

United States Department of Agriculture
Natural Resources Conservation Service

03/25/2002

White Sands Missile Range, New Mexico, Parts of Dona Ana, Lincoln, Otero, Sierra and Socorro Counties
Table K2.--Soil Features

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Thickness In	Hardness	Initial In	Total In		Uncoated steel	Concrete
Ac: Active Dune Land-----	---	---	---	---	---	---	Low	High	High
AD: Anklam-----	Bedrock (paralithic)	10-20	---	---	---	---	---	High	Low
Aladdin-----	---	---	---	---	---	---	---	Moderate	Low
BD: Berino-----	---	---	---	---	---	---	---	High	Low
Dona Ana-----	---	---	---	---	---	---	Low	High	Low
Do: Deama-----	Bedrock (lithic)	6-20	---	---	---	---	Low	Moderate	Low
Rock Outcrop-----	Bedrock (lithic)	0-0	---	---	---	---	---	---	---
DP: Dona Ana-----	---	---	---	---	---	---	Low	High	Low
Pajarito-----	---	---	---	---	---	---	Low	High	Low
Bluepoint-----	---	---	---	---	---	---	---	High	Low
Du: Dune Land-----	---	---	---	---	---	---	---	---	---
Dona Ana-----	---	---	---	---	---	---	Low	High	Low
Bluepoint-----	---	---	---	---	---	---	---	High	Low

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DY:									
Dune Land-----	---	---	---	---	---	---	---	---	---
Yesum-----	---	---	---	---	---	---	Low	High	High
Gr:									
Gilland-----	Bedrock (paralithic)	20-40	---	---	---	---	Low	High	Low
Rock Outcrop-----	Bedrock (lithic)	0-0	---	---	---	---	---	---	---
Gs:									
Gypsum Land-----	Bedrock (paralithic)	3-3	---	---	---	---	---	High	High
Gu:									
Gypsum Land-----	Bedrock (paralithic)	3-3	---	---	---	---	---	High	High
Gv:									
Gypsum Rock Land-----	Bedrock (paralithic)	0-0	---	---	---	---	---	---	---
Tanbark-----	Bedrock (lithic)	10-20	---	---	---	---	Low	High	High
InT:									
Intermittent Lakes-----	---	---	---	---	---	---	---	---	---
LA:									
La Fonda-----	---	---	---	---	---	---	Low	High	Low
La Fonda-----	---	---	---	---	---	---	Low	High	Low

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Lf: Lava Flows-----	Bedrock (lithic)	0-0	---	---	---	---	---	---	---
Lr: Lozier-----	Bedrock (lithic)	4-16	---	---	---	---	---	High	Low
Rock Outcrop-----	Bedrock (lithic)	0-0	---	---	---	---	---	---	---
MA: Marcial-----	Bedrock (paralithic)	40-60	---	---	---	---	Low	High	High
Ubar-----	---	---	---	---	---	---	Low	High	Low
Me: Mead-----	---	---	---	---	---	---	Low	High	High
MG: Mimbres-----	---	---	---	---	---	---	Low	High	Low
Glendale-----	---	---	---	---	---	---	---	High	Low
NT: Nickel-----	---	---	---	---	---	---	Low	High	Low
Tencee-----	Petrocalcic	7-20	4-17	---	---	---	Low	High	Low
OB: Onite-----	---	---	---	---	---	---	Low	High	Low
Bluepoint-----	---	---	---	---	---	---	---	High	Low
Wink-----	---	---	---	---	---	---	---	High	Low

