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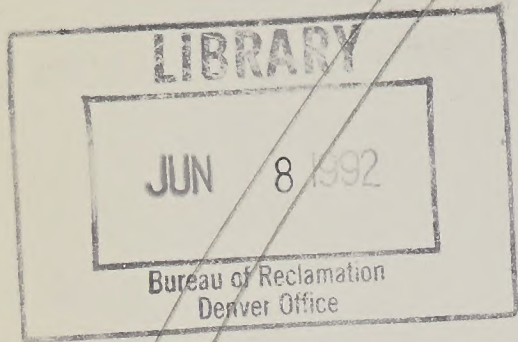
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Soil Survey of Lander County, Nevada, South Part (Volume I)





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How To Use This Soil Survey

General Soil Map

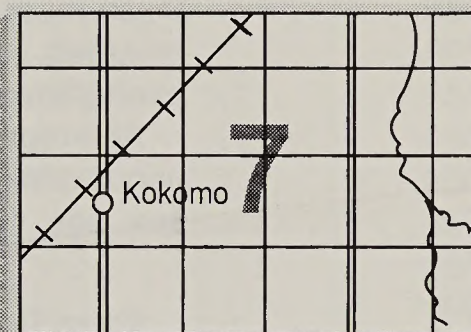
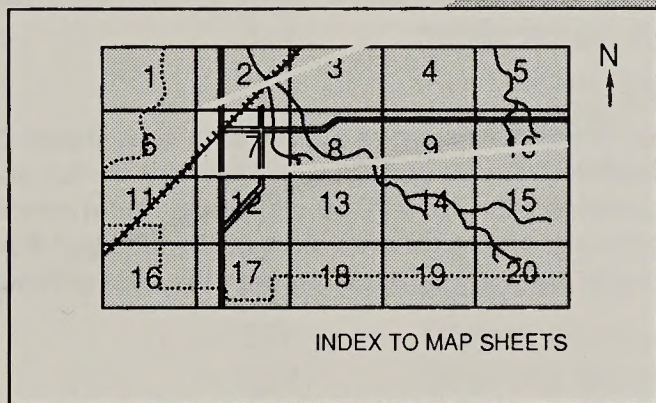
The general soil map, which is the color map preceding the detailed soil maps, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

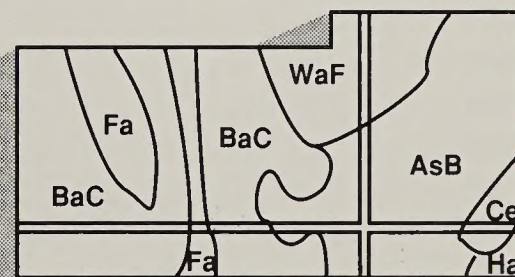
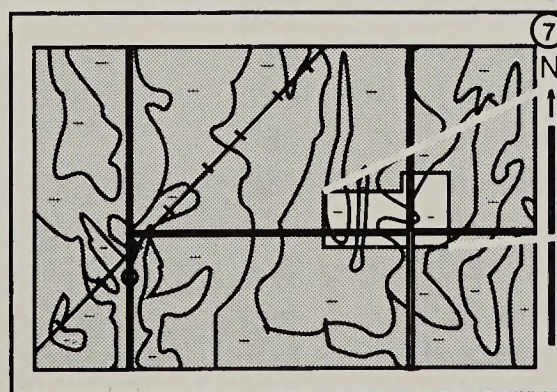
Detailed Soil Maps

The detailed soil maps follow the general soil map. These maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**, which precedes the soil maps. Note the number of the map sheet, and turn to that sheet.



Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Index to Map Units** (see Contents), which lists the map units by symbol and name and shows the page where each map unit is described.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

The **Summary of Tables** shows which table has data on a specific land use for each detailed soil map unit. See **Contents** for sections of this publication that may address your specific needs.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other federal agencies, state agencies including the Agricultural Experiment Stations, and local agencies. The Soil Conservation Service has leadership for the federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1984. Soil names and descriptions were approved in 1985. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1984. This survey was made cooperatively by the Soil Conservation Service; the United States Department of the Interior, Bureau of Land Management; and the University of Nevada, Agricultural Experiment Station. It is part of the technical assistance furnished to the Lander County Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

All programs and services of the Soil Conservation Service are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status, or handicap.

Cover: Typical sequence of landforms in the survey area near Mount Callaghan in the Toiyabe Range, north of Austin. Grassval and Oxcorel soils are on fan piedmont remnants in the foreground; Allor, Wieland, and Zaidy soils are on fan piedmont remnants in the center; Attella, Hymas, and Xine soils are on the forested hills at the left; and Bucan, Robson, Softscrabble, Walti, and Zoesta soils are on mountains in the background.

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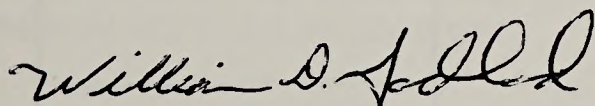
Foreword

This soil survey contains information that can be used in land-planning programs in Lander County. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

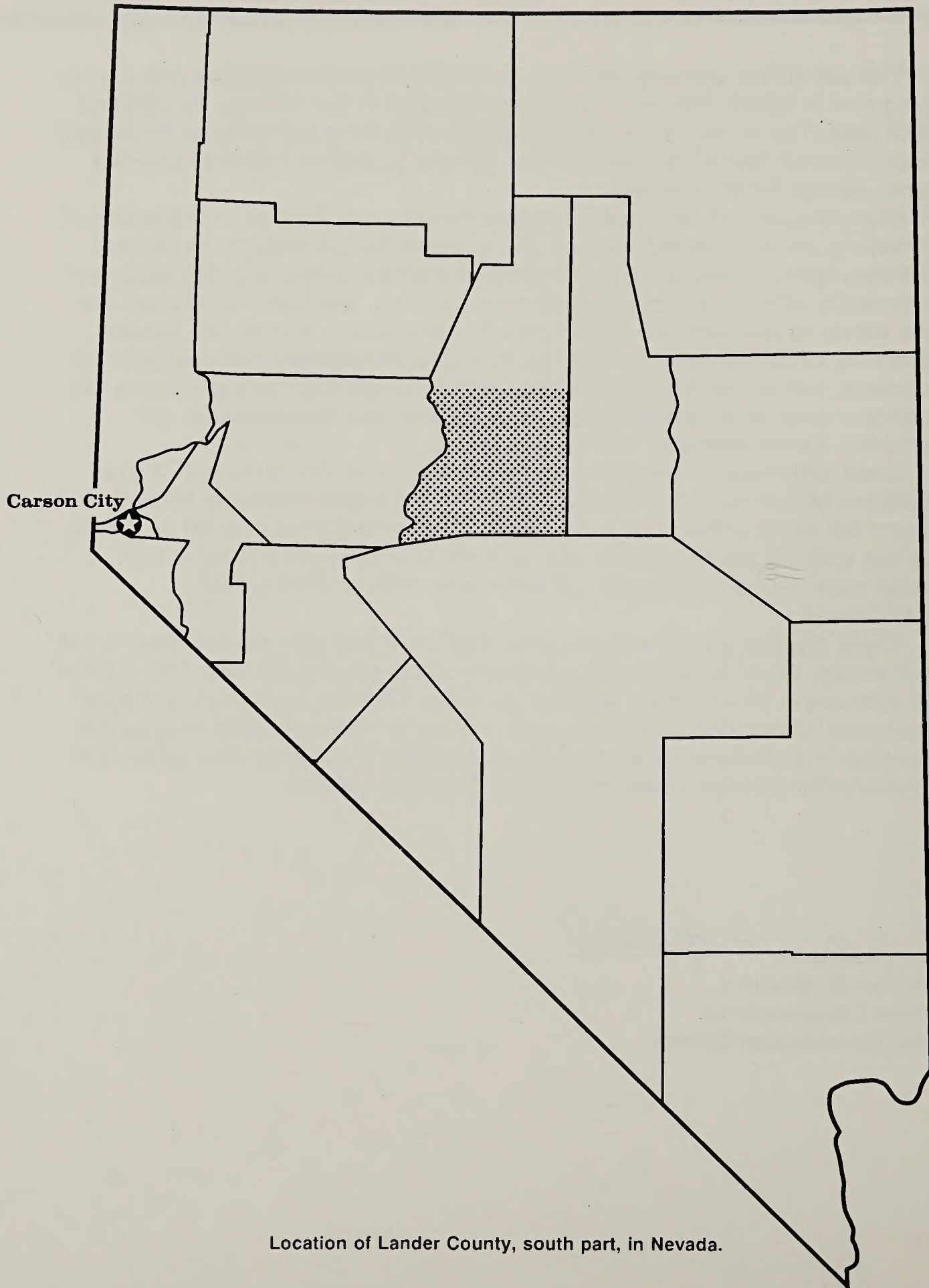
This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the suitability of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Soil Conservation Service or the Cooperative Extension Service.



William D. Goddard
State Conservationist
Soil Conservation Service



Location of Lander County, south part, in Nevada.

Soil Survey of Lander County, Nevada, South Part

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in cooperation with
United States Department of the Interior, Bureau of Land Management,
and University of Nevada, Agricultural Experiment Station

The survey area is in the central part of Nevada. It has a total area of 1,554,671 acres. Austin and Kingston are the only communities in the survey area.

The survey area consists of numerous mountain ranges and valleys that are oriented north and south. Elevations range from 8,500 feet in the mountains to 6,100 feet in the valleys. The Reese River flows northward through the central part of the area.

Public lands in the area are administered by the Bureau of Land Management and the Forest Service. Land administered by the Forest Service is not included in this survey.

The descriptions, names, and delineations of soils in this soil survey do not fully agree with those in the surveys of adjacent areas. Differences are the result of a better knowledge of soils, modifications in series concepts, and variations in the intensity of mapping or in the extent of the soils within the survey areas.

General Nature of the Survey Area

This section gives general information about the survey area. It briefly discusses history, water supply, industries and transportation facilities, drainage, geology, and climate.

History

Lander County was first explored in 1828 by Peter Skeen Ogden. In 1841, the first immigrants came into the area on their way to California. By 1844, the

winding course of the Humboldt River, known as the "Humboldt Trail," had become a thoroughfare for the westward procession of immigrants.

Settlement of the southern part of Lander County began with the discovery of gold in 1862, at which time the Reese River Mining District and the town of Austin were established. Completion of the transcontinental railroad in 1869 and the Nevada Central Railroad opened the area to markets in the east and west.

Mining is still a major industry in the area, but the number of operations has diminished.

Water Supply

Irrigation water in the area is supplied by wells and streams. Water from wells is used to irrigate alfalfa and small grain in the arid valleys, and water from streams is used to irrigate native meadows and pastures along drainageways. At the higher elevations numerous small springs, seeps, and small intermittent streams provide adequate watering facilities for livestock and wildlife.

Water for the community of Austin is supplied by springs and streams. Wells and streams provide water for domestic use in rural areas.

Industries and Transportation Facilities

The main industries in the survey area are ranching and mining.

The ranches are dominantly cow-calf operations, and the current year's crop generally is sold in fall and exported. A few herds of sheep are in the area.

Numerous mines are in the Austin area. The major minerals are gold, silver, and turquoise.

Three principal highways run through the survey area. U.S. Highway 50 runs east and west through Austin, State Highway 305 runs from north of Austin to Battle Mountain, and State Highway 376 runs from south of Highway 50 to Tonopah. Although these are the only paved roads in the survey area, many areas are accessible by dirt roads and trails suitable for four-wheel-drive vehicles.

Drainage

A large part of the survey area is drained by the Reese River, an intermittent axial stream that flows northward through the area and joins the Humboldt River near Battle Mountain. The southeast corner of the area is drained by Stoneberger Creek, which flows northward through Monitor Valley and into the Kobeh Valley in Eureka County.

The remaining areas, including the Big Smoky, Grass, and Smith Creek Valleys, are internally drained basins, or bolsons. They are drained by intermittent streams that flow only in spring and during local thunderstorms in summer and that end in a central playa.

Geology

The geology of the survey area is variable and complex (25).

Most outcrops of pre-Tertiary age in the area consist of sedimentary and metasedimentary rock, mainly interbedded chert, shale, argillite, greenstone, limestone, and quartzite. Most of New Pass Range and the central part of the Shoshone Mountains and Toiyabe Range consist dominantly of this rock. Soils derived from this rock include those of the Atlow, Decram, Packer, and Torro series.

The volcanic rock in the survey area consists mainly of rhyolitic and andesitic tuff, welded ashflow tuff, basalt, and related pyroclastic rock. Most of this volcanic rock is of the Miocene and Pliocene epochs. The Desatoya, Shoshone, and Simpson Park Mountains and parts of the Toiyabe Range north of Boone and Skull Creeks consist dominantly of this rock. Soils derived from this rock include those of the Akerue, Colbar, Clanalpine, Reluctan, and Walti series.

The oldest valley fill in the area is of Tertiary age. It is along both sides of the Reese River Valley, on the eastern side of Gilbert Creek, and near New Pass and Carroll Summits and Mount Airy. This valley fill is partially lithified and typically consists of siltstone,

sandstone, conglomerate, and some volcanic ash. Soils that formed in this material include those of the Genaw, Perlor, Puett, and Tessfive series.

The piedmont slopes in the valleys are made up of Quaternary alluvium that contains loess that is high in content of volcanic ash. Soils that formed in this alluvium include those of the Allor, Buffaran, Muni, Orovada, and Wieland series.

The youngest material in the area is the recent alluvium along the flood plains of the Reese River and Stoneberger Creek and on bolson floors in the Big Smoky, Grass, and Smith Creek Valleys. Soils that formed in this material are those of the Batan, Bubus, Sonoma, and Wholan series.

Climate

In this survey area, summers are hot, especially at the lower elevations, and winters are cold. At the lower elevations, precipitation normally is light throughout the year. The land in these areas is used mainly for range. At the higher elevations, precipitation is much greater and snow accumulates to considerable depths. Much of the snowmelt is used to irrigate crops in nearby valleys.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Austin, Battle Mountain, and Central Field Laboratory. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season. The climate at Battle Mountain, which is outside the survey area, closely resembles that of the lower elevations in the northern part of the area.

In winter, the average temperature is 31 degrees F and the average daily minimum temperature is 20 degrees. The lowest temperatures on record are -30 degrees at Battle Mountain on December 9, 1972, and -28 degrees at Central Field Laboratory on December 11, 1972. In summer, the average temperature is 64 degrees and the average daily maximum temperature is about 86 degrees. The highest temperature, 109 degrees, was recorded at Battle Mountain on July 27, 1975.

Growing degree days, shown in table 1, are equivalent to "heat units." Beginning in spring, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 14 inches at Austin and 7 inches at Battle Mountain and Central Field

Laboratory. Of this, 60 percent usually falls in April through September. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the periods of record was 2.27 inches at Battle Mountain on October 12, 1963. Thunderstorms occur on about 12 days each year.

The average seasonal snowfall is 40 inches at Austin, 24 inches at Battle Mountain, and 30 inches at Central Field Laboratory. The greatest snow depth at any one time during the period of record was 23 inches at Austin. On the average, 31 days at Austin, 14 days at Battle Mountain, and 26 days at Central Field Laboratory have at least 1 inch of snow on the ground, but the number of such days varies greatly from year to year. Every few years a blizzard strikes the survey area with high winds and drifting snow. Even at the lower elevations, the snow remains on the ground for many weeks and livestock suffer.

The average relative humidity in midafternoon is about 30 percent. Humidity is higher at night, and the average at dawn is about 65 percent. The sun shines 85 percent of the time possible in summer and 60 percent in winter. The prevailing wind is from the west. Average windspeed is highest, 9 miles per hour, in spring.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. The fieldwork in the northern one-third of the survey area was done by soil scientists employed by the Soil Conservation Service, and the fieldwork in the southern two-thirds of the area was done by soil scientists employed by Soil and Land Use Technology, Inc., which was under contract to the Bureau of Land Management. The soil scientists observed the steepness, length, and shape of slopes; the general pattern of drainage; the kinds of crops and native plants growing on the soils; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated parent material in which the soil formed. The unconsolidated material is devoid of roots and most other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural

vegetation of the area. Each kind of soil or miscellaneous area is associated with a particular kind of landscape or with a segment of the landscape. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landscape, a soil scientist develops a concept, or model, of how they were formed. During mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes. Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. The system of taxonomic classification used in the United States is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

Because a large part of Lander County was mapped under several private contracts, some of the typical pedons described in this survey are located in the soil survey areas of Lander County, Nevada, North Part, and Eureka County Area, Nevada. As the survey progressed, it was determined that some of the soils in the area had already been mapped under contract. The typical pedon descriptions already completed for these soils were used, regardless of the survey area in which they occurred. The survey area in which the typical pedon for each taxonomic unit is located is given in the section "Taxonomic Units and Their Morphology."

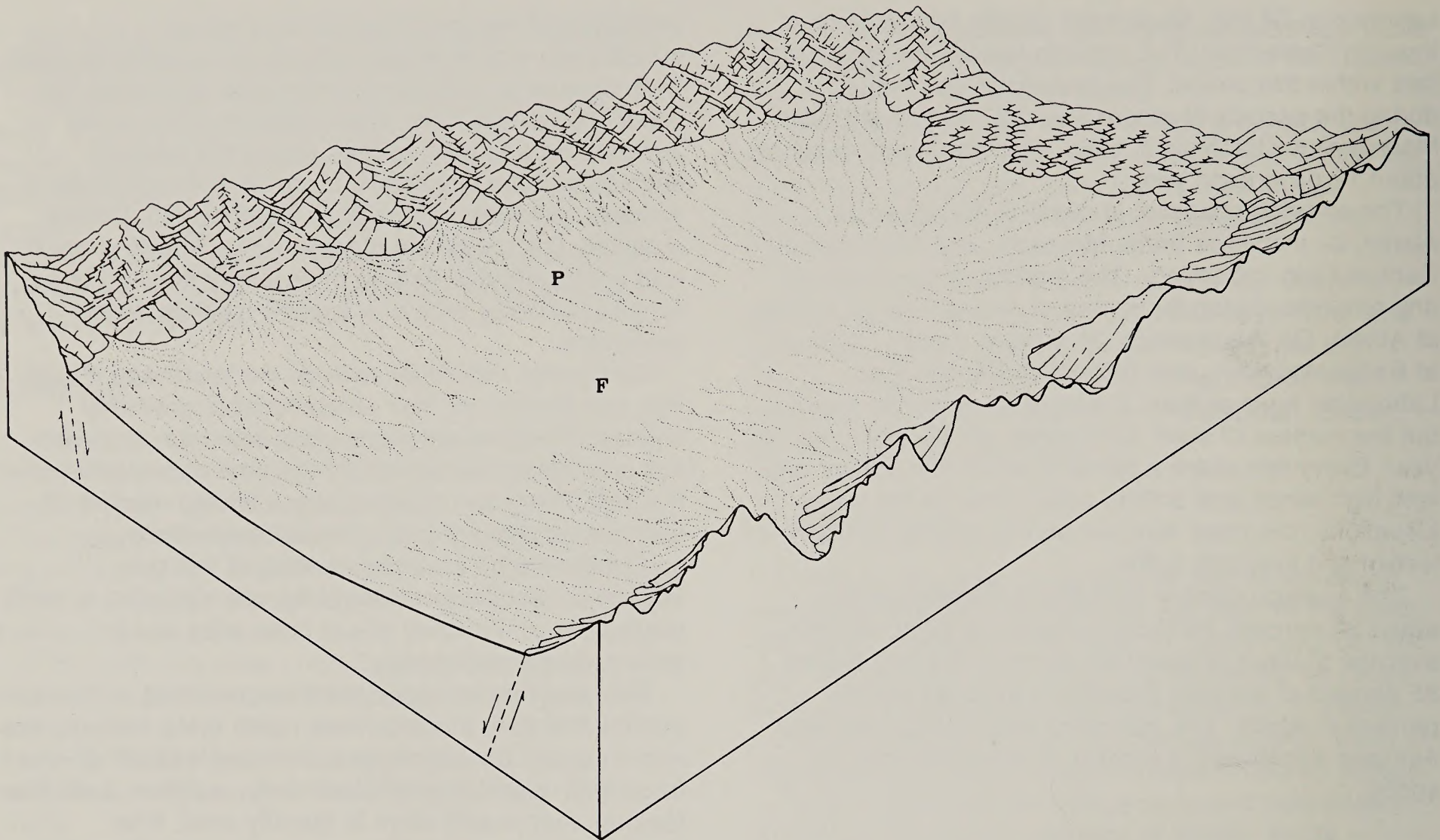


Figure 1.—The major physiographic parts of an internally drained intermontane basin, or bolson: the piedmont slope (P) and the basin floor, or, more specifically, the bolson floor (F). This drawing shows part of an elongated bolson that has bounding mountain ranges on the near and far sides and is cut off by hills on the far end. The drainageways, shown by dotted lines, suggest positions of major landforms. Neither the playas nor the drainageways on the floor are shown.

