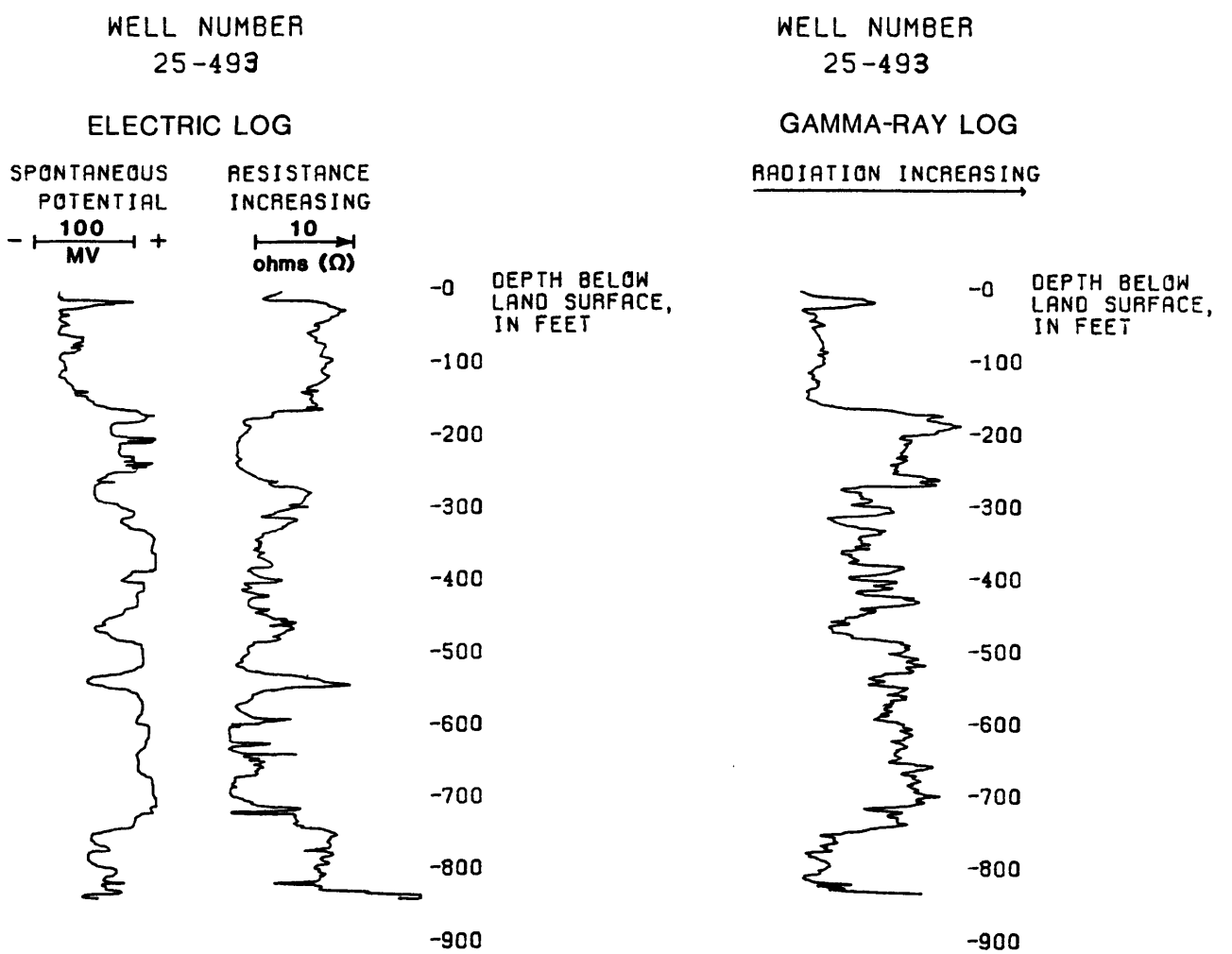


Figure 60.--Geophysical logs of well 25-493.

