

Soil Interpretations

Use and Explanation of Soil Interpretations

The basis for this section is the Map Unit Interpretation Record (MUIR), which is created by combining the Map Unit Record (SOI-6) and Soil Interpretation Record (SIR). This information is stored in the National Soils Information System (NASIS). NASIS contains current information for each map unit which has been edited or "tailored" by state and area specialists to represent local ranges in the data.

Soil survey interpretations are predictions of soil behavior for specified land uses and specified management practices. They are based on the soil properties that directly influence the specified use of the soil. Soil survey interpretations allow users of soil surveys to plan reasonable alternatives for the use and management of soils. They are used to plan both broad categories of land use, such as cropland, rangeland, pastureland, woodland, or urban development, as well as specific elements of those land uses, for example, irrigation of cropland, equipment use in woodland management, or septic tank absorption fields.

When soil interpretations are used in connection with delineated soil areas on soil maps, the information pertains to the soil for which the soil area is named. Other soils that are in areas too small to map may occur within the delineated area. The interpretations ordinarily do not apply to the included soils. More detailed studies are required if small, specific sites are to be developed or used within a given soil delineation. For example, a soil delineation bearing the name Humatas clay, 20 to 40 percent slopes, also can include small, unmappable areas of other soils, such as Consumo and Daguey soil. The interpretations apply to Humatas part of the delineated soil area and not to the included soils.

Soil interpretations will not eliminate the need for onsite study and testing of specific sites for design and construction for specific uses. They can be used as a guide to planning more detailed investigations and for avoiding undesirable sites for an intended use. The soil map and interpretations can be used to select sites that have the least limitations for an intended use. No consideration was given in these interpretations to the size and shape of soil delineations nor to the pattern they form with other soils on the landscape. For example, some very desirable soil areas are too small, too irregular in shape, or occur with less desirable soils in pattern too complex for the intended use. Although not considered in the interpretations, these items may influence the final selection of a site.

Soil Interpretations, (cont.)

Soil interpretations typically list the degree of limitation or suitability and factors affecting use of the soil for agricultural and nonagricultural purposes. The interpretations apply to the soils in their natural site (unless indicated otherwise) and not for areas that are altered by cut-or-fill operations.

Limitation or suitability terms used are as follows:

Slight (or good) - relatively free of limitations or limitations are easily overcome.

Moderate (or fair) - limitations need to be recognized, but can be overcome with good management or careful design.

Severe (or poor or very poor) - limitations are difficult or costly to overcome.

Explanation of key phrases used are as follows:

Factors affecting	Explanation
Area reclaim	Borrow areas hard to reclaim.
Cemented pan	Cemented pan to close too surface.
Complex slope	Slopes short and irregular.
Cutbanks cave	Wall of cuts not stable.
Deep to water	Deep to permanent water table during dry season.
Dense layer	A very firm layer difficult to dig.
Depth to rock	Bedrock too close to surface.
Droughty	Soil cannot hold enough water.
Dusty	Soil particles detach easily and cause dust.
Erodes easily	Water erodes soil easily.
Excess fines	Contains too much silt and clay.
Excess gypsum	Contains too much gypsum.
Excess humus	Contains too much organic matter.
Excess lime	Carbonates restrict plant growth.
Excess salt	Water-soluble salts may restrict plant growth.
Excess sodium	Contains too much exchangeable sodium.
Excess sulphur	Excessive amount of sulphur in the soil may cause extreme acidity.
Fast intake	Water infiltrates rapidly.
Favorable	Features of soil favorable.
Flooding	Soil temporarily floods by stream overflow, runoff, or high tide.
Fragile	Soil that is easily damaged by use or disturbance.
Hard to pack	Difficult to compact.
Large stones	Rock fragments 10 inches or larger.
Low strength	Soil not strong enough to adequately support loads.
No water	Too deep to ground water.

Percs slowly

Water moves through the soil too slowly.

Soil Interpretations, (cont.)

Explanation of key phrases - Continued

Factors affecting	Explanation
Piping	Water may form tunnels or pipelike cavities in the soil.
Ponding	Standing water on soils in closed depressions.
Poor filter	Because of rapid permeability, the soil may not adequately filter effluent.
Poor outlets	Difficult or expensive to install outlets for drainage.
Rooting depth	Soil is thin over layer that greatly restricts root growth.
Seepage	Water moves through soil or fractured bedrock too fast.
Shrink-swell	Soil expands significantly on wetting and shrinks on drying.
Slippage	Soil mass susceptible to movement downslope, when loaded, excavated, or wet.
Slope	Slope is too great.
Slow intake	Water infiltration restricted.
Slow refill	Ponds fill slowly because of restricted soil permeability.
Small stones	Contains many rock fragments less than 10 inches across.
Soil blowing	Soil easily moved by wind.
Subsides	Settle of organic soils or of soil containing semifluid layers.
Thin layer	Inadequate thickness of suitable soil.
Too acid	Soil is so acid that growth of plants is restricted.
Too arid	Soil is too dry most of the time.
Too clayey	Soil slippery and sticky when wet and slow to dry.
Too sandy	Soil soft and loose; droughty and low in fertility.
Toxicity	Excessive amount of toxic substances, such as sodium or sulphur.
Unstable fill	Banks of fill likely to cave or slough.
Wetness	Soil wet during period of use.