Characteristics of the soils in a map unit in this survey area are similar but not identical to those of the soils outside the survey area.

While a soil survey is in progress, samples of some of the soils in the area are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data also are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm

records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot assure that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Landscapes

In this soil survey the mapped areas generally represent associations of two or three soil components and other included soils of limited extent. Soil patterns commonly coincide with landforms and physiographic positions. In the section "Detailed Soil Map Units," descriptive terms are used to identify the location of individual soil components on the landscape. While there is a relationship between the landforms and soils in a given area, these relationships are not mutually exclusive. Individual soil series commonly occur on more than one component landform.

In this survey area the landforms are classified and defined according to Peterson (22). The landform

elements are described and defined in a manner precise enough to indicate where soils occur in relation to each other. The intent of this section is not to define all of the landform terms but to define briefly the main geomorphic surfaces in the survey area. All landform terms are defined in the Glossary.

The landforms of the intermontane basins are first grouped into two general classes—bolson (fig. 1) and semibolson (fig. 2). Within these two groups are three major physiographic parts (fig. 3). These are the bounding mountains, the piedmont slope, and the basin floor. The bounding mountains rise less than 1,000 feet above the surrounding boundaries. The piedmont slope and basin floor are topographic forms that slope from the bounding mountains down to a central playa.

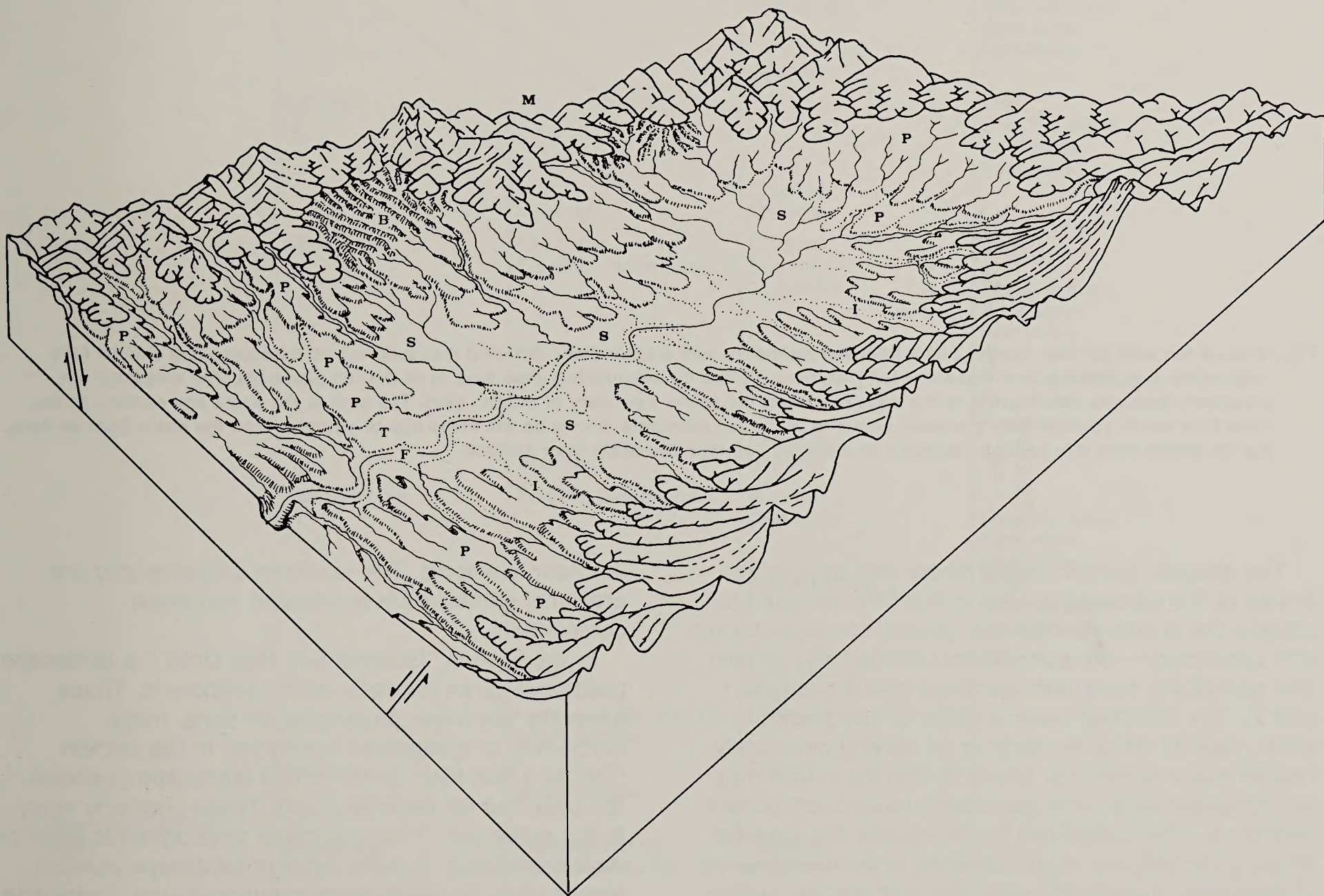


Figure 2.—A semibolson that displays the effects of several cycles of dissection and deposition. The major landforms are: ballenas (B); fan piedmonts (P), comprising several levels, or ages, of fan remnants; fan skirts (S); an axial-stream terrace (T); and an axial-stream flood plain (F). Alluvial fans are not distinguished from fan piedmonts. Component landforms of inset fans (I) are between fan remnants. The basin is bounded on two sides by mountains (M).

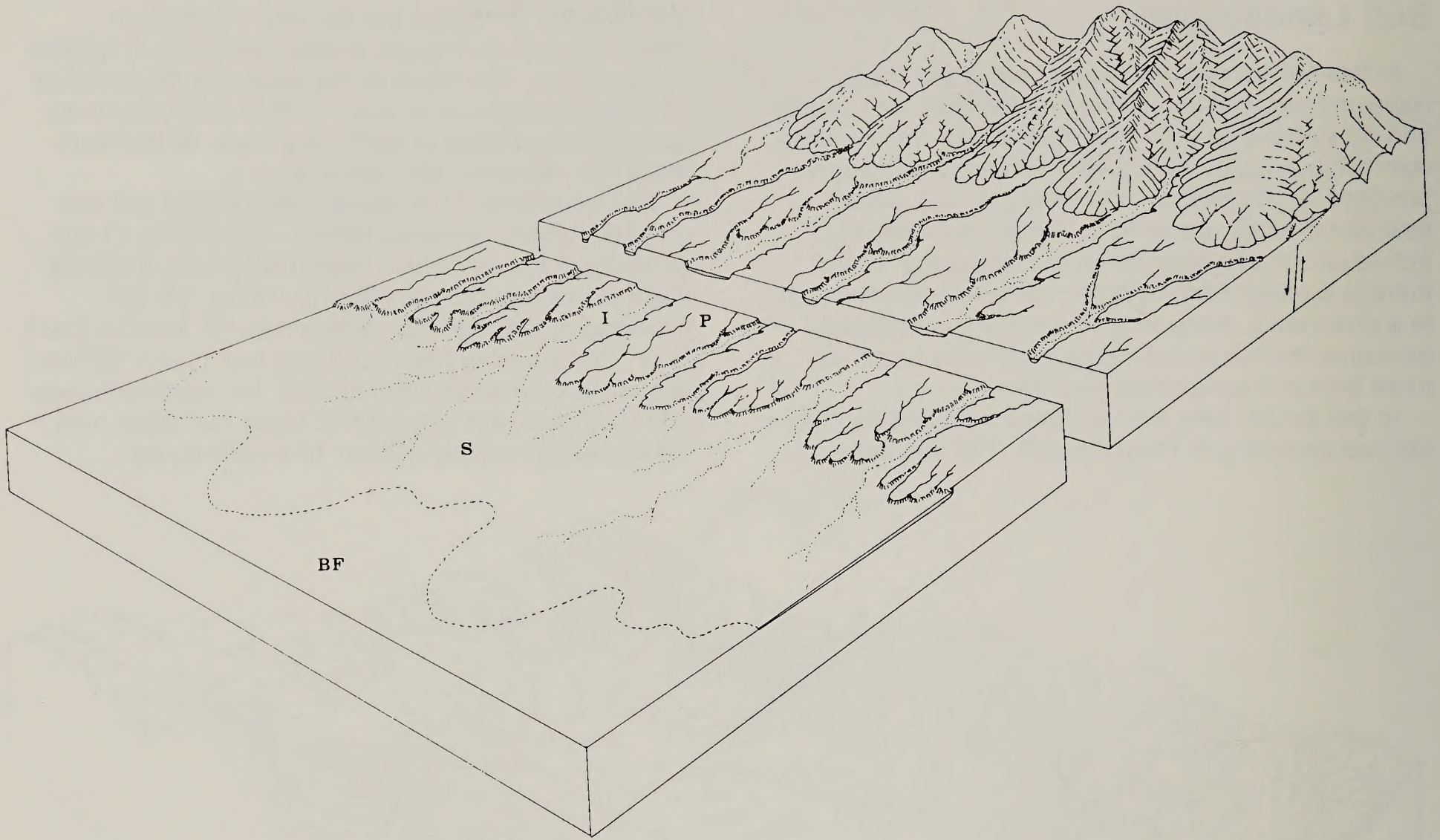


Figure 3.—A fan skirt (S) that merges along its lower boundary with a basin floor (BF) and that was formed by coalescing alluvial fans originating at gullies cut in a dissected fan piedmont (P) and by debouching inset fans (I) of the fan piedmont. The erosional fan piedmont remnants and mouths of the inset fans form the upper boundary of the fan skirt. The skirt is the same age surface as the inset fans but is younger than the relict summits of the fan remnants. It may be the same age or younger than the basin floor surface, but as shown here it is younger because its alluvium overlaps the basin floor surface.

The shapes, genetic relationships, and geographic scales of the topography seen in the field are used to classify the landforms. The two general classes—bolson and semibolson—are successively divided into smaller and genetically more homogeneous classes (charts 1 and 2). The broadest class is major physiographic parts, each of which is made up of several genetically related major landforms. These landforms in turn may be comprised of several genetically related component landforms. The component landforms are the smallest single units that one would consider in combined terms of their form, constituent materials, and genetic history. Some component landforms, such as fan piedmont remnants, have distinctive topographic parts with quite different geomorphic histories. These parts are called

landform elements. The landform elements that are erosional surfaces are subdivided into slope components.

In the section "General Soil Map Units," a landscape position is given for each major component. These generally are major physiographic parts, major landforms, or component landforms. In the section "Detailed Soil Map Units," broad landscape positions are specified for each map unit. These positions apply to the entire unit. They are major physiographic parts or major landforms. A more detailed landscape position also is given for each major component and contrasting inclusion in the map unit. These generally are component landforms, landform elements, or slope components.

CHART 1.—CLASSIFICATION OF BOLSON LANDFORMS

Landforms			Parts of landforms		
I Major physiographic part	II Major landform	III Component landform	IV Landform element	V Slope component	
Bounding mountains Piedmont slope	Mountain valley fan	Erosional fan remnant	Summit	Shoulder slope Back slope Foot slope	
			Side slope		
			Partial ballena		Crest Shoulder slope Back slope Foot slope
	Rock pediment	Rock pediment remnant	Inset fan	Channel Channel	Crest Shoulder slope Back slope Foot slope
			Summit	Side slope	
	Ballena	Channel	Crest Shoulder slope Back slope Foot slope
				Channel Channel	Shoulder slope Back slope Foot slope
	Alluvial fan	Inset fan Fan collar Erosional fan remnant	Channel Summit Side slope		
			Channel Channel		
			Channel Summit Side slope		
Fan piedmont	Erosional fan remnant	Inset fan	Channel Channel	Shoulder slope Back slope Foot slope	
		Summit Side slope			
		Partial ballena	Crest Shoulder slope Back slope Foot slope		
Fan skirt .....	.....	Inset fan Fan apron Nonburied fan remnant Beach terrace	Channel Channel Channel Channel	Shoulder slope Back slope Foot slope
		Beach terrace	Channel		
Basin floor (bolson floor)	Alluvial flat	Relict alluvial flat Recent alluvial flat	Channel Channel		
	Alluvial plain				
	Sand sheet	Sand dune (Parna dune)	Interdune flat		
	Lake plain	Lake-plain terrace	Channel		
	Playa	Flood-plain playa	Channel		

CHART 2.—CLASSIFICATION OF SEMIBOLSON LANDFORMS

Landforms			Parts of landforms	
I Major physiographic part	II Major landform	III Component landform	IV Landform element	V Slope component
Bounding mountains Piedmont slope	Mountain valley fan	Erosional fan remnant	Summit	Shoulder slope Back slope Foot slope
			Side slope	
			Partial ballena .....		Crest Shoulder slope Back slope Foot slope
	Rock pediment	Inset fan Rock pediment remnant	Channel	Crest Shoulder slope Back slope Foot slope
			Channel	
	Ballena .....	.....	Summit	Crest Shoulder slope Back slope Foot slope
			Side slope	
	Alluvial fan	Inset fan Fan collar Erosion fan remnant	Channel	Shoulder slope Back slope Foot slope
			Channel	
			Summit	
Side slope				
Fan piedmont	Inset fan Erosional fan remnant	Channel	Crest Shoulder slope Back slope Foot slope	
		Channel		
		Summit		
		Side slope		
Pediment	Inset fan Fan apron Nonburied fan remnant Pediment remnant	Channel	Shoulder slope Back slope Foot slope	
		Channel		
		Channel		
Fan skirt .....	.....	Summit	Shoulder slope Back slope Foot slope	
		Side slope		
			Channel	
			Channel	

CHART 2.—CLASSIFICATION OF SEMIBOLSON LANDFORMS—Continued

Landforms			Parts of landforms	
I Major physiographic part	II Major landform	III Component landform	IV Landform element	V Slope component
Basin floor (semibolson floor)	Alluvial flat	Relict alluvial flat Recent alluvial flat	Channel Channel	
	Alluvial plain Basin floor remnant	.....	Summit Side slope	Shoulder slope Back slope Foot slope
			Partial ballena	Crest Shoulder slope Back slope Foot slope
	Sand sheet	Inset fan Sand dune	Channel Channel	
	Axial-stream flood plain	Flood-plain playa Stream terrace River terrace	Channel Summit Side slope	Shoulder slope Back slope Foot slope

General Soil Map Units

The general soil map at the back of this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, a map unit consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The soils or miscellaneous areas making up one unit can occur in other units but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils or miscellaneous areas can be identified on the map. Likewise, areas that are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Figures 4 and 5 illustrate how the general soil map units relate to the various broad landscapes. The map units in figure 4 are representative of those on a bolson that is an internally drained intermontane basin, and the units in figure 5 are representative of those on a semibolson that is an externally drained intermontane basin.

The general map units in this survey have been grouped into general kinds of landscape for broad interpretive purposes. Each of the broad groups and the map units in each group are described in the following pages.

Map Unit Descriptions

Areas Dominated by Soils on Bolson and Semibolson Floors

Three map units are in this group. They make up about 11 percent of the survey area.

1. Playas

This map unit is on nearly level basin floors in the sink areas of the Grass and Smith Creek Valleys. It

consists of nearly impermeable lacustrine sediment veneered by fine textured sediment or eolian sand. It is barren of vegetation. Water is ponded in areas of this unit after spring runoff in most years.

This unit makes up about 2 percent of the survey area.

This unit is unsuitable for most uses.

2. Wendane-Gund-Batan

Nearly level, very deep, somewhat poorly drained and moderately well drained soils; on alluvial flats and lake plain remnants

This map unit is in the lower part of the Big Smoky, Grass, and Smith Creek Valleys, bordering areas of Playas. The vegetation is mainly basin wildrye, alkali bluegrass, inland saltgrass, black greasewood, and rubber rabbitbrush on the Wendane soils; basin wildrye, black greasewood, and basin big sagebrush on the Gund soils; and bottlebrush squirreltail, shadscale, bud sagebrush, and black greasewood on the Batan soils.

This unit makes up about 5 percent of the survey area.

The somewhat poorly drained Wendane and similar soils are on alluvial flats. These soils have a thin, light-colored upper layer and are dominantly stratified, medium textured and moderately fine textured throughout the profile. They are strongly affected by salt and sodium and are frequently flooded.

The somewhat poorly drained Gund and similar soils are on lake plain remnants. The upper layer of these soils is thin, light colored, and medium textured. Below this is dominantly medium textured or moderately fine textured material over fine textured lake sediment. These soils are strongly affected by salt and sodium and are rarely flooded.

The moderately well drained Batan and similar soils are on alluvial flat remnants. These soils have a thin, light-colored upper layer and are dominantly stratified, medium textured and moderately fine textured throughout the profile. They are strongly affected by salt and sodium and are not subject to flooding.

Of minor extent in this unit are Needle Peak and similar soils, Izo and similar soils, and Playas. Needle

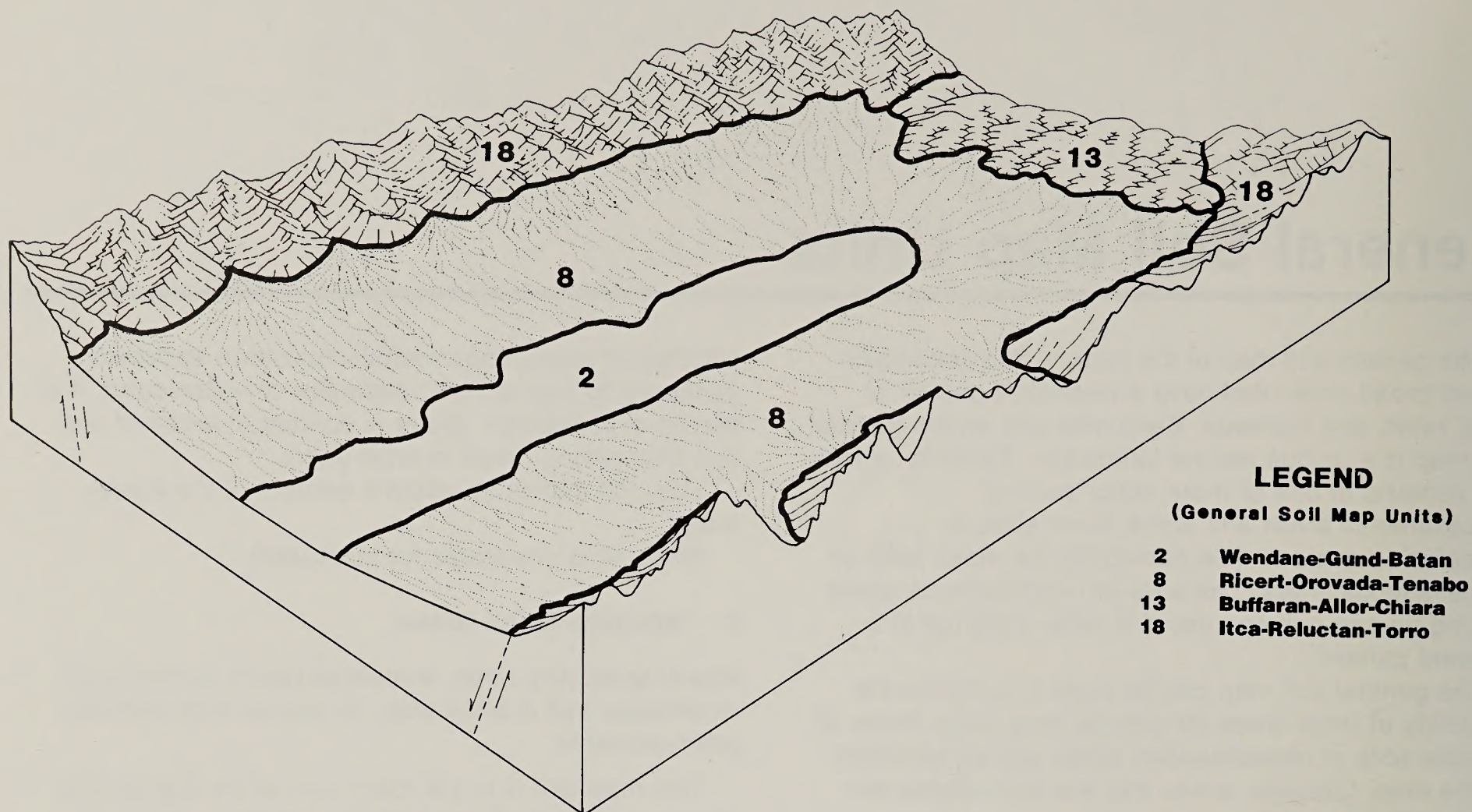


Figure 4.—General soil map units representative of those on a bolson that is an internally drained intermontane basin.