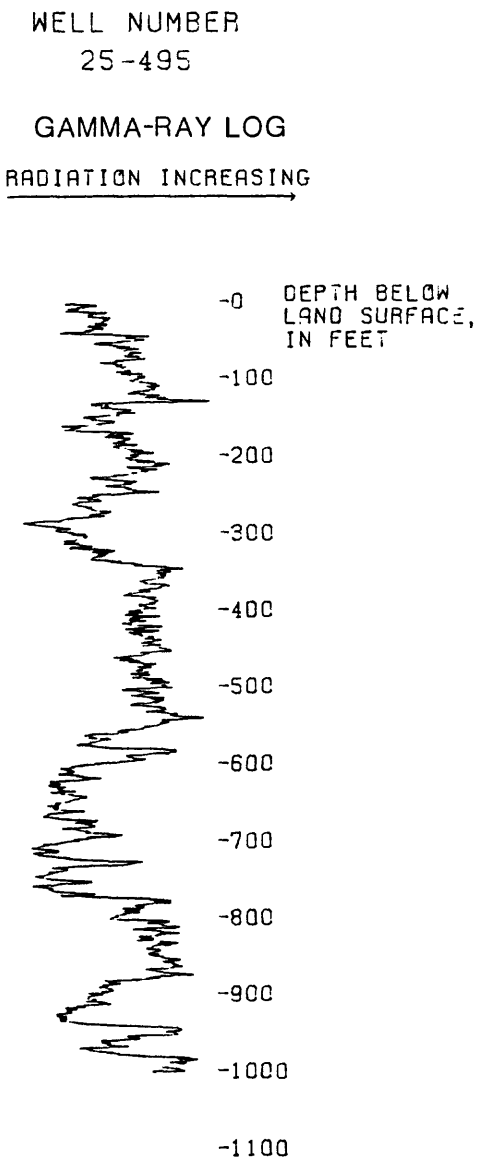


Figure 61.--Geophysical log of well 25-495.

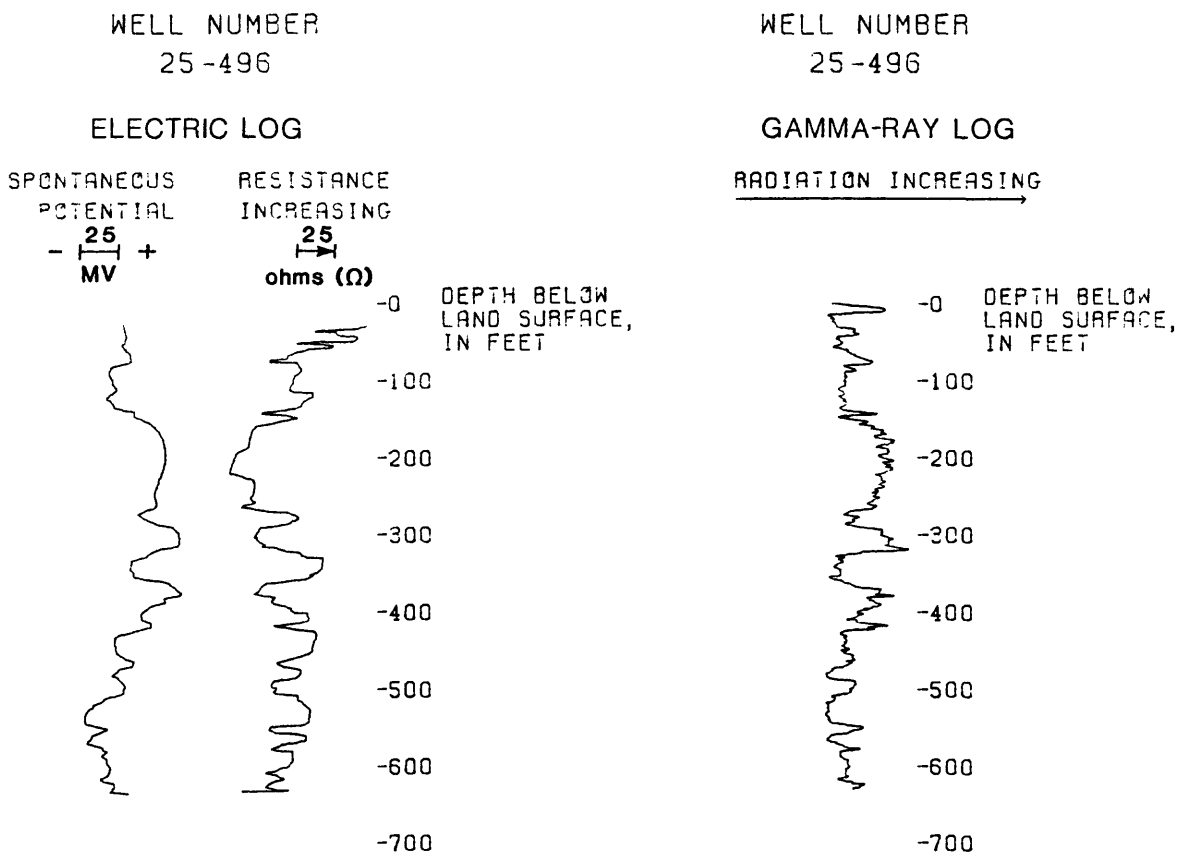


Figure 62.--Geophysical logs of well 25-496.

