SOIL SURVEY
CAMP LEJEUNE, NORTH CAROLINA

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

IN COOPERATION WITH

UNITED STATES MARINE CORPS

BmB--Baymeade fine sand, 0 to 6 percent slopes. This well drained soil is on uplands. It is extensive and occurs in large areas with moderately convex slopes near major drainageways. The individual areas are irregular in shape and range from 25 to about 300 acres in size. Most of the acreage is in woodland. The woodland areas are used extensively for tracked and heavy-wheeled vehicle traffic. Baymeade soil is also used for off-road maneuvers and bivouac.

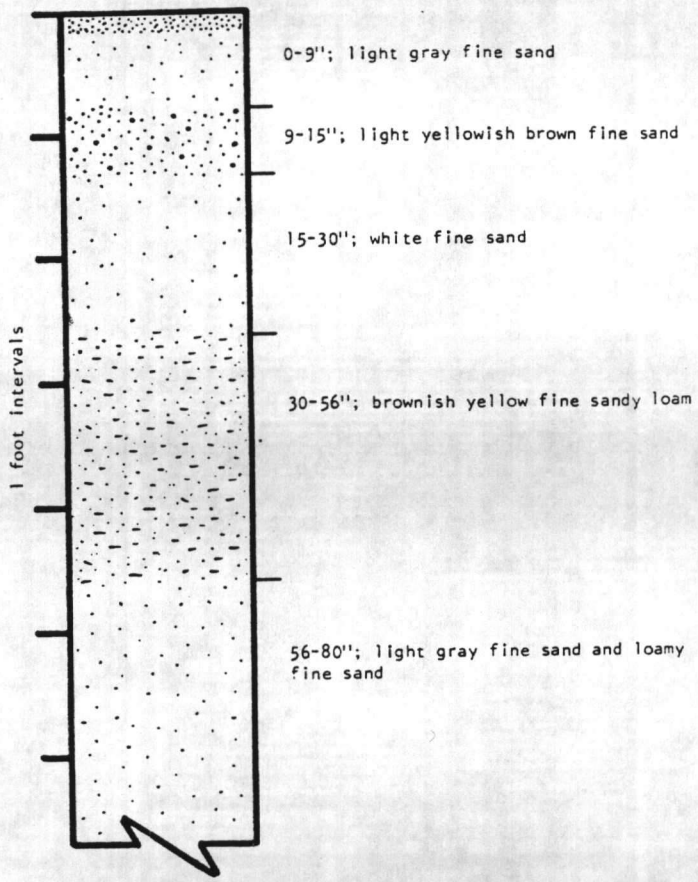

Figure 3. A typical pedon of Baymeade fine sand, 0 to 6 percent slopes.

Infiltration is rapid and surface runoff is slow. Permeability is moderately rapid and available water capacity is low. The soil is strongly acid or medium acid throughout the profile except for the surface layer in areas that have been limed. The seasonal high water table ranges from 4 to 5 feet below the surface.

Included with this soil in mapping are small areas of the sandier Alpin, Kureb, Pactolus, and Leon soils; the moderately well drained Foreston soil; and the poorly drained Muckalee soil. Alpin and Kureb soils are on small, slightly higher ridges and Foreston, Leon, and Pactolus soils are in narrow depressions. Muckalee soil is in narrow drainageways. The included soils make up about 15 percent of this map unit.

The major canopy trees are longleaf pine, loblolly pine, southern red oak, white oak, and hickory. The major understory includes turkey oak, blackjack oak, sassafras, persimmon, flowering dogwood, huckleberry, pineland threeawn, panicum grasses, and American beautyberry. Some large areas of this soil have been cleared, bedded, and planted to loblolly pine. Seedling mortality is the main limitation for woodland uses. Areas of Baymeade soil are used as habitat for deer, turkey, rabbit, fox, quail, red cockaded woodpecker, and other wildlife.

In military training areas, this soil is used for unsurfaced roads for tracked and heavy-wheeled vehicles, light vehicle traffic, and bivouac. Tracked vehicles disturb and compact surface layers so that large, deep holes develop and surface water collects (fig. 4). Unless the surface is protected or maintained the holes increase in depth and size with continued use. In the absence of ground cover, the soil is susceptible to accelerated erosion on trails. Light vehicle traffic and bivouac do not disturb and compact this soil significantly. Poor traction on the sandy surface and the caving of trench walls are moderate limitations in bivouac areas.