Peak and similar soils are somewhat poorly drained and occasionally flooded. They are moderately fine textured and are on low fan skirts. They are not affected by salt and sodium. They support basin big sagebrush, basin wildrye, and rubber rabbitbrush. Izo and similar soils are excessively drained and rarely flooded. They are extremely gravelly and coarse textured and are on offshore bars. They are slightly affected by salt and sodium. Areas of these soils in the Big Smoky Valley support shadscale, Bailey greasewood, and rabbitbrush, and areas in the Grass and Smith River Valleys support bottlebrush squirreltail, shadscale, and bud sagebrush. Playas are small, irregularly shaped sink areas that are ponded for brief periods, have a strong vesicular crust, and are barren of vegetation.

This unit is used for livestock grazing or wildlife habitat.

3. Sonoma-Wendane-Paranat

Nearly level, very deep, poorly drained and somewhat poorly drained soils; on axial-stream flood plains and alluvial flats

This map unit is in the central part of the survey area, along the Reese River meander belt and at the

southern end of the Grass Valley. The vegetation is mainly basin wildrye, creeping wildrye, and sedges on the Sonoma and Paranat soils and basin wildrye, alkali bluegrass, inland saltgrass, black greasewood, and rubber rabbitbrush on the Wendane soils. Flooding of the Reese River is common. It occurs in spring 1 or more years in 5 and lasts 2 days to 1 month.

This unit makes up about 4 percent of the survey area.

The poorly drained Sonoma and similar soils are on axial-stream flood plains. These soils have a thick upper layer and are dominantly stratified, medium textured and moderately fine textured throughout the profile. They generally are not affected by salt and sodium, but they are slightly affected by salt and sodium in the upper layer in some areas.

The poorly drained Wendane and similar soils are on alluvial flats. These soils have a thin, light-colored upper layer and are dominantly stratified, medium textured and moderately fine textured throughout the profile. They are strongly affected by salt and sodium. In some areas they are ponded for long periods.

The poorly drained Paranat and similar soils are on axial-stream flood plains. These soils have a thick, dark upper layer and are dominantly stratified, medium

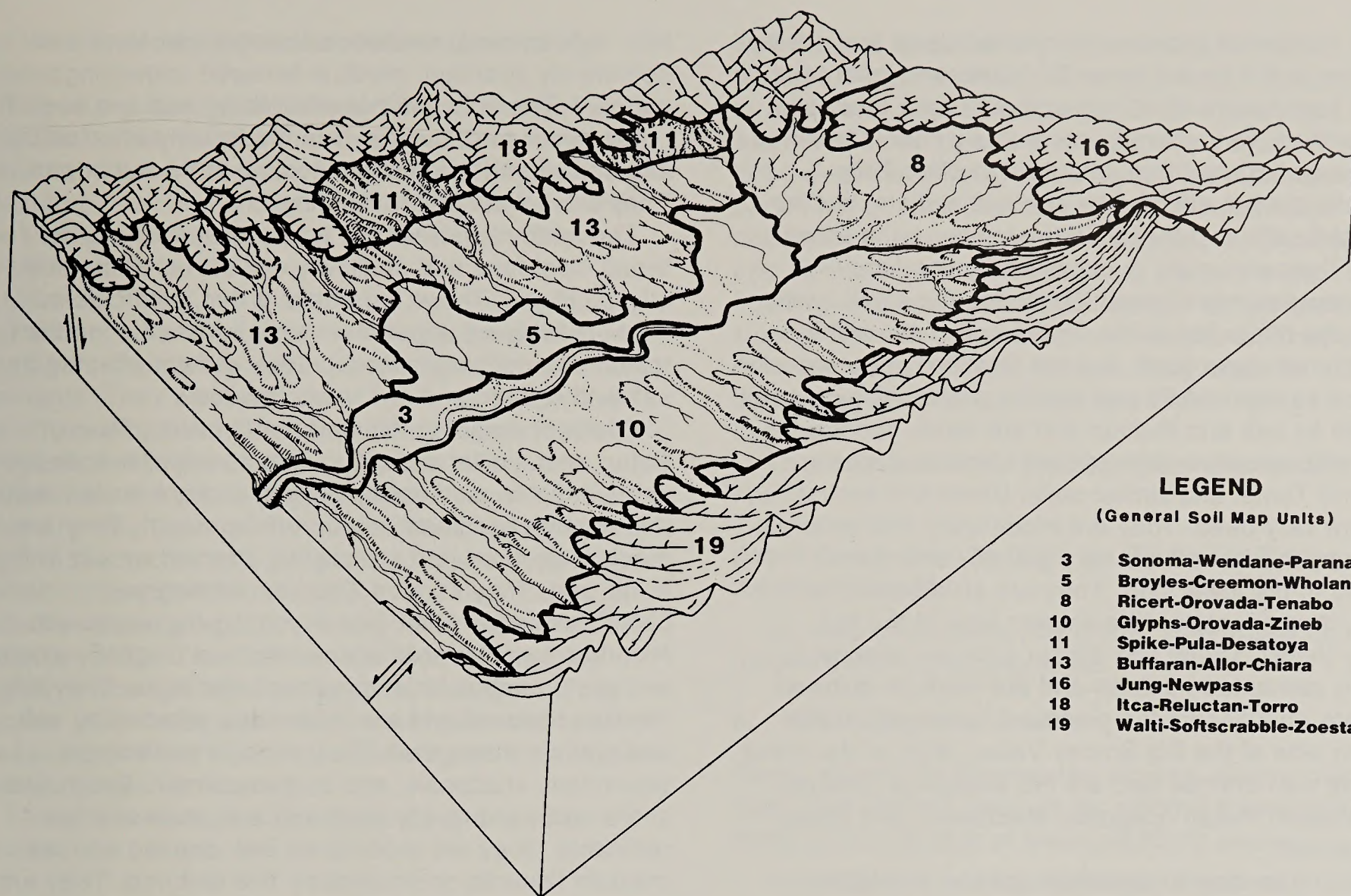


Figure 5.—General soil map units representative of those on a semibolson that is an externally drained intermontane basin.

textured and moderately fine textured material throughout the profile. They are not affected by salt and sodium.

Of minor extent in this unit are Kelk, Valmy, Bubus, the strongly saline Paranat, and similar soils. Kelk and similar soils are well drained and occasionally flooded. They are medium textured and are on alluvial flats. Valmy and similar soils are well drained and are not subject to flooding. They are moderately coarse textured or medium textured and are on narrow fan skirts. Some areas of Kelk and Valmy soils are not affected by salt and sodium, and some are slightly affected in the upper layer and strongly affected in the underlying material. Kelk and Valmy soils support basin wildrye, basin big sagebrush, and black greasewood. Bubus and similar soils are well drained and are not subject to flooding. They are moderately coarse textured or medium textured and are on alluvial flat remnants. They are strongly affected by salt and sodium. They support bottlebrush squirreltail, black greasewood, and shadscale. Paranat and similar soils

are strongly saline in the upper layer. They support alkali cordgrass, alkali bluegrass, and basin wildrye.

This unit is used for livestock grazing or wildlife habitat.

Areas Dominated by Soils on Alluvial Plains, Beach Plains, and Broad Fan Skirts

Four map units are in this group. They make up about 18 percent of the survey area.

4. Laxal-Wardenot

Nearly level and gently sloping, very deep, somewhat excessively drained and excessively drained soils; on fan skirts and inset fans

This map unit is along the south-central boundary of the survey area, in the Big Smoky Valley. The vegetation is mainly galleta, Indian ricegrass, shadscale, and Bailey greasewood.

This unit makes up about 5 percent of the survey area.

The somewhat excessively drained Laxal and similar soils are on the broad, lower fan skirts and inset fans. These soils have a thin, light-colored upper layer and are stratified, very gravelly, moderately coarse textured and coarse textured throughout the profile. They generally are not affected by salt and sodium, but they are slightly affected by salt in the lower part in some areas. They are rarely or occasionally flooded.

The excessively drained Wardenot and similar soils are on the upper fan skirts. These soils have a thin, light-colored upper layer and are stratified, very gravelly and coarse textured throughout the profile. They are not affected by salt and sodium and are rarely flooded.

Of minor extent in this unit are Unsel and similar soils and Tomel and similar soils. Unsel and similar soils are very deep. They are moderately fine textured in the upper part and are very gravelly and coarse textured in the lower part. They are on adjacent fan piedmont remnants on the eastern side of the Big Smoky Valley. Tomel and similar soils are shallow to a strongly cemented hardpan and are medium textured. They are on adjacent fan piedmont remnants on the western side of the Big Smoky Valley. Both of the minor soils are well drained and are not subject to flooding. They support Indian ricegrass, shadscale, and Bailey greasewood.

This unit is used for livestock grazing or wildlife habitat.

5. Broyles-Creemon-Wholan

Nearly level and gently sloping, very deep, well drained soils; on fan skirts and alluvial plains

This map unit is in the Antelope, Big Smoky, Grass, and Smith Creek Valleys. The vegetation is mainly bottlebrush squirreltail, Indian ricegrass, shadscale, and bud sagebrush on the Broyles and Creemon soils and bottlebrush squirreltail and winterfat on the Wholan soils.

This unit makes up about 4 percent of the survey area.

The nearly level or gently sloping Broyles and similar soils are on the highest fan skirts bordering fan piedmonts. These soils have a thin, light-colored, medium textured upper layer and dominantly stratified, moderately coarse textured and medium textured underlying material. Some areas of these soils are not affected by salt and sodium, and some are slightly affected by salt and sodium in the upper part and are slightly or moderately affected by salt and moderately to strongly affected by sodium in the lower part. The soils are not subject to flooding.

The nearly level Creemon and similar soils are on the lower fan skirts and alluvial plains. These soils have a

thin, light-colored, medium textured upper layer and dominantly stratified, medium textured underlying material. The soils are not affected by salt and sodium in the upper part, but they are moderately affected by salt and slightly affected by sodium in the lower part. They are not subject to flooding.

The nearly level Wholan and similar soils are on broad inset fans that shallowly dissect fan skirts and alluvial plains. These soils have a thin, light-colored, medium textured upper layer and dominantly medium textured underlying material. They are not affected by salt and sodium and are rarely flooded.

Of minor extent in this unit are Orovada, Ricert, Batan, and similar soils. Orovada and similar soils are nearly level to moderately sloping and are on fan skirts that receive additional moisture from runoff. They are medium textured and are slightly affected by salt in the lower part. They support Thurber needlegrass, bottlebrush squirreltail, and Wyoming big sagebrush. Ricert and similar soils are nearly level or gently sloping and are on adjacent fan piedmont remnants. They are medium textured and are moderately affected by salt and sodium throughout. They support bottlebrush squirreltail, shadscale, and bud sagebrush. Batan and similar soils are nearly level and are on alluvial flat remnants. They are moderately well drained and are medium textured or moderately fine textured. They are strongly affected by salt and sodium throughout. They support bottlebrush squirreltail, shadscale, and black greasewood.

6. McConnel-Rasille-Wholan

Nearly level to moderately sloping, very deep, somewhat excessively drained and well drained soils; on beach plains and fan skirts

This map unit is in the Smith Creek Valley. The vegetation is mainly Indian ricegrass, bluegrass, and Wyoming big sagebrush on the McConnel and Rasille soils and Indian ricegrass and winterfat on the Wholan soils.

This unit makes up about 6 percent of the survey area.

The gently sloping or moderately sloping, somewhat excessively drained McConnel and similar soils are on offshore bars of beach plains that follow the contour of the shoreline. These soils are moderately coarse textured or medium textured over extremely gravelly, coarse textured lacustrine beach sediment. They are not affected by salt and sodium and are not subject to flooding.

The nearly level, well drained Rasille and similar soils are on fan skirts and in lagoons of beach plains. These soils are medium textured throughout the profile. They

are not affected by salt and sodium and are rarely flooded.

The nearly level, well drained Wholan and similar soils are on inset fans of beach plains. These soils are medium textured throughout the profile. They are not affected by salt and sodium in the upper part, but they are slightly affected by salt in the lower part. They are rarely flooded.

Of minor extent in this unit are Allor, Misad, Bubus, and similar soils. Allor and similar soils are gently sloping or moderately sloping and are on fan piedmont remnants. They are moderately fine textured and are not affected by salt and sodium. They support Indian ricegrass and Wyoming big sagebrush. Misad and similar soils are gently sloping and are on offshore bars. They are very gravelly and medium textured and are slightly affected by salt and sodium. They support bottlebrush squirreltail, shadscale, and bud sagebrush. Bubus and similar soils are nearly level and are on the lower fan skirts. They are medium textured and are slightly to strongly affected by salt and sodium. They support bottlebrush squirreltail, shadscale, and black greasewood. All of the minor soils are well drained, and none is subject to flooding.

This unit is used for livestock grazing or wildlife habitat.

7. Rutab-Orovada-Wholan

Nearly level, very deep, well drained soils; on fan skirts

This map unit is in the southern part of the survey area, in the Monitor and Reese River Valleys. The vegetation is mainly Indian ricegrass, bluegrass, and Wyoming big sagebrush on the Rutab and Orovada soils and Indian ricegrass and winterfat on the Wholan soils.

This unit makes up about 3 percent of the survey area.

The Rutab and similar soils are on fan skirts. These soils are moderately coarse textured or medium textured in the upper part and are extremely gravelly and coarse textured in the lower part. They are slightly affected by salt in the lower part and are not subject to flooding.

The Orovada and similar soils are on fan skirts. These soils are moderately coarse textured or medium textured throughout the profile. They are slightly affected by salt in the lower part and are rarely flooded.

The Wholan and similar soils are on inset fans of fan skirts. These soils are medium textured throughout the profile. They are slightly affected by salt in the lower part and are rarely flooded.

Of minor extent in this unit are Rotinom, Glyphs, Allor, and similar soils. Rotinom and similar soils are

well drained, occasionally flooded, and medium textured. They are nearly level and are on stream terraces along the Stoneberger Creek flood plain. They are not affected by salt and sodium in the upper part, but they are slightly affected by sodium in the lower part. They support bottlebrush squirreltail, Indian ricegrass, shadscale, and bud sagebrush. Glyphs, Allor, and similar soils are well drained, are not subject to flooding, and are medium textured. They are gently sloping and are on fan piedmont remnants. They are not affected by salt and sodium. They support bluegrass, needleandthread, and Wyoming big sagebrush.

This unit is used for livestock grazing or wildlife habitat.

Areas Dominated By Soils on Piedmont Slopes and Adjacent Fan Skirts

Six map units are in this group. They make up about 37 percent of the survey area.

8. Ricert-Orovada-Tenabo

Gently sloping and moderately sloping, shallow and very deep, well drained soils; on fan piedmont remnants, fan skirts, and inset fans of lower piedmont slopes

This map unit is in the Antelope, Big Smoky, Grass, Reese River, and Smith Creek Valleys. The vegetation is mainly bottlebrush squirreltail, Indian ricegrass, shadscale, and bud sagebrush on the Ricert and Tenabo soils and bluebunch wheatgrass, Thurber needlegrass, and Wyoming big sagebrush on the Orovada soils.

This unit makes up about 6 percent of the survey area.

The gently sloping or moderately sloping, very deep Ricert and similar soils are on the lower fan piedmont remnants. The upper layer of these soils is thin, light colored, and medium textured. The next layer is moderately fine textured and is moderately affected by sodium. The lower layer is very gravelly and moderately coarse textured. It is slightly affected by salt and strongly affected by sodium.

The gently sloping or moderately sloping, very deep Orovada and similar soils are on fan skirts and inset fans. The upper layer of these soils is thin and moderately coarse textured. Below this is dominantly stratified, moderately coarse textured and medium textured material that is slightly to moderately affected by salt.

The gently sloping, shallow Tenabo and similar soils are on the higher fan piedmont remnants. The upper layer of these soils is thin, light colored, and medium textured. The next layer is moderately fine textured

material that is slightly or moderately affected by sodium. Below this is an indurated hardpan.

Of minor extent in this unit are Broyles, Hessing, Allor, and similar soils. Broyles, Hessing, and similar soils are very deep, well drained, and medium textured. They are nearly level or gently sloping and are on the lower inset fans and the margins of fan skirts. They are slightly affected by salt and sodium in the upper part and are slightly to moderately affected by salt and moderately to strongly affected by sodium in the lower part. They support bottlebrush squirreltail, Indian ricegrass, and shadscale. Allor and similar soils are very deep and well drained. They are gently sloping or moderately sloping and are on the higher fan piedmont remnants. They are moderately fine textured over very gravelly material in the lower part. They are not affected by salt and sodium. They support bottlebrush squirreltail and black sagebrush. None of the minor soils is subject to flooding.

This unit is used for livestock grazing or wildlife habitat.

9. Muni-Glyphs-Orovada

Nearly level to moderately sloping, shallow and very deep, well drained soils; on fan piedmont remnants and fan skirts

This map unit is in the southern part of the survey area, flanking the sides of the Monitor Valley and in small areas in the Reese River Valley. The vegetation is mainly bluegrass, Indian ricegrass, needlegrass, and Wyoming big sagebrush.

This unit makes up about 10 percent of the survey area.

The gently sloping or moderately sloping, shallow Muni and similar soils are on fan piedmont remnants. These soils have a thin, medium textured upper layer. Below this is gravelly, medium textured to moderately fine textured material over a strongly silica-cemented hardpan. The soils are not affected by salt and sodium.

The gently sloping or moderately sloping, very deep Glyphs and similar soils are on broad fan piedmont remnants. The upper layer of these soils is thin, gravelly, and medium textured. The next layer is gravelly and moderately fine textured. The lower layer is gravelly and moderately coarse textured or medium textured. The soils are not affected by salt and sodium.

The nearly level or gently sloping, very deep Orovada and similar soils are on fan skirts. The upper part of these soils is thin and medium textured. Below this is moderately coarse or medium textured material that is slightly affected by salt.

Of minor extent in this unit are Broyles and similar soils and Unius and similar soils. Broyles and similar

soils are very deep, moderately coarse textured, and nearly level and are on the margins of the lower fan skirts. They support bottlebrush squirreltail, Indian ricegrass, shadscale, and bud sagebrush. They are slightly or moderately affected by salt and sodium. Unius and similar soils are shallow and moderately sloping and are on fan piedmont remnants. They are moderately coarse textured over a strongly silica-cemented hardpan. They support needleandthread, bluegrass, Indian ricegrass, and black sagebrush. They are not affected by salt and sodium.

This unit is used for livestock grazing or wildlife habitat.

10. Glyphs-Orovada-Zineb

Gently sloping and moderately sloping, very deep, well drained soils; on fan piedmont remnants, fan skirts, and fan aprons

This map unit is on the eastern side of the Reese River Valley. The vegetation is mainly Indian ricegrass, bluegrass, and Wyoming big sagebrush.