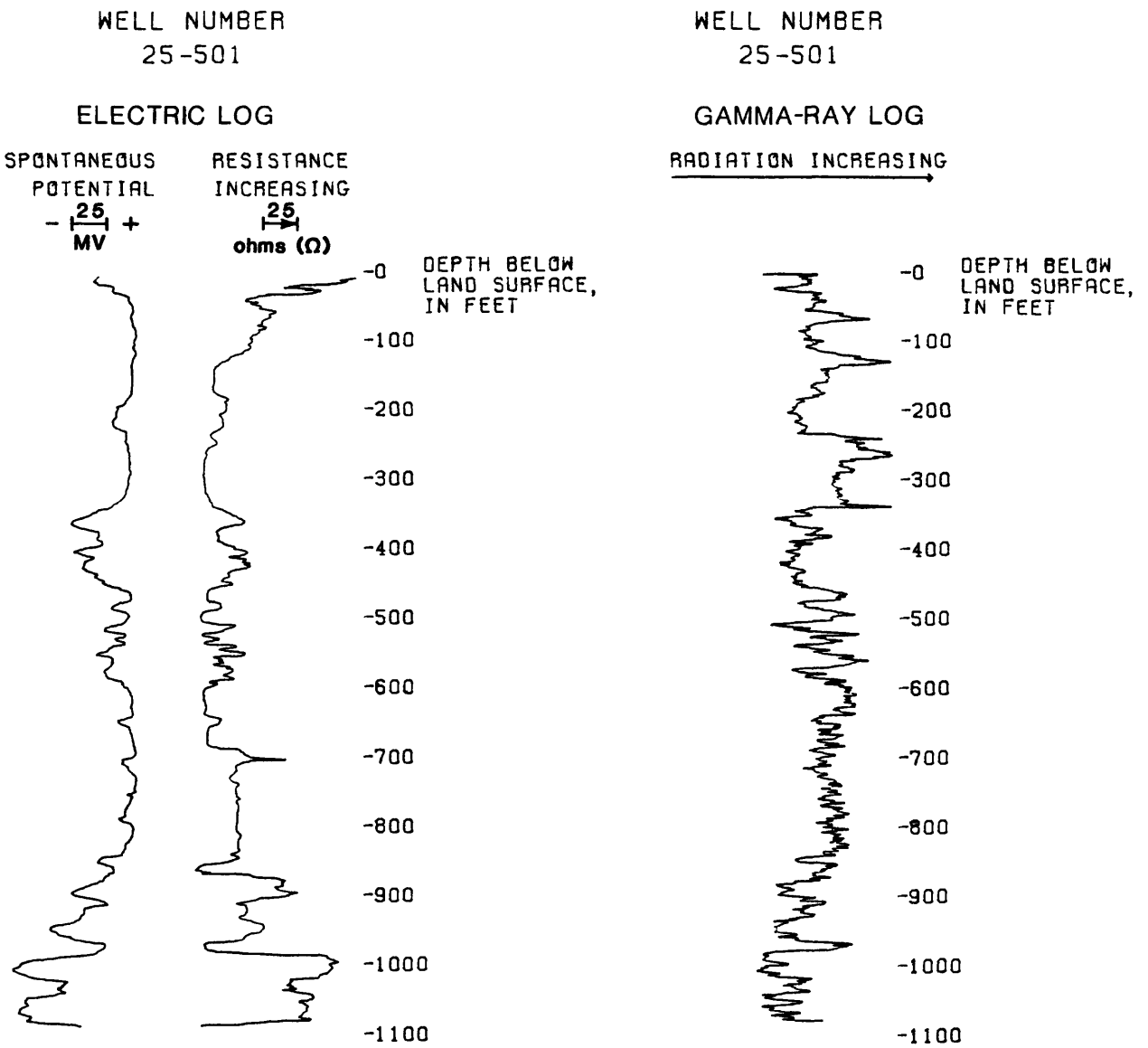


Figure 63.--Geophysical logs of well 25-501.