If Baymeade soil is used for urban development, caving of ditchbanks and trench walls, and seepage are the main limitations. Sandiness and summer droughtiness are the main limitations for recreational development. The thick, sandy surface provides a good support base for most structures. Unprotected sandy surfaces are subject to blowing. Lawns and shrubs are difficult to establish and maintain because of leaching of plant nutrients and droughtiness. Irrigation, addition of organic matter, and frequent fertilization will improve growth of lawns.

KuB--Kureb fine sand, 1 to 6 percent slopes. This excessively drained soil is on uplands. It is near large drainageways and on undulating convex divides. Areas of this soil have irregular shapes. They range from 5 to 200 acres in size. Nearly all of the acreage is in woodland. Some unsurfaced roads for tactical vehicles are routed through these areas. They are also used for off-road maneuvers and bivouac.

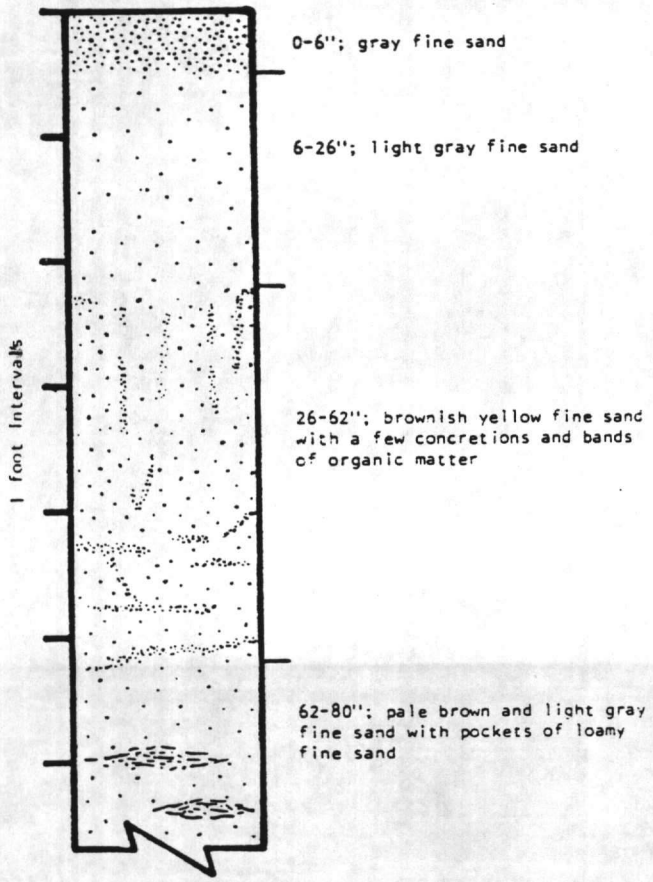

Figure 13. A typical pedon of Kureb fine sand, 1 to 6 percent slopes.

Infiltration is rapid and surface runoff is slow. Permeability is rapid and available water capacity is very low. The soil ranges from very strongly acid to neutral throughout the profile. The seasonal high water table is below 6 feet.

Small areas of similar soils such as Alpin and Wando are included in this unit. They are intermingled throughout the mapped areas with Kureb soil. Also included are small areas of Baymeade, Leon, and Murville soils. The well drained Baymeade and poorly drained Leon soils are in narrow depressions and the very poorly drained Murville soil is in narrow, wet drainageways. The included soils make up about 15 percent of this map unit.

Most of the acreage is in sparse native vegetation adapted to droughty conditions. The native trees are longleaf pine, turkey oak, and live oak. The major understory includes pineland threeawn, panicum grasses, and sassafras. Because of droughtiness seedling mortality is a problem. Poor traction on the sandy surface limits equipment use.

The uses of this soil for military training areas include unsurfaced roads for tracked and heavy-wheeled vehicles, light vehicle traffic, and bivouac. Tracked vehicles disturb the sandy surface layers so that large, deep holes develop. Holes increase in depth and size under regular use without maintenance. In the absence of ground cover, this soil is susceptible to accelerated erosion on trails. Poor traction on the sandy surface is a problem in the use of the soil for light vehicle traffic and foot traffic. Caving of trench walls limits the use of this soil for bivouac.

If Kureb soil is used for urban development, caving of ditchbanks and trench walls and seepage are the main limitations. The thick, sandy surface provides a good support base for most structures. However, unprotected sandy surfaces are subject to wind erosion. Revegetating disturbed areas around construction and road sites as soon as possible helps to control soil blowing. Lawns and shrubs are difficult to establish and maintain because of leaching of plant nutrients and droughtiness. Irrigation, addition of organic matter, and frequent fertilization will improve growth of lawns and shrubs on this sandy soil. Sandy material and summer droughtiness are the main limitations for recreational development. Wind and water erosion and sedimentation can be minimized by maintaining adequate plant cover.