This unit makes up about 4 percent of the survey area.

The gently sloping or moderately sloping Glyphs and similar soils are on broad fan piedmont remnants. The upper layer of these soils is thin, gravelly, and medium textured. The next layer is moderately fine textured. The lower layer is gravelly and moderately coarse textured or medium textured. The soils are not affected by salt and sodium.

The gently sloping Orovada and similar soils are on fan skirts. The upper layer of these soils is thin and moderately coarse textured. Below this is dominantly stratified, moderately coarse textured and medium textured material that is slightly affected by salt.

The gently sloping Zineb and similar soils are on fan aprons. The upper layer of these soils is light colored, gravelly, and moderately coarse textured. Below this is dominantly stratified, very gravelly and extremely gravelly, moderately coarse textured and medium textured material. The soils are not affected by salt and sodium.

Of minor extent in this unit are Desatoya and similar soils and Jesse Camp and similar soils. Desatoya and similar soils are very deep and well drained and are on the highest fan piedmont remnants. They are thin, light colored, gravelly, and medium textured in the upper layer; thin and fine textured in the next layer; and very gravelly and moderately coarse textured in the lower layer. They support Indian ricegrass, needleandthread, and black sagebrush. Jesse Camp and similar soils are very deep and well drained. They are nearly level and are on inset fans near the front of mountains. They are

coarse textured or medium textured throughout the profile and are very gravelly in some areas. They are rarely flooded. They support basin wildrye, bluegrass, and basin big sagebrush.

This unit is used for livestock grazing or wildlife habitat.

11. Spike-Pula-Desatoya

Strongly sloping to steep, very deep, well drained soils; on fan piedmont remnants and partial ballenas

This map unit is in the north-central part of the survey area, in the Reese River Valley. The vegetation is mainly Indian ricegrass, galleta, Wyoming big sagebrush, and shadscale on the Spike soils; Indian ricegrass, needleandthread, and Wyoming big sagebrush on the Pula soils; and Indian ricegrass, needleandthread, and black sagebrush on the Desatoya soils.

This unit makes up about 3 percent of the survey area.

The steep Spike and similar soils are on south-facing side slopes of deeply incised fan piedmont remnants and partial ballenas. The upper layer of these soils is thin, very gravelly, and moderately coarse textured. The next layer is very gravelly and moderately fine textured. The lower layer is extremely gravelly and moderately coarse textured. These soils are slightly to moderately affected by salt and slightly affected by sodium below the upper layer.

The moderately steep or steep Pula and similar soils are on concave, north-facing side slopes of fan piedmont remnants. The upper layer of these soils is thin, very gravelly, and medium textured. The next layer is very gravelly and fine textured. The lower layer is very gravelly and medium textured. The soils are not affected by salt and sodium.

The strongly sloping to steep Desatoya and similar soils are on summits and convex side slopes of fan piedmont remnants. The upper layer of these soils is thin, gravelly, and medium textured. The next layer is thin and fine textured. The lower layer is very gravelly and moderately coarse textured or medium textured. It is slightly or moderately affected by salt.

Of minor extent in this unit are Grassval, Buffaran, Orovada, and similar soils. Grassval and similar soils are gently sloping and shallow and are on the lower summits of fan piedmont remnants. They are moderately fine textured in the lower part over a thick, indurated hardpan. They support Indian ricegrass, bottlebrush squirreltail, and black sagebrush. Buffaran and similar soils are gently sloping and shallow and are on the higher summits of fan piedmont remnants. They are fine textured in the lower part over a thick,

indurated hardpan. They support Indian ricegrass, bluegrass, and Wyoming big sagebrush. Orovada and similar soils are gently sloping and very deep and are on inset fans. They are gravelly and medium textured throughout the profile. They support Indian ricegrass, needlegrass, bluegrass, and big sagebrush.

This unit is used for livestock grazing or wildlife habitat.

12. Grassval-Oxcorel-Allor

Gently sloping to strongly sloping, shallow and very deep, well drained soils; on fan piedmont remnants

This map unit is at the southern end of the Grass Valley and in the alluvial divide between the Simpson Park Mountains and the Toquima Range. The vegetation is mainly Indian ricegrass, bluegrass, and black sagebrush on the Grassval soils; bottlebrush squirreltail, Indian ricegrass, shadscale, and bud sagebrush on the Oxcorel soils; and Thurber needlegrass, bluegrass, and Wyoming big sagebrush on the Allor soils.

This unit makes up about 5 percent of the survey area.

The gently sloping to strongly sloping, shallow Grassval and similar soils are on the higher fan piedmont remnants. The upper part of these soils is thin, light colored, and medium textured. Below this is moderately fine textured material over an indurated hardpan. The soils are not affected by salt and sodium.

The gently sloping or moderately sloping, very deep Oxcorel and similar soils are on the lower fan piedmont remnants. The upper part of these soils is thin, light colored, and medium textured. The next layer is fine textured and is slightly affected by salt and moderately affected by sodium. The lower layer is very gravelly and moderately coarse textured or medium textured. It is strongly affected by salt and sodium.

The gently sloping to strongly sloping, very deep Allor and similar soils are on fan piedmont remnants. The upper layer of these soils is thin, gravelly, and medium textured. The next layer is gravelly and moderately fine textured. The lower layer is gravelly and moderately coarse textured or medium textured. The soils are not affected by salt and sodium.

Of minor extent in this unit are Tenabo, Broyles, Orovada, and similar soils. Tenabo and similar soils are shallow and well drained and are on fan piedmont remnants. The lower part of these soils is moderately fine textured material that is sodium affected over an indurated hardpan. Tenabo and similar soils support bottlebrush squirreltail, shadscale, and bud sagebrush. Broyles and similar soils are very deep, well drained, and medium textured. They are nearly level and are on

slightly convex fan skirts. They are slightly affected by salt and sodium. They support Indian ricegrass, shadscale, and bud sagebrush. Orovada and similar soils are very deep, well drained, and medium textured. They are gently sloping and are on inset fans. They are rarely flooded and are not affected by salt and sodium. They support Thurber needlegrass, bluebunch wheatgrass, and Wyoming big sagebrush.

This unit is used for livestock grazing or wildlife habitat.

13. Buffaran-Allor-Chiara

Gently sloping to strongly sloping, shallow and very deep, well drained soils; on fan piedmont remnants and ballenas

This map unit is mainly in the Smith Creek Valley and in the alluvial divide between the Shoshone and New Pass Mountains, but small areas are in the Antelope, Grass, and Reese River Valleys. The vegetation is mainly bluegrass, Indian ricegrass, Thurber needlegrass, and Wyoming big sagebrush.

This unit makes up about 9 percent of the survey area.

The gently sloping or moderately sloping, shallow Buffaran and similar soils are on the higher summits of fan piedmont remnants and ballenas. The upper layer of these soils is thin, light colored, stony, and medium textured. Below this is fine textured material over an indurated hardpan. The soils are not affected by salt and sodium.

The gently sloping to strongly sloping, very deep Allor and similar soils are on the broad, lower fan piedmont remnants. The upper layer of these soils is thin, gravelly, and medium textured. The next layer is gravelly and moderately fine textured. The lower layer is gravelly and moderately coarse textured or medium textured. The soils are not affected by salt and sodium.

The strongly sloping, shallow Chiara and similar soils are on shoulder slopes of fan piedmont remnants. These soils are light colored and medium textured over an indurated hardpan. They are not affected by salt and sodium.

Of minor extent in this unit are Filiran, Pineval, Oxcorel, and similar soils. Filiran and similar soils are nearly level and moderately deep. They are on broad, slightly concave fan piedmont remnants along Iowa Canyon. They have an upper layer that is thin and light colored. Below this is a thick layer of material that is slightly affected by salt and moderately affected by sodium over a strongly cemented hardpan. Pineval and similar soils are very deep, very gravelly, and moderately coarse textured or medium textured. They are nearly level or gently sloping and are on the lower

inset fans and fan skirts. They are not affected by salt and sodium. They support bottlebrush squirreltail, Indian ricegrass, and Wyoming big sagebrush. Oxcorel and similar soils are very deep and gently sloping. They are on dissected, convex fan piedmont remnants. They have an upper layer that is thin, light colored, and medium textured. The next layer is fine textured and moderately affected by sodium. The lower layer is slightly affected by salt and strongly affected by sodium. Oxcorel and similar soils support Indian ricegrass, shadscale, and bud sagebrush.

This unit is used for livestock grazing or wildlife habitat.

Areas Dominated by Soils On Foothills and Low Mountains

Four map units are in this group. They make up about 15 percent of the survey area.

14. Tessfive-Puett-Genaw

Gently sloping to moderately steep, shallow, well drained soils; on foothills and rock pediments

This map unit is in small areas in the northern part of the Reese River Valley. The vegetation is mainly Indian ricegrass, Thurber needlegrass, and black sagebrush on the Tessfive soils; Indian ricegrass, black sagebrush, and Wyoming big sagebrush on the Puett soils; and bluebunch wheatgrass, Thurber needlegrass, and Wyoming big sagebrush on the Genaw soils.

This unit makes up about 2 percent of the survey area.

The gently sloping to moderately steep Tessfive and similar soils are on convex summits, shoulder slopes, and side slopes of rolling foothills. These soils are gravelly and medium textured over semiconsolidated sedimentary rock.

The strongly sloping or moderately steep Puett and similar soils are on eroded, convex side slopes of rolling foothills. These soils are light colored and medium textured over soft, semiconsolidated sedimentary rock.

The moderately steep Genaw and similar soils are on concave side slopes of rock pediments. The upper layer of these soils is thin, gravelly, and medium textured. Below this is gravelly, medium textured or moderately fine textured material over soft, semiconsolidated sedimentary rock.

Of minor extent in this unit are Atlow, Koynik, Perlor, and similar soils. Atlow and similar soils are shallow, very gravelly, and medium textured. They are on stable summits of rolling foothills. They support Indian ricegrass, Sandberg bluegrass, and black sagebrush. Koynik and similar soils are shallow and medium textured over interbedded hard limestone and Tertiary

sediment. They are on concave side slopes of foothills. They support Sandberg bluegrass and Utah juniper. Perlcor and similar soils are shallow and medium textured. They are on the lower summits of rolling foothills. They support Indian ricegrass, shadscale, and bud sagebrush.

This unit is used for livestock grazing or wildlife habitat.

15. Old Camp-Colbar-Newpass

Strongly sloping to steep, shallow and moderately deep, well drained soils; on foothills

This map unit is in the northwestern part of the survey area, in the New Pass and Shoshone Mountains. The vegetation is mainly pine bluegrass, Thurber needlegrass, and Wyoming big sagebrush.

This unit makes up about 3 percent of the survey area.

The moderately steep or steep, shallow Old Camp and similar soils are on foothills. These soils are thin, very gravelly and very cobbly, medium textured material over hard bedrock. They are not affected by salt and sodium.

The moderately steep, moderately deep Colbar and similar soils are on the lower north- and east-facing side slopes of foothills. The upper layer of these soils is thin, very cobbly, and medium textured. Below this is gravelly, moderately fine textured material over hard bedrock. The soils are not affected by salt and sodium.

The strongly sloping, moderately deep Newpass and similar soils are on summits and the higher north- and east-facing side slopes of foothills. The upper layer of these soils is thin, very gravelly, and medium textured. The next layer is fine textured and is slightly affected by sodium. Below this is a thin, strongly cemented hardpan over hard bedrock.

Of minor extent in this unit are Laped and similar soils and Rock outcrop. Laped and similar soils are shallow and medium textured. They are on low summits of foothills. They support Indian ricegrass, shadscale, and bud sagebrush. Rock outcrop occurs as scattered barren peaks.

This unit is used for livestock grazing or wildlife habitat.

16. Jung-Newpass

Strongly sloping and moderately steep, shallow and moderately deep, well drained soils; on foothills

This map unit is in the central Shoshone Mountains. The vegetation is mainly pine bluegrass, Thurber needlegrass, and black sagebrush on the Jung soils

and pine bluegrass, Thurber needlegrass, and Wyoming big sagebrush on the Newpass soils.

This unit makes up about 4 percent of the survey area.

The strongly sloping and moderately steep, shallow Jung and similar soils are on rounded, convex summits and south- and west-facing side slopes of rolling foothills. The upper layer of these soils is thin, very cobbly, and medium textured. Below this is very cobbly, fine textured material over hard bedrock. The soils are not affected by salt and sodium.

The moderately steep, moderately deep Newpass and similar soils are on north- and east-facing side slopes of rolling foothills. The upper layer of these soils is thin, very gravelly, and medium textured. The next layer is fine textured and is slightly affected by sodium. Below this is a thin, strongly cemented hardpan over hard bedrock.

Of minor extent in this unit are Itca and similar soils, Old Camp and similar soils, and Rock outcrop. Itca and similar soils are shallow, very gravelly, and medium textured. They are steep and are on concave side slopes of mountains. They support bluebunch wheatgrass, mountain big sagebrush, singleleaf pinyon, and Utah juniper. Old Camp and similar soils are shallow, very gravelly, and medium textured or moderately fine textured. They are moderately sloping to moderately steep and are on the lower summits and convex side slopes of mountains. They support pine bluegrass, Thurber needlegrass, and Wyoming big sagebrush. Rock outcrop occurs as scattered barren peaks.

This unit is used for livestock grazing or wildlife habitat.

17. Akerue-Simpark-Punchbowl

Gently sloping to moderately steep, shallow, well drained soils; on low mountains

This map unit is in the Simpson Park Mountains and the northeastern part of the Toiyabe Range. The vegetation is mainly Indian ricegrass, needleandthread, and black sagebrush.

This unit makes up about 6 percent of the survey area.

The moderately steep Akerue and similar soils are on shoulder slopes and upper side slopes of low mountains. The upper layer of these soils is very stony and medium textured. The next layer is very cobbly and fine textured. Below this is a thin, indurated hardpan over bedrock.

The gently sloping to moderately steep Simpark and similar soils are on the broad upper summits and the

lower side slopes of low mountains. The upper layer of these soils is very stony and moderately coarse textured. The next layer is very cobbly and medium textured. Below this is an indurated hardpan over bedrock.

The strongly sloping Punchbowl and similar soils are on the lower summits and shoulder slopes of low mountains above rimrock. The upper layer of these soils is thin, very gravelly or extremely stony, and medium textured. Below this is gravelly, medium textured material over hard bedrock.

Of minor extent in this unit are Robson and similar soils, Rock outcrop, Duco and similar soils, and Nobuck and similar soils. Robson and similar soils are shallow, very cobbly, and fine textured. They are on north-facing shoulder slopes of mountains. They support Thurber needlegrass, bluegrass, and low sagebrush. Rock outcrop occurs as rimrock along shoulder slopes of mountains and as cliffs on eroded side slopes of mountains. Areas of Rock outcrop are barren. Duco and similar soils are shallow, very gravelly, and medium textured. They are moderately sloping to steep and are on crests of mountains. They support pine bluegrass, mountain big sagebrush, singleleaf pinyon, and Utah juniper. Nobuck and similar soils are moderately deep, very gravelly, and medium textured. They are on steep, north-facing side slopes of mountains in areas where snow accumulates. They support bluebunch wheatgrass, bluegrass, and big sagebrush.

This unit is used mainly for livestock grazing or wildlife habitat.

Areas Dominated by Soils On Mountains

Three map units are in this group. They make up about 19 percent of the survey area.

18. Itca-Reluctan-Torro

Moderately steep and steep, shallow, moderately deep, and very deep, well drained soils; on mountains

This map unit is in all of the mountain ranges in the survey area. The vegetation is mainly bluegrass, mountain big sagebrush, and singleleaf pinyon on the Itca soils and bluebunch wheatgrass, Idaho fescue, and mountain big sagebrush on the Reluctan and Torro soils.

This unit makes up about 9 percent of the survey area.

The moderately steep or steep, shallow Itca and similar soils are on convex crests and mainly the east-facing and higher south- and west-facing side slopes of mountains. The upper layer of these soils is thick, dark, very cobbly, and medium textured. Below this is very gravelly, fine textured material over hard bedrock.

The moderately steep or steep, moderately deep Reluctan and similar soils are on the higher, concave, north- and east-facing side slopes of mountains. The upper layer of these soils is thick, dark, very gravelly or very cobbly, and medium textured. Below this is gravelly, moderately fine textured material over hard bedrock.

The steep, very deep Torro and similar soils are on concave, west- and south-facing side slopes of mountains. The upper layer of these soils is thick, dark, very gravelly or extremely gravelly, and medium textured. The lower layer is extremely gravelly and medium textured or moderately fine textured.

Of minor extent in this unit are Walti, Clanalpine, Roca, and similar soils, Rock outcrop, and Welch and similar soils. Walti and similar soils are moderately deep, fine textured, and moderately sloping. They are on crests of mountains. They support Idaho fescue, bluebunch wheatgrass, and low sagebrush. Clanalpine and similar soils are moderately deep, very gravelly, and moderately fine textured. They are on the highest north- and west-facing shoulder slopes and side slopes of mountains below areas of Rock outcrop. They support Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, and singleleaf pinyon. Roca and similar soils are moderately deep, very gravelly, and fine textured. They are steep and are on the concave, lower, south-facing side slopes of mountains. They support bluegrass, bluebunch wheatgrass, and Wyoming big sagebrush. Rock outcrop occurs as rimrock along shoulder slopes of mountains, as cliffs along canyon walls, and as scattered peaks. Areas of Rock outcrop are barren. Welch and similar soils are nearly level to gently sloping and are in intermountain drainageways and riparian areas. They support basin wildrye and basin big sagebrush in areas where the channel has been subject to entrenchment and bluegrass, hairgrass, rush, and sedges in undrained areas.

This unit is used for livestock grazing or wildlife habitat.

19. Walti-Softscrabble-Zoesta

Strongly sloping and moderately steep, moderately deep and very deep, well drained soils; on high mountains

This map unit is in the Simpson Park Mountains and the Toiyabe Range. The vegetation is mainly Idaho fescue, bluebunch wheatgrass, and low sagebrush on the Walti and Zoesta soils and bluebunch wheatgrass, Idaho fescue, and mountain big sagebrush on the Softscrabble soils.

This unit makes up about 5 percent of the survey area.

The moderately deep Walti and similar soils are on

convex crests and shoulder slopes of high mountains. The upper layer of these soils is thick, very cobbly, and medium textured. Below this is fine textured material over hard bedrock.

The very deep Softscrabble and similar soils are on concave, north- and east-facing side slopes of high mountains. The upper layer of these soils is very thick, dark, very gravelly, and medium textured. The next layer is very gravelly or very cobbly and moderately fine textured. The lower layer is very gravelly or very cobbly and moderately coarse textured or medium textured.

The very deep Zoesta and similar soils are on south- and west-facing side slopes of high mountains. The upper layer of these soils is thin, cobbly, and medium textured. The lower layer is very thick and fine textured.

Of minor extent in this unit are Sumine and similar soils, Atlow and similar soils, Rock outcrop, Colbar and similar soils, and Welch and similar soils. Sumine and similar soils are moderately deep, very gravelly, and moderately fine textured. They are steep and are on south-facing side slopes of mountains. They support bluebunch wheatgrass and mountain big sagebrush. Atlow and similar soils are shallow, gravelly, and moderately fine textured. They are moderately sloping and are on the lower crests of mountains. They support bluegrass, bottlebrush squirreltail, and black sagebrush. Rock outcrop occurs on mountains as rimrock on eroded shoulder slopes, cliffs on side slopes, and scattered peaks. Areas of Rock outcrop are barren. Colbar and similar soils are moderately deep and moderately fine textured. They are moderately steep or steep and are on the lower side slopes of mountains. They support Thurber needlegrass, bluebunch wheatgrass, and Wyoming big sagebrush. Welch and similar soils are nearly level to gently sloping and are in intermountain drainageways and riparian areas. They support basin wildrye and basin big sagebrush in areas where the channel has been subject to entrenchment and bluegrass, hairgrass, rush, and sedges in undrained areas.

This unit is used for livestock grazing or wildlife habitat.