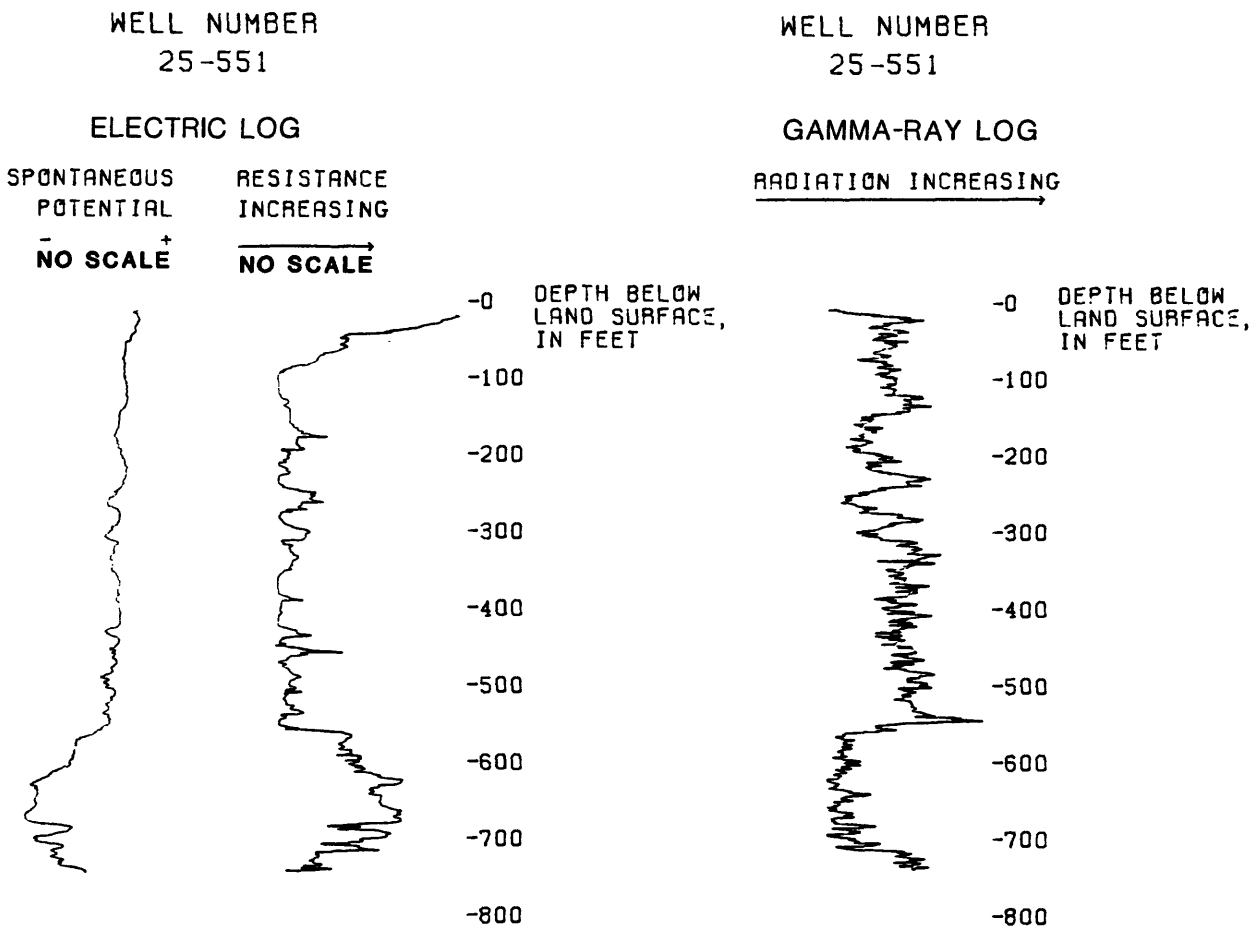


Figure 64.--Geophysical logs of well 25-551.