Ln--Leon fine sand. This nearly level, poorly drained soil is on uplands. The largest areas occur on broad interstream divides. Individual areas are irregular in shape and range from 20 to 800 acres in size. Nearly all of the acreage is in woodland. Unsurfaced roads for tactical vehicles are routed through these areas. Leon soil is also used for off-road maneuvers.

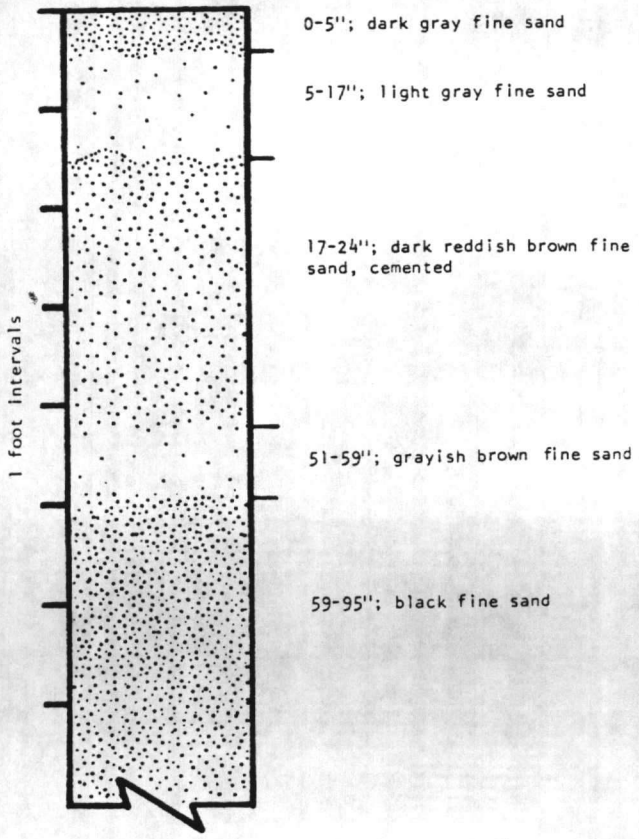

Figure 16. A typical pedon of Leon fine sand.

Infiltration is rapid and surface runoff is slow. Permeability is rapid in the surface layer and moderate in the subsoil. Available water capacity is low. The humus coated sand grains of the subsoil are weakly cemented when wet and become hard and brittle upon drying. The cemented subsoil retards root growth. The soil is extremely acid or very strongly acid throughout the profile unless the surface has been limed. The seasonal high water table is at or near the surface.

Included with this soil are small areas of a similar soil that has better drainage and the very poorly drained Murville soil in depressions. Small areas of Pactolus and Stallings soils occur in this unit on low, narrow ridges. The included soils make up about 15 percent of this unit.

The dominant native trees are loblolly and longleaf pines. Important understory includes pineland threeawn, panicum, bluestem, American holly, gallberry, huckleberry, waxmyrtle, blueberry, and greenbrier. The use of equipment during seasonal wet periods is limited and seedling mortality is the main limitation. Areas of Leon soil are used as habitat for deer, turkey, raccoon, fox, rabbit, bobcat, opossum, birds, and other wildlife.

The uses of this soil for military training areas include unsurfaced roads for tracked and heavy-wheeled vehicles, light vehicle traffic, and bivouac. The major limitations for these uses are wetness, sandy surface and poor traction, weakly cemented subsoil, seepage, and caving of trench walls. The tracked and heavy-wheeled vehicles cause large holes that increase in size and depth unless the areas are repaired on a regular basis. Wetness and caving of trench walls are limitations in the use of this soil for bivouac.

If Leon soil is used for urban development, wetness, seepage, and caving of cutbanks are the main limitations. Wetness and sandy surface material are the main limitations for recreational development.

On--Onslow loamy fine sand. This nearly level, moderately well drained and somewhat poorly drained soil is near shallow drainageways on uplands. The areas are nearly as broad as long and range from 20 to about 300 acres in size. Most of the acreage is in woodland. Unsurfaced roads for tactical vehicles are routed across these areas. Onslow soil is also used for off-road maneuvers and bivouac.