20. Packer-Hapgood-Sumine

Moderately steep to very steep, moderately deep and very deep, well drained soils; on high mountains

This map unit is in the Desatoya, New Pass, Shoshone, and Simpson Park Mountains and the Toiyabe Range. The vegetation is mainly Idaho fescue, Webber ricegrass, low sagebrush, and black sagebrush on the Packer soils; Idaho fescue, bluebunch wheatgrass, and snowberry on the Hapgood soils; and

bluebunch wheatgrass, basin wildrye, and mountain big sagebrush on the Sumine soils.

This unit makes up about 5 percent of the survey area.

The moderately steep to very steep, very deep Packer and similar soils are on convex crests and nose slopes of high mountains. The upper layer of these soils is very gravelly and medium textured. The lower layer is very gravelly and medium textured or moderately fine textured.

The steep or very steep, very deep Hapgood and similar soils are on concave, north-facing side slopes of high mountains. The upper layer of these soils is very thick, dark, very gravelly, and medium textured. The lower layer is very gravelly or very cobbly and medium textured.

The steep, moderately deep Sumine and similar soils are on south-facing side slopes of mountains. The upper layer of these soils is thick, dark, very gravelly, and medium textured. Below this is very gravelly, moderately fine textured material over hard bedrock.

Of minor extent in this unit are Layview and similar soils, Hatur and similar soils, Rock outcrop, and Welch and similar soils. Layview and similar soils are shallow and moderately fine textured. They are on convex crests of mountains. They support Idaho fescue, bluebunch wheatgrass, black sagebrush, and low sagebrush. Hatur and similar soils are moderately deep, very gravelly, and medium textured. They are on side slopes of mountains below limestone rock outcroppings. They support bluebunch wheatgrass, Idaho fescue, and mountain big sagebrush. Rock outcrop occurs as exposed bedrock on shoulder slopes and cliffs, along canyon walls, and on scattered peaks of mountains. Welch and similar soils are very deep, poorly drained, and moderately fine textured. They are along canyon bottoms and adjacent to seeps and springs. They are flooded for short periods late in spring. They support basin wildrye, bluegrass, and basin big sagebrush.

This unit is used mainly for livestock grazing or wildlife habitat.

Broad Land Use Considerations

The soils in this survey area vary widely in their potential for major land uses, such as cropland, pasture, rangeland, wildlife habitat, and urbanization. Extensive changes in land use are not expected in the foreseeable future.

About 98 percent of the land area is used for range and related uses. Careful management of this land is needed. General soil map unit 3 has the highest potential to produce forage; however, because it is near

a water source and supports more palatable plants, it also has the potential to be overused, resulting in deterioration of the range. Map unit 2 and units 4 through 14 are used extensively for range. The main limitation is inadequate precipitation. Some of the soils in these units have a hardpan or bedrock, which limits the rooting depth and the available water capacity, and some have rock fragments on the surface, which hinder mechanical operations. Map units 15 through 20 are well suited to use as range; however, mechanical operations are hindered in most areas by the slope and by the rock fragments on the surface. The rooting depth is limited in some of the soils in units 15 through 19.

About 1 percent of the land in the survey area is used as irrigated cropland, and about 18 percent more would be suitable for use as cropland if irrigation water were available. The main crops are alfalfa hay, alfalfa for seed, improved grass-legume forage, and small grain, such as barley, wheat, and oats. Small areas in units 3 through 7 are used as cropland. The soils in unit 3 are limited by a high water table and a hazard of flooding. The soils in the other units are limited mainly because water is not available for irrigation.

Most of the irrigation water in the survey area must be pumped from wells, and sources of water are not easily found. The Duric Camborthids in unit 5, Typic Camborthids in units 5 through 7, and Durixerollic Camborthids in units 6 and 7 are well suited to climatically adapted plants. The selection of plants is limited by the short growing season. Most areas of the soils in these map units have potential for growing irrigated crops if the content of salts and sodium is controlled. Some of the sloping soils in units 6 and 7 are limited by a hazard of erosion or by low available soil moisture.

Less than 1 percent of the land in the survey area is used for pasture and meadow hay. Map unit 3 is used

extensively for pasture and meadow hay, and most areas of the unit are well suited to these uses. Some areas of this unit are limited by the content of salts and sodium.

Almost all of the land in the survey area is used by one or more kinds of wildlife. The perennial streams along the Reese River support catfish, black bass, and carp. Several of the streams and small ponds in the area support trout.

The openland wildlife species common to the area include deer, valley quail, cottontail, meadowlark, and killdeer. Map units 2 and 3 are used extensively by these species. The availability of water and the food and cover provided by the native meadows and pastures in these units are attractive to wildlife. Irrigated areas of units 4 through 7 also are used extensively by openland wildlife. Watering facilities need to be provided when these areas are not being irrigated. Fencerows, ditchbanks, and odd corners can be planted with suitable plants to improve the habitat. Adjacent areas of rangeland provide additional cover.

The wetland wildlife species common to the area include ducks, geese, herons, muskrat, and beaver. Map unit 3 is used extensively by these species. Shallow water areas can be established in the nearly level areas of this unit, but the more sloping areas are limited for this use. Some areas of this unit have been drained by stream entrenchment and thus provide limited habitat for wetland wildlife.

The rangeland wildlife species common to the area include antelope, mule deer, jackrabbit, chukar, and sage grouse. Map units 6 through 8 and 10 through 13 are used extensively by these species. The native plant community in many areas is limited by low precipitation. Proper design and placement of watering facilities are beneficial.

Detailed Soil Map Units

The map units on the detailed soil maps at the back of this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the soil maps, can be used to determine the suitability and limitations of a soil for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils and miscellaneous areas are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some included areas that belong to other taxonomic classes.

The presence of included areas in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to precisely define and locate the soils and miscellaneous areas.

The detailed soil map units identified within the survey area reflect various relationships of soils with component parts of the landscape. These relationships are illustrated in figures 6 and 7. These figures indicate, in a three-dimensional representation, the soil-physiographic relationships typical of the area.

Figure 6 illustrates how some of the map unit delineations appear throughout the various segments of the landscape.

Each map unit has one or more major soils or miscellaneous areas and generally has several contrasting inclusions. Figure 7 illustrates the physiographic positions of the major components in a few typical map units.

The unique physiographic position of each soil or miscellaneous area identified is given in the map unit descriptions.

Soils that have profiles that are almost alike make up a *soil series*. The soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of one series can differ in texture of the upper layer or of the underlying layers. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Kelk silt loam, saline, is a phase of the Kelk series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are called complexes or associations.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Beoska-Tenabo complex is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Akerue-Simpark-Punchbowl association is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Playas is an example.

The detail of mapping was selected to meet the anticipated long-term use of the survey, and the map

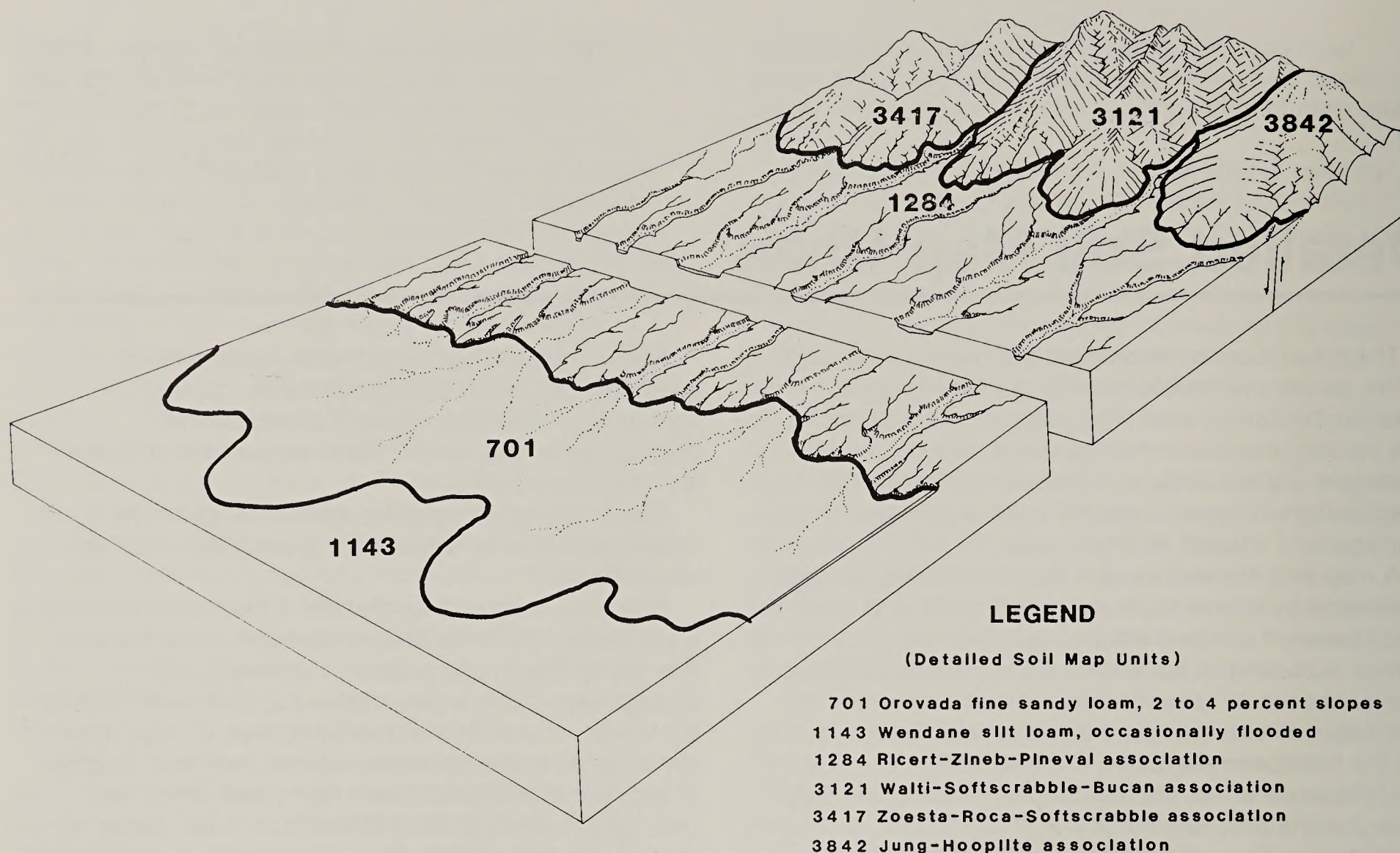


Figure 6.—Appearance of some detailed soil map units as they occur in various positions on the landscape.

units were designed to meet the needs for that use. Table 4 gives the acreage and proportionate extent of each map unit.

The following paragraphs explain some of the headings used in the map unit descriptions. Some of the terms used in the descriptions are defined in the Glossary. More information is given in the sections "Use and Management of the Soils" and "Soil Properties."

The landscape position is described for the entire map unit. These descriptions generally are broader than those given for each major component.

Composition includes the components identified in the name of the map unit as well as the contrasting inclusions. Inclusions are areas of soils or miscellaneous areas that differ from the soils or miscellaneous areas for which the unit is named. Inclusions can be either similar or contrasting. Similar inclusions are components that differ from the components for which the unit is named but that for purposes of use and management can be considered

comparable to the named components. In the "Composition" section, a single percentage is provided for a named soil and the similar inclusions because their use and management are similar. Contrasting inclusions are components that differ so significantly from the components for which the unit is named that they would have different use and management if they were extensive enough to be managed separately. For most uses, contrasting inclusions have a limited effect on use and management. Inclusions generally are in small areas, and they could not be mapped separately because of the scale used. Some small areas of strongly contrasting inclusions are identified by a special symbol on the detailed soil maps. A few inclusions may not have been observed and consequently are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the inclusions on the landscape.

A description of the characteristics of the soils in the map unit follows the description of the composition. The

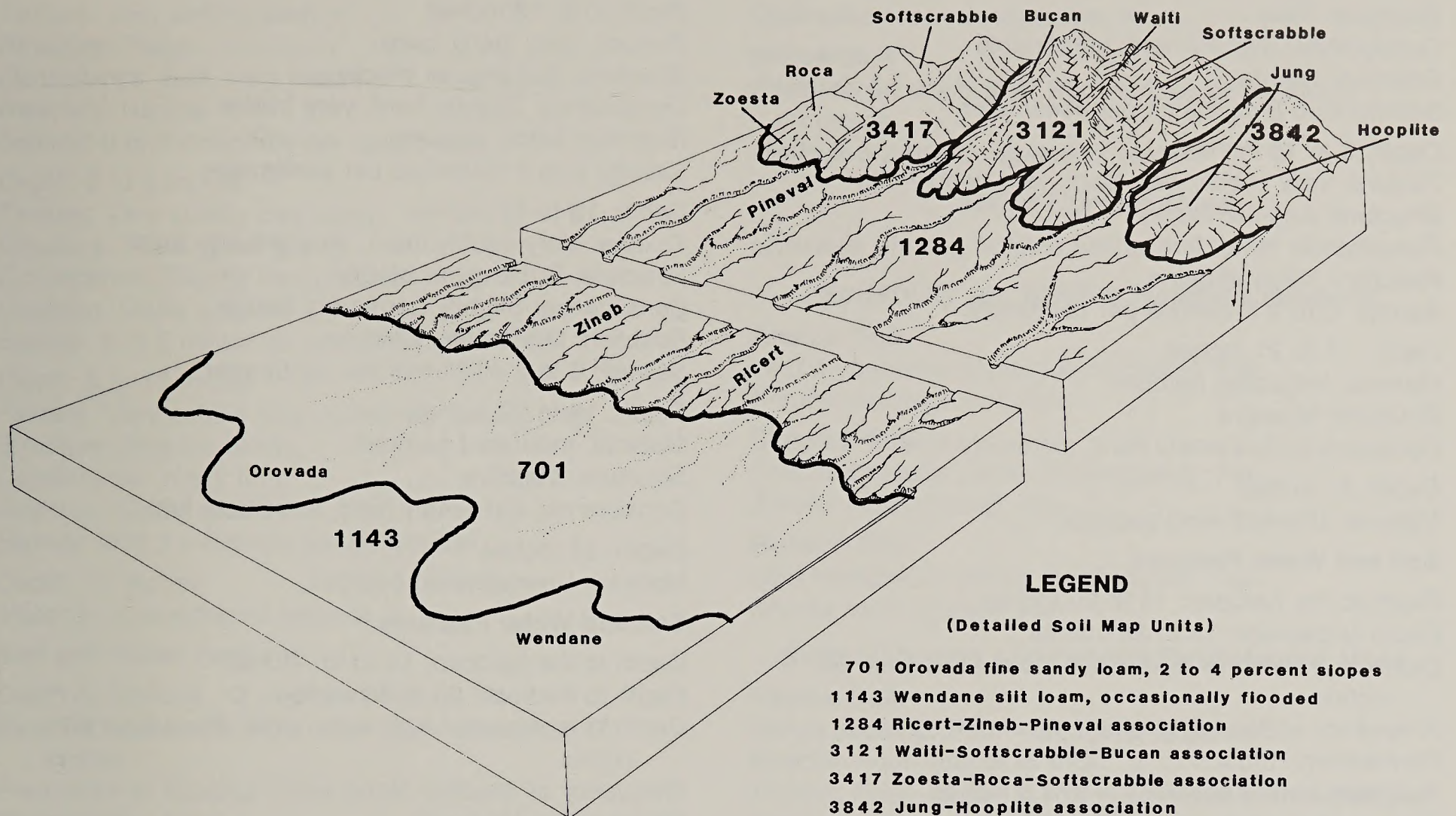


Figure 7.—Landscape positions of each major soil component identified within the respective map units.

major uses, ratings for various uses, restrictive features for various practices, and interpretive groups also are shown.

Map Unit Descriptions

120—Akerue-Simpark-Robson association

Positions on landscape: Foothills

Composition

Major components:

- Akerue very stony loam, 15 to 30 percent slopes—40 percent
- Simpark very stony loam, 15 to 50 percent slopes—35 percent
- Robson very cobbly loam, 8 to 30 percent slopes—10 percent

Contrasting inclusions:

- Lithic Xeric Torriorthents, loamy, mixed, frigid, 15 to 75 percent slopes—5 percent
- Aridic Argixerolls, fine-loamy, mixed, frigid, 8 to 15 percent slopes—5 percent

- Rock outcrop—3 percent
- Rubble land—2 percent

Characteristics of the Akerue Soil

Classification: Xerollic Durargids, clayey-skeletal, montmorillonitic, frigid, shallow

Positions on landscape: Smooth to convex, south- and west-facing side slopes of foothills

Parent material: Residuum derived from andesite, rhyolite, and quartzite

Slope: 15 to 30 percent

Elevation: 6,200 to 7,000 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush, needleandthread, Indian ricegrass

Typical Profile

Rock fragments on surface: 35 percent cobbles and stones, 35 percent pebbles

Depth: 0 to 3 inches

Texture: Very stony loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 15 inches

Texture: Very cobbly clay loam, very cobbly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 15 to 21 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Depth: 21 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to bedrock: 15 to 26 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.6 to 2.0 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Simpark Soil

Classification: Xerollic Durargids, loamy-skeletal, mixed, frigid, shallow

Positions on landscape: Smooth to slightly concave, east-facing and lower north-facing side slopes of foothills

Parent material: Residuum that is derived from volcanic rock and includes volcanic ash

Slope: 15 to 50 percent

Elevation: 6,200 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Black sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Rock fragments on surface: 15 percent cobbles and stones, 35 percent pebbles

Depth: 0 to 13 inches

Texture: Very stony loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 13 to 18 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 18 to 22 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Depth: 22 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.5 to 1.8 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Robson Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Convex summits and higher north-facing side slopes of foothills

Parent material: Residuum derived from siliceous tuff, rhyolite, and andesite

Slope: 8 to 30 percent

Elevation: 6,500 to 7,000 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Low sagebrush, Sandberg bluegrass

Typical Profile

Depth: 0 to 2 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 2 to 5 inches

Texture: Very cobbly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 15 inches

Texture: Very cobbly clay, extremely cobbly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 15 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 12 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 0.6 to 1.2 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xeric Torriorthents, loamy, mixed, frigid

Positions on landscape: Convex nose slopes of foothills

Distinctive present vegetation: Black sagebrush, low sagebrush, bluegrass

Inclusion 2

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid

Positions on landscape: Concave toe slopes of foothills

Distinctive present vegetation: Wyoming big sagebrush, mountain big sagebrush, Thurber needlegrass

Inclusion 3

Positions on landscape: Rimrock on shoulder slopes of foothills

Distinctive present vegetation: None

Inclusion 4

Positions on landscape: Rock stripes below Rock outcrop

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Akerue Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Simpark Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Robson Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Akerue Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, cemented pan, too clayey

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, cemented pan

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, cemented pan, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Simpark Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—cemented pan, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, cemented pan

Local roads and streets: Severe—cemented pan, slope

Pond reservoir areas: Severe—cemented pan, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Robson Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Interpretive Groups

Land capability classification: Akerue, Simpark, and Robson soils—VIIs, nonirrigated

Range site: Akerue and Simpark soils—028B016N; Robson soil—028B045N; Inclusion 1—028B038N; Inclusion 2—028B007N; Inclusions 3 and 4—none

121—Akerue-Simpark-Punchbowl association

Positions on landscape: Foothills

Composition

Major components:

Akerue very cobbly loam, 15 to 30 percent slopes—40 percent

Simpark very cobbly loam, 15 to 30 percent slopes—25 percent

Punchbowl gravelly loam, 8 to 15 percent slopes—20 percent

Contrasting inclusions:

Robson very cobbly loam, 30 to 50 percent slopes—7 percent

Durixerollic Haplargids, loamy-skeletal, mixed, frigid, 2 to 8 percent slopes—5 percent

Rock outcrop—3 percent

Characteristics of the Akerue Soil

Classification: Xerollic Durargids, clayey-skeletal, montmorillonitic, frigid, shallow

Positions on landscape: Convex to smooth, broad shoulder slopes and upper side slopes of foothills

Parent material: Residuum derived from andesite, rhyolite, and quartzite

Slope: 15 to 30 percent

Elevation: 6,600 to 7,000 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush, needleandthread, Indian ricegrass