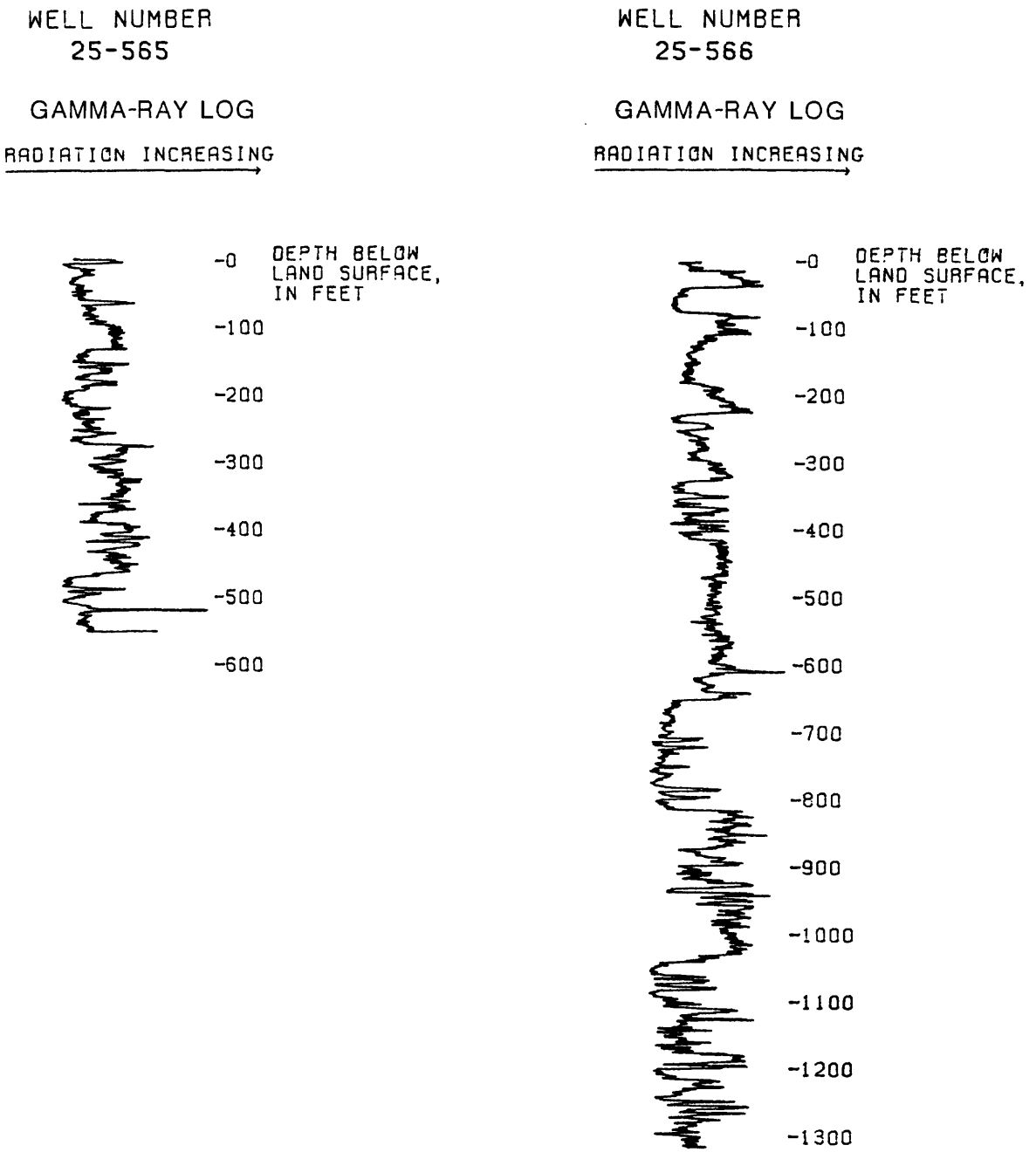


Figure 65.--Geophysical logs of wells 25-565 and 25-566.

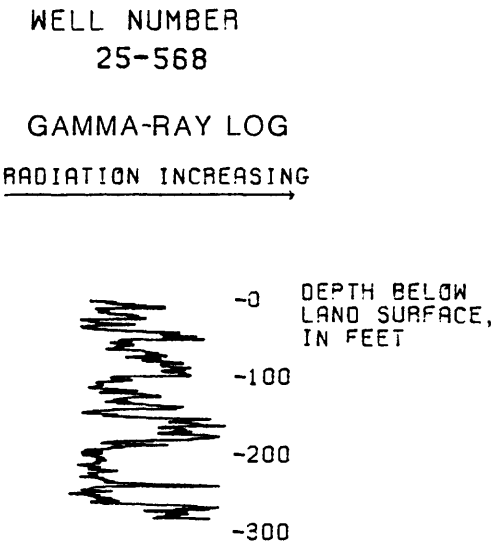


Figure 66.--Geophysical log of well 25-568.