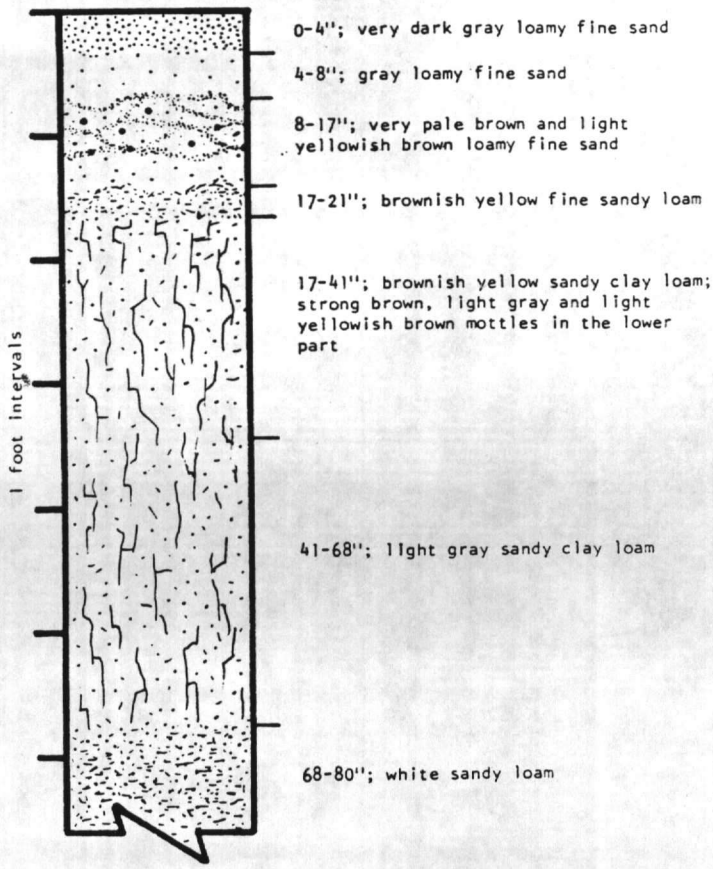

Figure 25. A typical pedon of Onslow loamy fine sand.

Infiltration is moderate and surface runoff is slow. The soil has moderate permeability and medium available water capacity. This soil is very strongly acid or strongly acid throughout the profile except for the surface layer in areas that have been limed. The seasonal high water table ranges from 1.5 to 3.0 feet below the surface.

Included with this soil in mapping are small areas of Onslow soil that have a fine sandy loam surface layer. Small areas of similar soils such as Goldsboro, Craven, and Foreston are intermingled in this unit. Also included are small areas of the coarser textured Baymeade soil near side slopes and somewhat poorly drained Stallings and Lynchburg soils in slight depressions. The included soils make up about 10 percent of this map unit.

The dominant native trees are loblolly pine, sweetgum, southern red oak, white oak, and yellow-poplar. Important understory includes American holly, gallberry, dwarf azalea, flowering dogwood, huckleberry, persimmon, black cherry, waxmyrtle, blueberry, and greenbrier. Areas of Onslow soil are important as habitat for deer, turkey, raccoon, fox, rabbit, bobcat, opossum, birds, and other wildlife.

The uses of this soil for military training areas include unsurfaced roads for tracked and heavy-wheeled vehicles, light vehicle traffic, and bivouac. Under wet conditions vehicle traffic causes ruts and compaction. Compaction of this loamy soil makes it nearly impervious so that water stands in ruts for short periods after rainstorms. Under regular use without repair, ruts become deeper and wider. Ruts can cause accelerated erosion that is very damaging to the soil and makes repair of trails after each use very important. Use of this soil for bivouac is limited by wetness.