Typical Profile

Rock fragments on surface: 35 percent cobbles, 35 percent pebbles

Depth: 0 to 3 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 15 inches

Texture: Very cobbly clay loam, very cobbly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 15 to 21 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Depth: 21 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to bedrock: 15 to 26 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.6 to 2.0 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Simpark Soil

Classification: Xerollic Durargids, loamy-skeletal, mixed, frigid, shallow

Positions on landscape: Smooth to slightly concave, lower side slopes of foothills

Parent material: Residuum that is derived from andesite and rhyolite and includes volcanic ash

Slope: 15 to 30 percent

Elevation: 6,200 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Rock fragments on surface: 40 percent cobbles, 20 percent pebbles

Depth: 0 to 13 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 13 to 18 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 18 to 22 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Depth: 22 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.5 to 1.8 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Punchbowl Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid

Positions on landscape: Convex narrow summits and shoulder slopes of foothills

Parent material: Residuum derived from andesite, dacite, and tuff

Slope: 8 to 15 percent

Elevation: 6,800 to 7,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush, bluegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 3 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 7 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 11 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.3 to 1.7 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Slightly concave, north-facing side slopes of foothills

Distinctive present vegetation: Low sagebrush, bluegrass

Inclusion 2

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, frigid

Positions on landscape: Drainageways and inset fans between foothills

Distinctive present vegetation: Wyoming big sagebrush, bottlebrush squirreltail

Inclusion 3

Positions on landscape: Rimrock on shoulder slopes of foothills

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Akerue Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Simpark Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Punchbowl Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Akerue Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, cemented pan, too clayey

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, cemented pan

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, cemented pan, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Simpark Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—cemented pan, slope, small stones

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, cemented pan, large stones

Local roads and streets: Severe—cemented pan, slope, large stones

Pond reservoir areas: Severe—cemented pan, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Punchbowl Soil

Range seeding: Poor—droughty, depth to rock

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Akerue, Simpark, and Punchbowl soils—VIIIs, nonirrigated

Range site: Akerue, Simpark, and Punchbowl soils—028B016N; Inclusion 1—028B045N; Inclusion 2—028B010N; Inclusion 3—none

141—Unsel-Wardenot-Belted association

Positions on landscape: Piedmont slopes

Composition

Major components:

Unsel gravelly fine sandy loam, 2 to 4 percent slopes—35 percent

Wardenot gravelly fine sandy loam, 2 to 4 percent slopes—30 percent

Belted gravelly fine sandy loam, 2 to 8 percent slopes—25 percent

Contrasting inclusions:

Haploxerollic Durargids, loamy, mixed, mesic, shallow, 2 to 4 percent slopes—7 percent

Durixerollic Haplargids, fine-loamy, mixed, mesic, 2 to 4 percent slopes—3 percent

Characteristics of the Unsel Soil

Classification: Duric Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The lower fan piedmont remnants

Parent material: Mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,700 to 5,900 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 51 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Shadscale, Bailey greasewood, bottlebrush squirreltail, galleta

Typical Profile

Rock fragments on surface: 80 percent pebbles

Depth: 0 to 8 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 8 to 18 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 18 to 31 inches

Texture: Gravelly sandy clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 31 to 60 inches

Texture: Very gravelly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.6 to 5.8 inches

Water-supplying capacity: 7 inches

Runoff: Medium or rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—2; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Wardenot Soil

Classification: Typic Torriorthents, sandy-skeletal, mixed, mesic

Positions on landscape: Fan skirts, inset fans

Parent material: Mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 51 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Shadscale, greasewood, bottlebrush squirreltail, galleta

Typical Profile

Depth: 0 to 5 inches

Texture: Gravelly fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 13

Depth: 5 to 60 inches

Texture: Stratified very gravelly fine sandy loam to extremely cobbly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderately rapid

Available water capacity: 2.7 to 5.0 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: A

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Belted Soil

Classification: Haplic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: The higher fan piedmont remnants

Parent material: Mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,700 to 5,900 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 53 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Shadscale, Bailey greasewood, Indian ricegrass, galleta

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly fine sandy loam

Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 13

Depth: 4 to 14 inches
Texture: Gravelly clay loam
Structure: Granular
Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 5 to 13

Depth: 14 to 25 inches
Material: Cemented hardpan
Structure: Massive
Consistence: Very hard, very firm

Depth: 25 to 60 inches
Texture: Very gravelly sand
Structure: Single grain
Consistence: Loose
Reaction: Very strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 13

Soil and Water Features

Depth to the hardpan: 6 to 14 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.4 to 2.2 inches
Water-supplying capacity: 5 inches
Runoff: Slow
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Haploxerollic Durargids, loamy, mixed, mesic, shallow
Positions on landscape: Fan drainageways of the higher fan piedmont remnants
Distinctive present vegetation: Black sagebrush, Indian ricegrass, shadscale

Inclusion 2

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Fan drainageways of the lower fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush, Indian ricegrass, needleandthread

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Unsel Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Wardenot Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Belted Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Unsel Soil

Range seeding: Poor—too arid
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Wardenot Soil

Range seeding: Poor—too arid, droughty
Roadfill: Fair—large stones
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—seepage, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—flooding, large stones
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Belted Soil

Range seeding: Poor—too arid, droughty, cemented pan
Roadfill: Good
Topsoil: Poor—cemented pan, small stones, area reclaim
Daily cover for landfill: Poor—cemented pan, seepage, too sandy
Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Moderate—cemented pan
Pond reservoir areas: Severe—seepage, cemented pan
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Interpretive Groups

Land capability classification: Unsel soil—IIIe, irrigated, and VIIc, nonirrigated; Wardenot soil—IVe, irrigated, and VIIc, nonirrigated; Belted soil—VIIc, nonirrigated

Range site: Unsel, Wardenot, and Belted soils—029X017N; Inclusion 1—028B016N; Inclusion 2—028B010N

142—Unsel-Caphor-Chedehap association

Positions on landscape: Piedmont slopes

Composition

Major components:

Unsel gravelly fine sandy loam, 2 to 4 percent slopes—40 percent

Caphor fine sandy loam, 2 to 4 percent slopes—25 percent

Chedehap coarse sandy loam, 2 to 8 percent slopes—20 percent

Contrasting inclusions:

Batan silt loam, 0 to 2 percent slopes—7 percent

Creemon silt loam, 0 to 2 percent slopes—4 percent

Xeric Torriorthents, loamy-skeletal, mixed, mesic, 0 to 2 percent slopes—4 percent

Characteristics of the Unsel Soil

Classification: Duric Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants, nonburied fan remnants

Parent material: Mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,700 to 5,900 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 51 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Shadscale, Bailey greasewood, bottlebrush squirreltail, galleta

Typical Profile

Rock fragments on surface: 80 percent pebbles

Depth: 0 to 8 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 8 to 18 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 18 to 31 inches

Texture: Gravelly sandy clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 31 to 60 inches

Texture: Very gravelly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.6 to 5.8 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—2; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Caphor Soil

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Fan skirts

Parent material: Mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,700 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 7 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 17 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 17 to 35 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 35 to 60 inches

Texture: Gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow over very rapid

Available water capacity: 3.7 to 5.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Chedehap Soil

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan aprons

Parent material: Moderately coarse textured alluvium

Slope: 2 to 8 percent

Elevation: 5,700 to 5,800 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 51 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Wyoming big sagebrush, spiny hopsage, needleandthread, bluegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 5 inches

Texture: Coarse sandy loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 12 inches

Texture: Sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 37 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 37 to 60 inches

Texture: Loamy coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderately rapid over very rapid

Available water capacity: 4.1 to 6.0 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.17; T value—3; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—moderate

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flat remnants adjacent to the lower fan skirt margins

Distinctive present vegetation: Black sagebrush, shadscale

Inclusion 2

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: The lower fan skirt margins

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Xeric Torriorthents, loamy-skeletal, mixed, mesic

Positions on landscape: Fan drainageways, inset fans

Distinctive present vegetation: Indian ricegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Unsel Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Caphor Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Chedehap Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Unsel Soil

Range seeding: Poor—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Caphor Soil

Range seeding: Poor—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Chedehap Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Poor—too sandy

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—flooding, frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Unsel and Caphor soils—IIIe, irrigated, and VIIc, nonirrigated; Chedehap soil—IVe, irrigated, and VIIs, nonirrigated

Range site: Unsel soil—029X017N; Caphor soil—028B017N; Chedehap soil—028B052N; Inclusion 1—024X003N; Inclusion 2—024X002N; Inclusion 3—028B010N

150—Chedehap-Enko-Ricert association

Positions on landscape: Piedmont slopes

Composition

Major components:

Chedehap coarse sandy loam, 2 to 8 percent slopes—45 percent

Enko gravelly fine sandy loam, 2 to 8 percent slopes—25 percent

Ricert gravelly fine sandy loam, 2 to 4 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Camborthids, coarse-loamy, mixed, mesic, 4 to 8 percent slopes—6 percent

Durixerollic Haplargids, fine-loamy, mixed, mesic, 2 to 4 percent slopes—5 percent

Xeric Torriorthents, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—4 percent

Characteristics of the Chedehap Soil

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans, fan aprons

Parent material: Moderately coarse textured alluvium

Slope: 2 to 8 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 51 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Wyoming big sagebrush, spiny hopsage, needleandthread, bluegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 5 inches

Texture: Coarse sandy loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 12 inches

Texture: Sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 37 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 37 to 60 inches

Texture: Loamy coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderately rapid over very rapid

Available water capacity: 4.1 to 6.0 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.17; T value—3; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—moderate

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Enko Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan apron remnants

Parent material: Mixed alluvium that includes some loess and volcanic ash

Slope: 2 to 8 percent

Elevation: 5,900 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 6 inches

Texture: Gravelly fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 6 to 12 inches

Texture: Loam, sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 18 inches

Texture: Fine sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 18 to 60 inches

Texture: Sandy loam, fine sandy loam

Structure: Massive

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6.1 to 8.2 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Ricert Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants

Parent material: Thin loess deposits over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,800 to 6,100 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 6 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 6 to 18 inches

Texture: Loam, clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 18 to 60 inches

Texture: Very gravelly sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4 to 6 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The upper part of fan apron remnants

Distinctive present vegetation: Spiny hopsage, Wyoming big sagebrush, needleandthread

Inclusion 2

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The upper part of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush, Indian ricegrass

Inclusion 3

Classification: Xeric Torriorthents, loamy-skeletal, mixed, mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Black sagebrush, needleandthread

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Chedehap Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Enko Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Ricert Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Chedehap Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Poor—too sandy

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—flooding, frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Enko Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Ricert Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium
Daily cover for landfill: Poor—seepage, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage, excess sodium
Sand: Probable source
Gravel: Probable source

Interpretive Groups

Land capability classification: Chedehap and Ricert soils—I_{Ve}, irrigated, and VII_s, nonirrigated; Enko soil—I_{Ve}, irrigated, and VI_s, nonirrigated
Range site: Chedehap soil—028B052N; Enko soil—028B010N; Ricert soil—028B017N; Inclusion 1—028B052N; Inclusion 2—028B010N; Inclusion 3—028B016N

160—Batan association

Positions on landscape: Alluvial flat remnants

Composition

Major components:

Batan silt loam, 0 to 2 percent slopes—50 percent
 Batan silt loam, slightly saline, 0 to 2 percent slopes—40 percent

Contrasting inclusions:

Wholan silt loam, 0 to 2 percent slopes—8 percent
 Rasille silt loam, 0 to 2 percent slopes—2 percent

Characteristics of the Batan Soil

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Broad, slightly dissected alluvial flat remnants

Parent material: Silty alluvium that is high in content of loess and pyroclastic material

Slope: 0 to 2 percent

Elevation: 5,600 to 6,100 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Typical Profile

Depth: 0 to 5 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, very friable

Reaction: Strongly alkaline

Salinity: 20 to 40 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 5 to 68 inches

Texture: Stratified silt loam to silty clay loam

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 11 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Batan Soil, Slightly Saline

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: The upper dissected alluvial flat remnants

Parent material: Silty alluvium that is high in content of loess and pyroclastic material

Slope: 0 to 2 percent

Elevation: 5,600 to 6,100 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Typical Profile

Depth: 0 to 5 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, very friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 5 to 68 inches

Texture: Stratified silt loam to silty clay loam

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 11 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Typic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Inset fans dissecting alluvial flat remnants

Distinctive present vegetation: Winterfat, bud sagebrush, Indian ricegrass

Inclusion 2

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Narrow drainageways

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, Indian ricegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Batan Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Batan Soil, Slightly Saline

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Batan Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess sodium

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Severe—low strength

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Batan Soil, Slightly Saline

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Severe—low strength

Pond reservoir areas: Slight

Embankments, dikes, and levees: Slight—excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Batan Soil

Drainage: Deep to water

Irrigation: Excess salt, excess sodium

Terraces and diversions: Erodes easily

Batan Soil, Slightly Saline

Drainage: Deep to water

Irrigation: Excess salt, excess sodium

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Batan soil—VII_s, nonirrigated; Batan soil, slightly saline—VII_c, nonirrigated

Range site: Batan soil—024X003N; Batan soil, slightly saline—024X002N; Inclusion 1—024X004N; Inclusion 2—028B010N

161—Batan silt loam

Positions on landscape: Alluvial flat remnants

Composition

Major component:

Batan silt loam, 0 to 2 percent slopes—85 percent

Contrasting inclusions:

Bubus very fine sandy loam, 0 to 2 percent slopes—5 percent

Typic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Sonoma silt loam, rarely flooded, strongly saline, 0 to 2 percent slopes—5 percent

Characteristics of the Batan Soil

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flat remnants
Parent material: Silty alluvium that is high in content of loess and pyroclastic material
Slope: 0 to 2 percent
Elevation: 5,200 to 6,100 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Typical Profile

Depth: 0 to 5 inches
Texture: Silt loam
Structure: Platy
Consistence: Hard, very friable
Reaction: Strongly alkaline
Salinity: 20 to 40 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 5 to 68 inches
Texture: Stratified silt loam to silty clay loam
Structure: Massive
Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 11 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—severe
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic
Positions on landscape: The highest part of alluvial flat remnants
Distinctive present vegetation: Black greasewood, shadscale, bud sagebrush

Inclusion 2

Classification: Typic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Recent alluvial flats
Distinctive present vegetation: Black greasewood, shadscale, bud sagebrush

Inclusion 3

Classification: Aeric Fluvaquents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Smooth axial-stream flood plains
Distinctive present vegetation: Basin wildrye, black greasewood

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—too arid, excess salt, excess sodium
Roadfill: Poor—low strength
Topsoil: Poor—excess salt, excess sodium
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Severe—low strength
Pond reservoir areas: Slight
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Drainage: Deep to water
Irrigation: Excess salt, excess sodium
Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Batan soil—VII_s, nonirrigated
Range site: Batan soil—024X003N; Inclusion 1—024X003N; Inclusion 2—024X012N; Inclusion 3—024X007N

162—Batan-Kelk association

Positions on landscape: Alluvial flats, fan skirts

Composition

Major components:
 Batan silt loam, 0 to 2 percent slopes—40 percent
 Kelk silt loam, 0 to 2 percent slopes—35 percent
 Kelk silt loam, occasionally flooded, 0 to 2 percent slopes—15 percent

Contrasting inclusions:

Wendane silt loam, occasionally flooded, 0 to 2 percent slopes—8 percent

Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 0 to 2 percent slopes—2 percent

Characteristics of the Batan Soil

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flat remnants

Parent material: Silty alluvium that is high in content of loess and pyroclastic material

Slope: 0 to 2 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Typical Profile

Depth: 0 to 5 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, very friable

Reaction: Strongly alkaline

Salinity: 20 to 40 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 5 to 68 inches

Texture: Stratified silt loam to silty clay loam

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 50

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 11 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Kelk Soil

Classification: Durixerollic Camborthids, fine-silty, mixed, mesic

Positions on landscape: Inset fans dissecting alluvial flats

Parent material: Loess that includes volcanic ash, mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Black greasewood, basin big sagebrush, basin wildrye

Typical Profile

Depth: 0 to 3 inches

Texture: Silt loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Depth: 3 to 20 inches

Texture: Silt loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 20 to 40 inches

Texture: Silt loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 40 to 60 inches

Texture: Silt loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 10 to 12 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Moderate

Characteristics of the Kelk Soil, Occasionally Flooded

Classification: Durixerollic Camborthids, fine-silty, mixed, mesic
Positions on landscape: Inset fans
Parent material: Loess that includes volcanic ash, mixed alluvium
Slope: 0 to 2 percent
Elevation: 5,600 to 5,800 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Basin wildrye, basin big sagebrush, rubber rabbitbrush, black greasewood

Typical Profile

Depth: 0 to 14 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Depth: 14 to 51 inches
Texture: Silt loam
Structure: Massive
Consistence: Hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 5 to 13

Depth: 51 to 60 inches
Texture: Silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Occasional for brief to long periods in February through June
Permeability: Slow
Available water capacity: 11 to 12 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: The lower areas of alluvial flats
Distinctive present vegetation: Black greasewood, basin wildrye, inland saltgrass

Inclusion 2

Classification: Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Fan skirts over the higher areas of alluvial flat remnants
Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Batan Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Kelk Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Kelk Soil, Occasionally Flooded

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Batan Soil

Range seeding: Poor—too arid, excess salt, excess sodium
Roadfill: Poor—low strength
Topsoil: Poor—excess salt, excess sodium
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Severe—low strength
Pond reservoir areas: Slight
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Kelk Soil

Range seeding: Poor—excess salt
Roadfill: Fair—low strength, shrink-swell
Topsoil: Poor—thin layer, excess sodium
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—low strength, frost action, shrink-swell

Pond reservoir areas: Slight
Embankments, dikes, and levees: Severe—piping, excess sodium

Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Kelk Soil, Occasionally Flooded

Range seeding: Fair—too arid

Roadfill: Poor—low strength

Topsoil: Good

Daily cover for landfill: Good

Shallow excavations: Moderate—flooding

Local roads and streets: Severe—low strength, flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Batan Soil

Drainage: Deep to water

Irrigation: Excess salt, excess sodium

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Batan soil—VIIs, nonirrigated; Kelk soil—IIs, irrigated, and VIs, nonirrigated; Kelk soil, occasionally flooded—IIw, irrigated, and VIw, nonirrigated

Range site: Batan soil—024X003N; Kelk soil—024X022N; Kelk soil, occasionally flooded—024X006N; Inclusion 1—024X011N; Inclusion 2—028B017N

168—Batan-Bubus-Ocala association

Positions on landscape: Alluvial flats, fan skirts

Composition

Major components:

Batan silt loam, 0 to 2 percent slopes—35 percent
 Bubus very fine sandy loam, 0 to 2 percent slopes—35 percent

Ocala silt loam, occasionally flooded, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Kelk silt loam, occasionally flooded, 0 to 2 percent slopes—5 percent

Broyles very fine sandy loam, 0 to 2 percent slopes—5 percent

Characteristics of the Batan Soil

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: The lower alluvial flat remnants

Parent material: Silty alluvium that is high in content of loess and pyroclastic material

Slope: 0 to 2 percent

Elevation: 5,300 to 6,000 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, black sagebrush, bottlebrush squirreltail

Typical Profile

Depth: 0 to 5 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, very friable

Reaction: Strongly alkaline

Salinity: 20 to 40 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 5 to 68 inches

Texture: Stratified silt loam to silty clay loam

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 50

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 11 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Bubus Soil

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: The higher, slightly dissected alluvial flat remnants

Parent material: Mixed alluvium that is high in content of pyroclastic material

Slope: 0 to 2 percent

Elevation: 5,300 to 6,000 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Typical Profile

Depth: 0 to 6 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 6 to 60 inches

Texture: Stratified sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 9 to 10 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Ocala Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Low, smooth alluvial flats

Parent material: Mixed silty alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 5,300 to 6,000 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Black greasewood, rubber rabbitbrush, basin wildrye, alkali sacaton

Typical Profile

Depth: 0 to 4 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Very strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 30 to 46