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Os: Oscura-----	---	---	---	---	---	---	---	High	Low
RK: Rockland Cool-----	Bedrock (lithic)	0-0	---	---	---	---	---	---	---
Rubble Land-----	Bedrock (lithic)	40-40	---	---	---	---	---	---	---
Deama-----	Bedrock (lithic)	6-20	---	---	---	---	Low	Moderate	Low
RL: Rock Land-----	Bedrock (lithic)	0-0	---	---	---	---	---	---	---
Rubble Land-----	Bedrock (lithic)	40-40	---	---	---	---	---	---	---
Lozier-----	Bedrock (lithic)	4-16	---	---	---	---	---	High	Low
SH: Rubble Land-----	Bedrock (lithic)	40-40	---	---	---	---	---	---	---
Shale Rock Land-----	Bedrock (paralithic)	0-0	---	---	---	---	---	---	---
Deama-----	Bedrock (lithic)	6-20	---	---	---	---	Low	Moderate	Low
SP: Sonoita-----	---	---	---	---	---	---	---	High	Low
Pinaleno-----	---	---	---	---	---	---	---	High	Low
Aladdin-----	---	---	---	---	---	---	---	Moderate	Low

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	Kind	Depth to top In	Thickness In	Hardness	Initial In	Total In		Uncoated steel	Concrete
SR:									
Sotim-----	---	---	---	---	---	---	---	High	Low
Russler-----	---	---	---	---	---	---	Low	High	High
TC:									
Tencee-----	Petrocalcic	7-20	4-17	---	---	---	Low	High	Low
Nickel-----	---	---	---	---	---	---	Low	High	Low
TK:									
Tencee-----	Petrocalcic	7-20	4-17	---	---	---	Low	High	Low
Nickel-----	---	---	---	---	---	---	Low	High	Low
Ye:									
Yesum-----	---	---	---	---	---	---	Low	High	High
YH:									
Yesum-----	---	---	---	---	---	---	Low	High	High
Holloman-----	Bedrock (paralithic)	4-20	---	---	---	---	Low	High	High
Gypsum Land-----	Bedrock (paralithic)	3-3	---	---	---	---	---	High	High

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

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Soil Features

This table gives estimates of several important soil features that are used in land use planning that involves engineering considerations. Soil features that are covered include bedrock depth and hardness, cemented pan depth and hardness, subsidence, potential frost action, and risk of corrosion for uncoated steel or for concrete.

Depth to Bedrock

This value is given if bedrock is with a depth of 60 inches. The depth is based on many soil borings and observations made during soil mapping. The rock is specified as either soft or hard. If the rock is soft, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavation.

Cemented Pan

Cemented pan is a nearly continuous layer of indurated or strongly cemented material having a hard, brittle consistency because the particles are held together by cementing substances such as, calcium carbonate, or oxides of silicon, iron, or aluminum. These layers are identified when they occur within a depth of 60 inches. Pans are classified as "thin" or "thick". "Thin" cemented pans are thin enough so that excavations can be made with trenching machines, backhoes, or small rippers and other equipment common to construction of pipelines, sewerlines, cemeteries, and the like. "Thick" cemented pans are sufficiently thick or massive to require blasting or special equipment beyond which is considered normal in excavating for this type of construction.

Subsidence

Subsidence potential is the maximum possible loss of surface elevation from the drainage of wet soils having organic layers or semifluid mineral layers. Estimates of the depth of subsidence (in inches) that takes place soon after drainage (initial subsidence) and after oxidation (total subsidence) are given for soils that are likely to subside.

Potential Frost Action

This is the likelihood of upward or lateral movement of soil by the formation of segregated ice lenses (frost heave) and the subsequent loss of soil strength upon thawing. The following classes are used in regions where frost action is a potential problem: (1) Low -- soils are rarely susceptible to the formation of ice lenses, (2) Moderate -- soils are susceptible to the formation of ice lenses, resulting in frost heave and subsequent loss of soil strength, and (3) High -- soils are highly susceptible to the formation of ice lenses, resulting in frost heave and subsequent loss of soil strength.

Risk of Corrosion

Various metals and other materials corrode when on or in the soil, and some metals and materials corrode more rapidly when in contact with specific soils than when in contact with others. Corrosivity ratings are given for two of the common structural materials, uncoated steel and concrete. The risk of corrosion classes is low, moderate, and high. See Table 603-7 or Table 603-8 in part 603 of the National Soils Handbook for guides for estimating risk of corrosion for uncoated steel or concrete.