If Onslow soil is used for urban and recreational development, wetness is the main limitation. If roads, building foundations, or recreational facilities are constructed drainage may be necessary because of the seasonal high water table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
AnB	Alpin fine sand, 1 to 6 percent slopes	1,090	1.3
BmB	Baymeade fine sand, 0 to 6 percent slopes	21,295	24.7
BaB	Baymeade-Urban land complex, 0 to 6 percent slopes	4,783	5.6
Bo	Bohicket silty clay loam	1,998	2.3
Co	Corolla fine sand	121	0.1
CrB	Craven fine sandy loam 1 to 4 percent slopes	182	0.2
CrC	Craven fine sandy loam, 4 to 8 percent slopes	202	0.2
Ct	Croatan muck	747	0.9
Da	Dorovan muck	1,150	1.3
Dc	Ducksto fine sand	202	0.2
FoA	Foreston loamy fine sand, 0 to 2 percent slopes	908	1.0
GoA	Goldsboro fine sandy loam, 0 to 2 percent slopes	545	0.6
GpB	Goldsboro-Urban land complex, 0 to 5 percent slopes	969	1.1
KuB	Kureb fine sand, 1 to 6 percent slopes	4,360	5.1
La	Lafitte muck	40	0.05
Le	Lenoir loam	40	0.05
Ln	Leon fine sand	7,650	8.9
Ly	Lynchburg fine sandy loam	141	0.2
MaC	Marvyn loamy fine sand, 6 to 15 percent slopes	8,820	10.3
Mk	Muckalee loam	4,400	5.2
Mu	Murville fine sand	3,472	4.0
NeE	Newhan fine sand, 0 to 30 percent slopes	1,433	1.6
NfC	Newhan fine sand, dredged, 2 to 10 percent slopes	606	0.7
NoA	Norfolk loamy fine sand, 0 to 2 percent slopes	101	0.1
NoB	Norfolk loamy fine sand, 2 to 6 percent slopes	868	1.0
On	Onslow loamy fine sand	6,903	8.0
Pa	Pactolus fine sand	1,776	2.1
Pn	Pantego mucky loam	161	0.2
Pt	Pits	363	0.4
Ra	Rains fine sandy loam	686	0.8
St	Stallings loamy fine sand	1,211	1.4
To	Torhunta fine sandy loam	1,655	1.9
Ud	Udorthents, loamy	654	0.7
Ur	Urban land	969	1.1
WaB	Wando fine sand, 1 to 6 persent slopes	4,622	5.4
Wo	Woodington loamy fine sand	989	1.1
YaA	Yaupon fine sandy loam, 0 to 3 percent slopes	61	0.1
	Total Land Area	86,173	100.0
	Water	75	
	Total Area	86,248	

TABLE 12.-SANITARY FACILITIES

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "good," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Septic tank absorption fields**	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
AnB Alpin	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, seepage.
BmB Baymeade	Slight	Severe: Seepage.	Severe: seepage, wetness, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
BaB*: Baymeade	Slight	Severe: seepage.	Severe: seepage, wetness, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Urban land.					
Bo Bohicket	Severe: flooding, ponding, percs slowly.	Severe: flooding, ponding.	Severe: flooding, ponding, too clayey.	Severe: flooding, ponding.	Poor: too clayey, hard to pack, ponding.
Co Corolla	Severe: wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: wetness, seepage.	Severe: seepage, wetness.	Poor: seepage, too sandy.
CrB, CrC Craven	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack.
Ct Croatan	Severe: wetness, percs slowly.	Severe: seepage, flooding, excess humus.	Severe: wetness, too acid.	Severe: seepage, wetness.	Poor: wetness, thin layer.
Da Dorovan	Severe: flooding, ponding, poor filter.	Severe: flooding, excess humus, ponding.	Severe: flooding, seepage, ponding.	Severe: flooding, ponding.	Poor: ponding, excess humus.
Dc Duckston	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, wetness, too sandy.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
FoA Foreston	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Fair: wetness.

See footnote at end of table

TABLE 12.-SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields**	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
GoA Goldsboro	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
GpB*: Goldsboro	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
Urban land.					
KuB Kureb	Severe: poor filter.	Severe: seepage.	Severe: too sandy.	Severe: seepage.	Poor: seepage, too sandy.
La Lafitte	Severe: flooding, ponding.	Severe: seepage, flooding, excess humus.	Severe: flooding, ponding, excess humus.	Severe: flooding, seepage, ponding.	Poor: ponding, excess humus.
Le Lenoir	Severe: wetness, percs slowly.	Slight	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
Ln Leon	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Ly Lynchburg	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
MaC Marvyn	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.	Fair: slope.
Mk Muckalee	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
Mu Murville	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
NeE Newhan	Severe: poor filter, slope.	Severe: seepage, flooding, slope.	Severe: slope, too sandy.	Severe: seepage, slope.	Poor: seepage, too sandy, slope.
NfC Newhan	Severe: poor filter.	Severe: seepage, flooding.	Severe: too sandy.	Severe: seepage.	Poor: seepage, too sandy.
NoA, NoB Norfolk	Moderate: wetness.	Moderate: seepage.	Slight	Slight	Slight

See footnote at end of table

TABLE 12.-SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields**	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
On Onslow	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: seepage, wetness.	Fair: wetness.
Pa Pactolus	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: too sandy.
Pn Pantego	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
Ra Rains	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
St Stallings	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Poor: thin layer.
To Torhunta	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Poor: wetness.
WaB Wando	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Wo Woodington	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Poor: wetness.
YaA Yaupon	Severe: percs slowly, wetness.	Severe: wetness.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey.

* See description of the map unit for composition and behavior characteristics of the map unit.
** Sanitary facility ratings given for some soils in this table are less restrictive than shown on the official soil series interpretation record. This was done to account for the intermittent nature of waste disposal during military training operations.