Depth: 4 to 36 inches

Texture: Silt loam, silty clay loam

Structure: Massive

Consistence: Hard, brittle

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 20 to 35

Depth: 36 to 60 inches

Texture: Silt loam, silty clay loam

Structure: Massive

Consistence: Very hard, very firm

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 20 to 35

Soil and Water Features

Depth to a seasonal high water table: 42 to 60 inches

Frequency of flooding: Occasional for brief to long periods in February through May

Permeability: Slow

Available water capacity: 10 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Very slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, fine-silty, mixed, mesic

Positions on landscape: Fan skirts

Distinctive present vegetation: Basin big sagebrush, black greasewood, basin wildrye

Inclusion 2

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Batan Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Bubus Soil*Wild herbaceous plants (nonirrigated):* Very poor*Shrubs (nonirrigated):* Very poor**Ocala Soil***Wild herbaceous plants (nonirrigated):* Very poor*Shrubs (nonirrigated):* Very poor**Suitability and Limitations for Selected Uses****Batan Soil***Range seeding:* Poor—too arid, excess salt, excess sodium*Roadfill:* Poor—low strength*Topsoil:* Poor—excess salt, excess sodium*Daily cover for landfill:* Good*Shallow excavations:* Slight*Local roads and streets:* Severe—low strength*Pond reservoir areas:* Slight*Embankments, dikes, and levees:* Severe—excess salt, excess sodium*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Bubus Soil***Range seeding:* Poor—too arid, excess salt, excess sodium*Roadfill:* Good*Topsoil:* Poor—excess salt*Daily cover for landfill:* Good*Shallow excavations:* Slight*Local roads and streets:* Slight*Pond reservoir areas:* Moderate—seepage*Embankments, dikes, and levees:* Severe—piping, excess salt*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Ocala Soil***Range seeding:* Poor—excess salt, excess sodium*Roadfill:* Poor—low strength*Topsoil:* Poor—excess salt, excess sodium*Daily cover for landfill:* Poor—excess salt, excess sodium*Shallow excavations:* Moderate—wetness, flooding*Local roads and streets:* Severe—low strength, flooding, frost action*Pond reservoir areas:* Slight*Embankments, dikes, and levees:* Severe—excess salt, excess sodium*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Restrictive Features for Selected Practices****Batan Soil***Drainage:* Deep to water*Irrigation:* Excess salt, excess sodium*Terraces and diversions:* Erodes easily**Interpretive Groups***Land capability classification:* Batan and Bubus soils—VII_s, nonirrigated; Ocala soil—VII_w, nonirrigated*Range site:* Batan and Bubus soils—024X003N; Ocala soil—024X007N; Inclusion 1—024X006N; Inclusion 2—024X002N**169—Batan-Ocala association***Positions on landscape:* Basin floors**Composition***Major components:*

Batan silt loam, 0 to 2 percent slopes—35 percent

Ocala silty clay loam, occasionally flooded, 0 to 2 percent slopes—25 percent

Ocala silty clay loam, rarely flooded, 0 to 2 percent slopes—25 percent

Contrasting inclusions:

Aquic Durorthidic Torriorthents, fine-silty, mixed, mesic, 0 to 2 percent slopes—5 percent

Playas—5 percent

Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic, 8 to 15 percent slopes—5 percent

Characteristics of the Batan Soil*Classification:* Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic*Positions on landscape:* Alluvial flat remnants*Parent material:* Silty alluvium that is high in content of loess and pyroclastic material*Slope:* 0 to 2 percent*Elevation:* 5,500 to 6,100 feet*Average annual precipitation:* About 7 inches*Average annual air temperature:* About 49 degrees F*Frost-free season:* About 120 days*Dominant present vegetation:* Shadscale, black greasewood, bottlebrush squirreltail**Typical Profile***Depth:* 0 to 5 inches*Texture:* Silt loam*Structure:* Platy*Consistence:* Hard, very friable*Reaction:* Strongly alkaline*Salinity:* 20 to 40 millimhos per centimeter*Sodicity (SAR):* 40 to 50*Depth:* 5 to 68 inches*Texture:* Stratified silt loam to silty clay loam*Structure:* Massive*Consistence:* Hard, friable

Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 50

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 11 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Ocala Soil, Occasionally Flooded

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: The higher alluvial flats near shallow channels
Parent material: Mixed silty alluvium that includes volcanic ash
Slope: 0 to 2 percent
Elevation: 5,500 to 6,400 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, rubber rabbitbrush, basin wildrye, alkali sacaton

Typical Profile

Depth: 0 to 4 inches
Texture: Silty clay loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Very strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 30 to 50
Depth: 4 to 36 inches
Texture: Silt loam, silty clay loam
Structure: Massive
Consistence: Hard, brittle
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 20 to 35
Depth: 36 to 60 inches
Texture: Silt loam, silty clay loam

Structure: Massive
Consistence: Very hard, very firm
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 20 to 35

Soil and Water Features

Depth to a seasonal high water table: 42 to 60 inches
Frequency of flooding: Occasional for brief to long periods in February through May
Permeability: Slow
Available water capacity: 10 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Ocala Soil, Rarely Flooded

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: The lower alluvial flats that are subject to ponding
Parent material: Mixed silty alluvium that includes volcanic ash
Slope: 0 to 2 percent
Elevation: 5,500 to 6,400 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, rubber rabbitbrush, basin wildrye

Typical Profile

Depth: 0 to 6 inches
Texture: Silty clay loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Very strongly alkaline
Salinity: 40 to 50 millimhos per centimeter
Sodicity (SAR): 40 to 60
Depth: 6 to 13 inches
Texture: Silt loam, silty clay loam
Structure: Massive
Consistence: Hard, brittle
Reaction: Strongly alkaline
Salinity: 25 to 40 millimhos per centimeter
Sodicity (SAR): 25 to 40
Depth: 13 to 60 inches

Texture: Silt loam, silty clay loam

Structure: Massive

Consistence: Very hard, very firm

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 40

Soil and Water Features

Depth to a seasonal high water table: 42 to 60 inches

Frequency of flooding: Rare

Permeability: Slow

Available water capacity: 10 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Very slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.43; T value—5;
wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Aquic Durorthidic Torriorthents, fine-silty, mixed, mesic

Positions on landscape: Inset fans within alluvial flats

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 2

Positions on landscape: Irregularly shaped depressions and sink areas

Distinctive present vegetation: None

Inclusion 3

Classification: Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Convex, stabilized sand sheets

Distinctive present vegetation: Wyoming big sagebrush, Thurber needlegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Batan Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Ocala Soil, Occasionally Flooded

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Ocala Soil, Rarely Flooded

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Batan Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Severe—low strength

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Ocala Soil, Occasionally Flooded

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—low strength, flooding, frost action

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Ocala Soil, Rarely Flooded

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess sodium

Shallow excavations: Moderate—wetness

Local roads and streets: Severe—low strength, frost action

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Batan Soil

Drainage: Deep to water

Irrigation: Excess salt, excess sodium

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Batan soil—VII_s, nonirrigated; Ocala soils—VII_w, nonirrigated

Range site: Batan soil—024X003N; Ocala soil, occasionally flooded—024X007N; Ocala soil, rarely

flooded—024X011N; Inclusion 1—024X006N;
Inclusion 2—none; Inclusion 3—024X005N

170—Beoska-Orovada association

Positions on landscape: Fan piedmonts

Composition

Major components:

Beoska gravelly sandy loam, 2 to 4 percent slopes—60 percent

Orovada fine sandy loam, rarely flooded, 2 to 8 percent slopes—25 percent

Contrasting inclusions:

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—7 percent

Xerollic Camborthids, coarse-loamy, mixed, mesic, 2 to 4 percent slopes—4 percent

Oxcorel very fine sandy loam, 0 to 4 percent slopes—4 percent

Characteristics of the Beoska Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Summits of fan piedmont remnants

Parent material: Loess over loamy and gravelly mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,800 to 6,000 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 13 inches

Texture: Gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Depth: 13 to 24 inches

Texture: Silty clay loam, silt loam

Structure: Prismatic

Consistence: Hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 24 to 55 inches

Texture: Gravelly very fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 40

Depth: 55 to 60 inches

Texture: Very gravelly fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 40

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 6.8 to 7.8 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fan remnants

Parent material: Loess that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,800 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 20 to 60 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 8.4 to 9.6 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: The lower side slopes of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage

Inclusion 2

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Broad inset fans

Distinctive present vegetation: Wyoming big sagebrush, Thurber needlegrass

Inclusion 3

Classification: Duric Natrargids, fine, montmorillonitic, mesic

Positions on landscape: The higher summits of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Beoska Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Beoska Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, excess salt, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action, flooding

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable—excess fines

Gravel: Improbable—excess fines

Interpretive Groups

Land capability classification: Beoska soil—IIle, irrigated, and VIIc, nonirrigated; Orovada soil—IIIe, irrigated, and VIc, nonirrigated

Range site: Beoska soil—024X002N; Orovada soil—028B010N; Inclusion 1—024X020N; Inclusion 2—024X005N; Inclusion 3—024X002N

171—Beoska silt loam, 2 to 8 percent slopes

Positions on landscape: Fan piedmonts

Composition

Major component:

Beoska silt loam, 2 to 8 percent slopes—85 percent

Contrasting inclusions:

Entic Durorthids, coarse-loamy, mixed, mesic, 2 to 8 percent slopes—5 percent

Broyles very fine sandy loam, 2 to 8 percent slopes—4 percent

Tenabo silt loam, 2 to 8 percent slopes—4 percent

Orovada fine sandy loam, 2 to 8 percent slopes—2 percent

Characteristics of the Beoska Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants
Parent material: Loess over loamy and gravelly mixed alluvium
Slope: 2 to 8 percent
Elevation: 5,100 to 5,600 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 13 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Depth: 13 to 24 inches
Texture: Silty clay loam, silt loam
Structure: Prismatic
Consistence: Hard, very friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 20 to 40
Depth: 24 to 55 inches
Texture: Gravelly very fine sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 40 to 60
Depth: 55 to 60 inches
Texture: Very gravelly fine sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 40 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 7.8 to 9.7 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Entic Durorthids, coarse-loamy, mixed, mesic
Positions on landscape: Fan piedmont remnants
Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 2

Classification: Duric Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: The lower inset fans and fan skirts
Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 3

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow
Positions on landscape: The higher summits of fan piedmont remnants
Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 4

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Drainageways, the higher inset fans
Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, Indian ricegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—too arid, excess salt, excess sodium
Roadfill: Good
Topsoil: Poor—small stones, excess salt, area reclaim
Daily cover for landfill: Poor—small stones
Shallow excavations: Slight
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Beoska soil—IIIe, irrigated; VIIs, nonirrigated

Range site: Beoska soil—024X002N; Inclusions 1, 2, and 3—024X002N; Inclusion 4—024X020N

172—Beoska-Tenabo complex

Positions on landscape: Fan piedmonts

Composition

Major components:

Beoska silt loam, 0 to 2 percent slopes—60 percent

Tenabo silt loam, 0 to 2 percent slopes—30 percent

Contrasting inclusions:

Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 0 to 2 percent slopes—7 percent

Haplic Nadurargids, clayey, montmorillonitic, mesic, shallow, 0 to 2 percent slopes—3 percent

Characteristics of the Beoska Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: The lower fan piedmont remnants

Parent material: Loess over loamy and gravelly mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,100 to 5,600 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 13 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 13 to 24 inches

Texture: Silty clay loam, silt loam

Structure: Prismatic

Consistence: Hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 24 to 55 inches

Texture: Gravelly very fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 55 to 60 inches

Texture: Very gravelly fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 7.8 to 9.7 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Tenabo Soil

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow

Positions on landscape: The higher fan piedmont remnants

Parent material: Thin loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,100 to 5,500 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 13 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 5 to 10

Depth: 13 to 20 inches

Texture: Clay loam, gravelly clay loam, silty clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 20 to 39 inches

Material: Indurated hardpan

Structure: Platy

Consistence: Extremely hard, extremely firm

Depth: 39 to 60 inches

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to the hardpan: 9 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.8 to 3.2 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: D

Erosion factors (upper layer): K value—0.55; T value—1; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, bottlebrush squirreltail

Inclusion 2

Classification: Haplic Nadurargids, clayey, montmorillonitic, mesic, shallow

Positions on landscape: The intermediate part of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Beoska Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Tenabo Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Beoska Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, excess salt, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Tenabo Soil

Range seeding: Poor—too arid, droughty, excess sodium

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones, too sandy

Daily cover for landfill: Poor—cemented pan, seepage, too sandy

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—seepage, cemented pan

Embankments, dikes, and levees: Severe—seepage, excess sodium, excess salt

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Beoska soil—IIIs, irrigated, and VIIs, nonirrigated; Tenabo soil—IVs, irrigated, and VIIs, nonirrigated

Range site: Beoska and Tenabo soils—024X002N; Inclusion 1—024X020N; Inclusion 2—024X002N

173—Beoska-Allor association

Positions on landscape: Fan piedmonts

Composition

Major components:

Beoska very fine sandy loam, 2 to 8 percent slopes—55 percent

Allor gravelly loam, 8 to 15 percent slopes—30 percent

Contrasting inclusions:

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—9 percent

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 15 to 30 percent slopes—3 percent

Oxcorel gravelly loam, 2 to 4 percent slopes—3 percent

Characteristics of the Beoska Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Summits of fan piedmont remnants

Parent material: Loess over loamy and gravelly mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,100 to 5,900 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 13 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 13 to 24 inches

Texture: Silty clay loam, silt loam

Structure: Prismatic

Consistence: Hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 24 to 55 inches

Texture: Gravelly very fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 55 to 60 inches

Texture: Very gravelly fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 7.8 to 9.7 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Allor Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 8 to 15 percent

Elevation: 5,200 to 5,900 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 12 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 34 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 34 to 60 inches

Texture: Gravelly loamy sand, very gravelly loamy sand

Structure: Massive

Consistence: Very hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 4.9 to 6.4 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5;
 wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: Fan drainageways
Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, bottlebrush squirreltail

Inclusion 2

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: Side slopes of fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, bottlebrush squirreltail

Inclusion 3

Classification: Duric Natrargids, fine, montmorillonitic, mesic
Positions on landscape: The higher summits of fan piedmont remnants
Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Beoska Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Allor Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Beoska Soil

Range seeding: Poor—too arid, excess salt, excess sodium
Roadfill: Good
Topsoil: Poor—small stones, excess salt, area reclaim
Daily cover for landfill: Poor—small stones
Shallow excavations: Slight

Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Allor Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—frost action, shrink-swell, slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Severe—seepage
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Beoska soil—IIIe, irrigated, and VIIs, nonirrigated; Allor soil—IVe, irrigated, and VIIc, nonirrigated
Range site: Beoska soil—024X002N; Allor soil—027X008N; Inclusions 1 and 2—024X020N; Inclusion 3—024X002N

174—Beoska-Chiara association

Positions on landscape: Fan piedmonts

Composition

Major components:

Beoska silt loam, 2 to 8 percent slopes—55 percent
 Chiara fine sandy loam, 2 to 8 percent slopes—30 percent

Contrasting inclusions:

Xerollic Durargids, loamy-skeletal, mixed, mesic, shallow, 2 to 8 percent slopes—7 percent
 Durixerollic Camborthids, fine-loamy, mixed, mesic, 0 to 4 percent slopes—4 percent
 Tenabo silt loam, 2 to 8 percent slopes—4 percent

Characteristics of the Beoska Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic
Positions on landscape: The lower fan piedmont remnants
Parent material: Loess over loamy and gravelly mixed alluvium
Slope: 2 to 8 percent
Elevation: 5,100 to 5,500 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 13 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 13 to 24 inches

Texture: Silty clay loam, silt loam

Structure: Prismatic

Consistence: Hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 24 to 55 inches

Texture: Gravelly very fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 55 to 60 inches

Texture: Very gravelly fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 7.8 to 9.7 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Chiara Soil

Classification: Xerollic Durorthids, loamy, mixed, mesic, shallow

Positions on landscape: The higher fan piedmont remnants

Parent material: Loess mantle that is high in content of volcanic ash over alluvium

Slope: 2 to 8 percent

Elevation: 5,100 to 5,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 5 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 16 inches

Texture: Silt loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Depth: 16 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Soil and Water Features

Depth to the hardpan: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 2.4 to 2.9 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.37; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Durargids, loamy-skeletal, mixed, mesic, shallow

Positions on landscape: Fan drainageways

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, bottlebrush squirreltail

Inclusion 2

Classification: Durixerollic Camborthids, fine-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 3

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow

Positions on landscape: Summits of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Beoska Soil**

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Chiara Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Beoska Soil**

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, excess salt, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Chiara Soil

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Beoska soil—IIIe, irrigated,

and VIIs, nonirrigated; Chiara soil—IVe, irrigated, and VIIs, nonirrigated

Range site: Beoska soil—024X002N; Chiara soil—024X005N; Inclusion 1—024X020N; Inclusion 2—028B003N; Inclusion 3—024X002N

175—Beoska-Whirlo-Misad association

Positions on landscape: Fan piedmonts

Composition

Major components:

Beoska very fine sandy loam, 0 to 2 percent slopes—30 percent

Whirlo silt loam, 0 to 2 percent slopes—30 percent

Misad gravelly sandy loam, 0 to 2 percent slopes—25 percent

Contrasting inclusions:

Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 0 to 2 percent slopes—8 percent

Duric Natrargids, fine-loamy, mixed, mesic, 0 to 2 percent slopes—7 percent

Characteristics of the Beoska Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants

Parent material: Loess over loamy and gravelly mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,200 to 5,400 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 13 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 13 to 24 inches

Texture: Silty clay loam, silt loam

Structure: Prismatic

Consistence: Hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 24 to 55 inches

Texture: Gravelly very fine sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 55 to 60 inches
Texture: Very gravelly fine sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 7.8 to 9.7 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Whirlo Soil

Classification: Typic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Inset fan remnants
Parent material: Mixed alluvium that includes loess
Slope: 0 to 2 percent
Elevation: 5,200 to 5,400 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Depth: 0 to 12 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 12 to 24 inches
Texture: Very gravelly fine sandy loam
Structure: Massive

Consistence: Soft, very friable
Reaction: Moderately alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 2 to 10
Depth: 24 to 60 inches
Texture: Very gravelly coarse sandy loam
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 4 to 16 millimhos per centimeter
Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid
Available water capacity: 4.9 to 6.1 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Misad Soil

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Inset fans
Parent material: Mixed alluvium that includes loess and volcanic ash
Slope: 0 to 2 percent
Elevation: 5,200 to 5,400 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Typical Profile

Depth: 0 to 7 inches
Texture: Gravelly sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 7 to 31 inches
Texture: Stratified fine sandy loam to very gravelly sandy loam
Structure: Massive
Consistence: Slightly hard, very friable

Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 2 to 10
Depth: 31 to 60 inches
Texture: Stratified very gravelly loamy sand to extremely gravelly coarse sand
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid
Available water capacity: 2.9 to 4.1 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Channels
Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, bottlebrush squirreltail

Inclusion 2

Classification: Duric Natrargids, fine-loamy, mixed, mesic
Positions on landscape: Fan piedmont remnants
Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Beoska Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Whirlo Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Misad Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Beoska Soil

Range seeding: Poor—too arid, excess salt, excess sodium
Roadfill: Good
Topsoil: Poor—small stones, excess salt, area reclaim
Daily cover for landfill: Poor—small stones
Shallow excavations: Slight
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Whirlo Soil

Range seeding: Poor—too arid
Roadfill: Good
Topsoil: Poor—small stones, area reclaim, excess salt
Daily cover for landfill: Poor—seepage, small stones
Shallow excavations: Slight
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Misad Soil

Range seeding: Poor—too arid, excess salt
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Interpretive Groups

Land capability classification: Beoska soil—III_s, irrigated, and VII_s, nonirrigated; Whirlo soil—II_c, irrigated, and VII_c, nonirrigated; Misad soil—IV_s, irrigated, and VII_s, nonirrigated

Range site: Beoska, Whirlo, and Misad soils—024X002N; Inclusion 1—024X020N; Inclusion 2—024X002N

177—Beoska-Dewar-Orovada association

Positions on landscape: Fan piedmonts

Composition

Major components:

Beoska very fine sandy loam, 4 to 8 percent slopes—40 percent

Dewar gravelly loam, 2 to 8 percent slopes—25 percent

Orovada gravelly very fine sandy loam, 2 to 8 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 15 to 50 percent slopes—7 percent

Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow, 15 to 50 percent slopes—7 percent

Duric Natrargids, loamy-skeletal, mixed, mesic, 15 to 50 percent slopes—6 percent

Characteristics of the Beoska Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Summits and shoulder slopes of fan piedmont remnants

Parent material: Loess over loamy and gravelly mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,400 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 13 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 13 to 24 inches

Texture: Silty clay loam, silt loam

Structure: Prismatic

Consistence: Hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 40

Depth: 24 to 55 inches

Texture: Gravelly very fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 55 to 60 inches

Texture: Very gravelly fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 7.8 to 9.7 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Dewar Soil

Classification: Xerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: Concave summits and convex shoulder slopes of fan piedmont remnants

Parent material: Loess and mixed silty alluvium that include volcanic ash

Slope: 2 to 8 percent

Elevation: 5,400 to 5,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, Indian ricegrass

Typical Profile

Depth: 0 to 4 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 4 to 14 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 14 to 50 inches

Material: Indurated hardpan

Structure: Platy

Consistence: Extremely hard, extremely firm

Soil and Water Features

Depth to the hardpan: 13 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.7 to 2.3 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.37; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,400 to 5,800 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Gravelly very fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 20 to 60 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 8.3 to 9.6 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.37; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: North-facing side slopes of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush, Thurber needlegrass

Inclusion 2

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Side slopes of rock pediment remnants

Distinctive present vegetation: Shadscale, Wyoming big sagebrush, galleta

Inclusion 3

Classification: Duric Natrargids, loamy-skeletal, mixed, mesic

Positions on landscape: South-facing side slopes of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Beoska Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Dewar Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Beoska Soil**

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, excess salt, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Dewar Soil

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Beoska soil—IIIe, irrigated, and VIIs, nonirrigated; Dewar soil—IVe, irrigated, and VIIs, nonirrigated; Orovada soil—IIIe, irrigated, and VIc, nonirrigated

Range site: Beoska soil—024X002N; Dewar soil—024X005N; Orovada soil—028B010N; Inclusion 1—024X005N; Inclusion 2—024X045N; Inclusion 3—024X002N

180—Needle Peak-Batan-Yobe association

Positions on landscape: Alluvial flats, fan skirts

Composition*Major components:*

Needle Peak silt loam, 0 to 2 percent slopes—40 percent

Batan silt loam, 0 to 2 percent slopes—30 percent

Yobe silt loam, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Xeric Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—7 percent

Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 0 to 2 percent slopes—3 percent

Characteristics of the Needle Peak Soil

Classification: Aquic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Fan skirts and inset fans dissecting alluvial flats and lake plains

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 0 to 2 percent

Elevation: 5,600 to 5,700 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Basin wildrye, rubber rabbitbrush, basin big sagebrush, black greasewood

Typical Profile

Depth: 0 to 8 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Depth: 8 to 60 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: 48 to 72 inches

Frequency of flooding: Occasional for brief periods in March through June

Permeability: Moderately slow

Available water capacity: 11 to 12 inches

Water-supplying capacity: 8 inches

Runoff: Very slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: High

Characteristics of the Batan Soil

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Alluvial flat remnants
Parent material: Silty alluvium that is high in content of loess and pyroclastic material
Slope: 0 to 2 percent
Elevation: 5,600 to 5,700 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Typical Profile

Depth: 0 to 5 inches
Texture: Silt loam
Structure: Platy
Consistence: Hard, very friable
Reaction: Strongly alkaline
Salinity: 20 to 40 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 5 to 68 inches
Texture: Stratified silt loam to silty clay loam
Structure: Massive
Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 11 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Yobe Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: Alluvial flats
Parent material: Mixed silty lacustrine sediment

Slope: 0 to 2 percent
Elevation: 5,600 to 5,700 feet
Average annual precipitation: About 6 inches
Average annual air temperature: About 51 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, basin wildrye, rubber rabbitbrush, alkali sacaton

Typical Profile

Depth: 0 to 16 inches
Texture: Silt loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 25 to 40 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 16 to 60 inches
Texture: Silt loam, silty clay loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 16 to 25 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: 36 to 60 inches
Frequency of flooding: Frequent for brief to long periods in January through April
Permeability: Moderately slow
Available water capacity: 10 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Xeric Torriorthents, fine-silty, mixed (calcareous), mesic
Positions on landscape: The lower fan skirt margins intermingled with alluvial flat remnants
Distinctive present vegetation: Black greasewood, basin wildrye, basin big sagebrush

Inclusion 2

Classification: Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: The highest fan skirt margins
Distinctive present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Needle Peak Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Wetland plants: Fair

Shallow water areas: Fair

Batan Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Yobe Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wetland plants: Poor

Shallow water areas: Fair

Suitability and Limitations for Selected Uses**Needle Peak Soil**

Range seeding: Fair—too arid

Roadfill: Poor—low strength

Topsoil: Good

Daily cover for landfill: Fair—too clayey

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—low strength, flooding, frost action

Pond reservoir areas: Slight

Embankments, dikes, and levees: Moderate—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Batan Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Severe—low strength

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Yobe Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—low strength, flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices**Batan Soil**

Drainage: Deep to water

Irrigation: Excess salt, excess sodium

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Needle Peak soil—IIw, irrigated, and VIw, nonirrigated; Batan soil—VIIs, nonirrigated; Yobe soil—VIIw, nonirrigated

Range site: Needle Peak soil—024X006N; Batan soil—024X003N; Yobe soil—024X007N; Inclusion 1—024X022N; Inclusion 2—028B017N

190—Wardenot-Sundown association

Positions on landscape: Fan skirts, inset fans

Composition

Major components:

Wardenot gravelly fine sandy loam, 2 to 4 percent slopes—70 percent

Sundown fine sand, 2 to 4 percent slopes—20 percent

Contrasting inclusions:

Typic Torriorthents, coarse-loamy, mixed (calcareous), mesic, 0 to 2 percent slopes—6 percent

Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 2 to 4 percent slopes—4 percent

Characteristics of the Wardenot Soil

Classification: Typic Torriorthents, sandy-skeletal, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,600 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 51 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Shadscale, Bailey greasewood, bottlebrush squirreltail, galleta

Typical Profile

Depth: 0 to 5 inches

Texture: Gravelly fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 5 to 60 inches

Texture: Stratified very gravelly fine sandy loam to extremely cobbly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderately rapid

Available water capacity: 2.7 to 5.0 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: A

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Sundown Soil

Classification: Typic Torripsamments, mixed, mesic

Positions on landscape: Sand sheets over fan skirts

Parent material: Mixed alluvium, eolian deposits

Slope: 2 to 4 percent

Elevation: 5,600 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 53 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Shadscale, Indian ricegrass, fourwing saltbush, sand dropseed

Typical Profile

Depth: 0 to 7 inches

Texture: Fine sand

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 7 to 60 inches

Texture: Loamy fine sand

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Rapid

Available water capacity: 5.1 to 5.8 inches

Water-supplying capacity: 7 inches

Runoff: Very slow

Hydrologic group: A

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—1

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Typic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: The lower margins of fan skirts

Distinctive present vegetation: Shadscale, Bailey greasewood, galleta

Inclusion 2

Classification: Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Black sagebrush, bottlebrush squirreltail, shadscale

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wardenot Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Sundown Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Wardenot Soil

Range seeding: Poor—too arid, droughty

Roadfill: Fair—large stones

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—flooding, large stones

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Sundown Soil

Range seeding: Poor—too arid, droughty, too sandy

Roadfill: Good

Topsoil: Poor—too sandy

Daily cover for landfill: Fair—too sandy

Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Moderate—seepage
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Wardenot soil—IVe, irrigated, and VIIc, nonirrigated; Sundown soil—IVs, irrigated, and VIIs, nonirrigated
Range site: Wardenot soil—029X017N; Sundown soil—029X012N; Inclusion 1—029X017N; Inclusion 2—028B011N

191—Wardenot-Laxal association

Positions on landscape: Fan skirts, the lower fan piedmonts

Composition

Major components:
 Wardenot gravelly fine sandy loam, 2 to 4 percent slopes—50 percent
 Laxal very gravelly fine sandy loam, occasionally flooded, 2 to 4 percent slopes—25 percent
 Wardenot gravelly fine sandy loam, strongly saline, 0 to 2 percent slopes—15 percent
Contrasting inclusions:
 Unsel gravelly fine sandy loam, 0 to 2 percent slopes—6 percent
 Typic Torriorthents, fine-loamy, mixed (calcareous), mesic, 0 to 2 percent slopes—4 percent

Characteristics of the Wardenot Soil

Classification: Typic Torriorthents, sandy-skeletal, mixed, mesic
Positions on landscape: Broad fan skirts
Parent material: Mixed alluvium
Slope: 2 to 4 percent
Elevation: 5,600 to 5,700 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 51 degrees F
Frost-free season: About 130 days
Dominant present vegetation: Shadscale, Bailey greasewood, bottlebrush squirreltail, galleta

Typical Profile

Depth: 0 to 5 inches
Texture: Gravelly fine sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 13
Depth: 5 to 60 inches
Texture: Stratified very gravelly fine sandy loam to extremely cobbly loamy sand
Structure: Single grain
Consistence: Loose
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderately rapid
Available water capacity: 2.7 to 5.0 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: A
Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Laxal Soil

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Inset fans
Parent material: Alluvium derived from shale and volcanic rock
Slope: 2 to 4 percent
Elevation: 5,600 to 5,700 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 130 days
Dominant present vegetation: Shadscale, Bailey greasewood, galleta

Typical Profile

Depth: 0 to 10 inches
Texture: Very gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 10 to 60 inches
Texture: Stratified very gravelly sandy loam to very gravelly loamy coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Occasional for very brief periods in July through September

Permeability: Moderately rapid

Available water capacity: 3.9 to 5.3 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.17; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Wardenot Soil, Strongly Saline

Classification: Typic Torriorthents, sandy-skeletal, mixed, mesic

Positions on landscape: Narrow, lower margins of fan skirts

Parent material: Mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,600 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 51 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Shadscale, black greasewood, bottlebrush squirreltail, galleta

Typical Profile

Depth: 0 to 5 inches

Texture: Gravelly fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 25 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 5 to 60 inches

Texture: Stratified very gravelly fine sandy loam and extremely cobbly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderately rapid

Available water capacity: 2.9 to 5.2 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: A

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Duric Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The lower fan piedmont remnants

Distinctive present vegetation: Shadscale, Bailey greasewood, galleta

Inclusion 2

Classification: Typic Torriorthents, fine-loamy, mixed (calcareous), mesic

Positions on landscape: Adjacent alluvial flats

Distinctive present vegetation: Black greasewood, seepweed, inland saltgrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wardenot Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Laxal Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Wardenot Soil, Strongly Saline

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Wardenot Soil

Range seeding: Poor—too arid, droughty

Roadfill: Fair—large stones

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—flooding, large stones

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Laxal Soil

Range seeding: Poor—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Severe—flooding

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Wardenot Soil, Strongly Saline

Range seeding: Poor—too arid, droughty, excess salt

Roadfill: Fair—large stones

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—flooding, large stones

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Probable source

Gravel: Probable source

Restrictive Features for Selected Practices

Laxal Soil

Drainage: Deep to water

Irrigation: Droughty, flooding, slope

Terraces and diversions: Too sandy

Interpretive Groups

Land capability classification: Wardenot soil—IVe, irrigated, and VIIc, nonirrigated; Laxal soil—IVw, irrigated, and VIIw, nonirrigated; Wardenot soil, strongly saline—VIIs, nonirrigated

Range site: Wardenot and Laxal soils—029X017N;

Wardenot soil, strongly saline—024X003N;

Inclusion 1—029X017N; Inclusion 2—028B020N

200—Izo-Misad association

Positions on landscape: Fan skirts, the lower fan piedmonts

Composition

Major components:

Izo very gravelly loamy sand, 2 to 4 percent slopes—60 percent

Misad gravelly sandy loam, 2 to 4 percent slopes—30 percent

Contrasting inclusions:

Unsel gravelly fine sandy loam, 0 to 2 percent slopes—6 percent

Durorthidic Torriorthents, fine-loamy, mixed (calcareous), mesic—4 percent

Characteristics of the Izo Soil

Classification: Typic Torriorthents, sandy-skeletal, mixed, mesic

Positions on landscape: Inset fans, areas adjacent to channels

Parent material: Mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 6 inches

Average annual air temperature: About 51 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Galleta, bottlebrush squirreltail, shadscale, Bailey greasewood

Typical Profile

Depth: 0 to 2 inches

Texture: Very gravelly loamy sand

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 2 to 60 inches

Texture: Very gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Rapid

Available water capacity: 1.2 to 2.4 inches

Water-supplying capacity: 5 inches

Runoff: Slow

Hydrologic group: A

Erosion factors (upper layer): K value—0.05; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Misad Soil

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Fan skirts

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 4 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Typical Profile

Depth: 0 to 7 inches

Texture: Gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 7 to 31 inches

Texture: Stratified fine sandy loam to very gravelly sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 31 to 60 inches

Texture: Stratified very gravelly loamy sand to extremely gravelly coarse sand

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 2.9 to 4.1 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Duric Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The lower fan piedmont remnants

Distinctive present vegetation: Shadscale, Bailey greasewood, galleta

Inclusion 2

Classification: Durorthidic Torriorthents, fine-loamy, mixed (calcareous), mesic

Positions on landscape: Adjacent alluvial flat remnants

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Izo Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Misad Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Izo Soil

Range seeding: Poor—too arid, droughty, small stones

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—flooding

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Misad Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Izo soil—VII_s, nonirrigated; Misad soil—IV_e, irrigated, and VII_s, nonirrigated
Range site: Izo soil—029X017N; Misad soil—024X002N; Inclusion 1—029X017N; Inclusion 2—024X003N

201—Izo-Bubus association

Positions on landscape: Fan skirts, alluvial flats

Composition

Major components:

Izo gravelly loam, 0 to 4 percent slopes—65 percent
 Bubus very gravelly very fine sandy loam, eroded, 0 to 2 percent slopes—25 percent

Contrasting inclusions:

Batan silt loam, 0 to 2 percent slopes—7 percent
 Playas—3 percent

Characteristics of the Izo Soil

Classification: Typic Torriorthents, sandy-skeletal, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Mixed alluvium

Slope: 0 to 4 percent

Elevation: 5,500 to 5,600 feet

Average annual precipitation: About 6 inches

Average annual air temperature: About 51 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Galleta, bottlebrush squirreltail, shadscale, Bailey greasewood

Typical Profile

Depth: 0 to 2 inches

Texture: Gravelly loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 2 to 60 inches

Texture: Stratified gravelly loamy sand to very gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Rapid

Available water capacity: 1.4 to 2.6 inches

Water-supplying capacity: 5 inches

Runoff: Slow

Hydrologic group: A

Erosion factors (upper layer): K value—0.37; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Bubus Soil

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Alluvial flat remnants

Parent material: Mixed alluvium that is high in content of pyroclastic material

Slope: 0 to 2 percent

Elevation: 5,500 to 5,600 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Typical Profile

Depth: 0 to 4 inches

Texture: Very gravelly very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 4 to 60 inches

Texture: Stratified sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 8.6 to 9.9 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flat remnants near areas of Playas

Distinctive present vegetation: Shadscale, seepweed, black greasewood

Inclusion 2

Positions on landscape: Small sink areas

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Izo Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Bubus Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Izo Soil

Range seeding: Poor—too arid, droughty

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—flooding

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Bubus Soil

Range seeding: Poor—too arid, small stones, excess salt

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Izo and Bubus soils—VIIIs, nonirrigated

Range site: Izo soil—029X017N; Bubus soil—024X003N; Inclusion 1—024X003N; Inclusion 2—none

210—Laxal association

Positions on landscape: Fan skirts, the lower fan piedmonts

Composition

Major components:

Laxal gravelly fine sandy loam, 2 to 4 percent slopes—65 percent

Laxal very gravelly fine sandy loam, occasionally flooded, 2 to 4 percent slopes—20 percent

Contrasting inclusions:

Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 2 to 8 percent slopes—7 percent

Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 2 to 4 percent slopes—5 percent

Durorthidic Torriorthents, fine-loamy, mixed (calcareous), mesic, 2 to 4 percent slopes—3 percent

Characteristics of the Laxal Soil

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Fan skirts

Parent material: Alluvium derived from shale and volcanic rock

Slope: 2 to 4 percent

Elevation: 5,600 to 5,900 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 50 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Shadscale, Bailey greasewood, galleta

Typical Profile

Depth: 0 to 6 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 6 to 60 inches

Texture: Stratified very gravelly sandy loam to very gravelly loamy coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 8 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderately rapid
Available water capacity: 2.7 to 5.0 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Characteristics of the Laxal Soil, Occasionally Flooded

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Inset fans
Parent material: Alluvium derived from shale and volcanic rock
Slope: 2 to 4 percent
Elevation: 5,600 to 5,900 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 130 days
Dominant present vegetation: Shadscale, Bailey greasewood, galleta

Typical Profile

Depth: 0 to 10 inches
Texture: Very gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 10 to 60 inches
Texture: Stratified very gravelly sandy loam to very gravelly loamy coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Occasional for very brief periods in July through September
Permeability: Moderately rapid
Available water capacity: 3.9 to 5.3 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.17; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: The upper margins of fan skirts
Distinctive present vegetation: Black sagebrush, needleandthread, spiny hopsage

Inclusion 2

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Adjacent to channels
Distinctive present vegetation: Basin big sagebrush, spiny hopsage, needleandthread

Inclusion 3

Classification: Durorthidic Torriorthents, fine-loamy, mixed (calcareous), mesic
Positions on landscape: The lower margins of fan skirts
Dominant present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Laxal Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Laxal Soil, Occasionally Flooded

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Laxal Soil

Range seeding: Poor—too arid, excess salt
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—flooding

Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Laxal Soil, Occasionally Flooded

Range seeding: Poor—too arid, small stones
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Severe—flooding
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Restrictive Features for Selected Practices

Laxal Soil

Drainage: Deep to water
Irrigation: Droughty, slope, excess salt
Terraces and diversions: Too sandy

Laxal Soil, Occasionally Flooded

Drainage: Deep to water
Irrigation: Droughty, flooding
Terraces and diversions: Too sandy

Interpretive Groups

Land capability classification: Laxal soil—IVs, irrigated, and VIIs, nonirrigated; Laxal soil, occasionally flooded—IVw, irrigated, and VIIw, nonirrigated
Range site: Laxal soils—029X017N; Inclusion 1—029X008N; Inclusion 2—028B009N; Inclusion 3—024X003N

211—Laxal gravelly fine sandy loam, occasionally flooded, 0 to 2 percent slopes

Positions on landscape: Fan skirts

Composition

Major component:
 Laxal gravelly fine sandy loam, occasionally flooded, 0 to 2 percent slopes—90 percent
Contrasting inclusions:
 Typic Torriorthents, sandy-skeletal, mixed (calcareous), mesic, frequently flooded, 0 to 2 percent slopes—7 percent
 Xeric Torriorthents, sandy-skeletal, mixed (calcareous), mesic, frequently flooded, 0 to 2 percent slopes—3 percent

Characteristics of the Laxal Soil

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Fan skirts
Parent material: Alluvium derived from shale and volcanic rock
Slope: 0 to 2 percent
Elevation: 5,600 to 5,900 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 130 days
Dominant present vegetation: Shadscale, Bailey greasewood, galleta

Typical Profile

Depth: 0 to 10 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 10 to 60 inches
Texture: Stratified very gravelly sandy loam to very gravelly loamy coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Occasional for very brief periods in July through September
Permeability: Moderately rapid
Available water capacity: 3.9 to 5.3 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Typic Torriorthents, sandy-skeletal, mixed (calcareous), mesic
Positions on landscape: Areas adjacent to channels

Distinctive present vegetation: Basin big sagebrush, rubber rabbitbrush, spiny hopsage

Inclusion 2

Classification: Xeric Torriorthents, sandy-skeletal, mixed (calcareous), mesic

Positions on landscape: Stable areas adjacent to channels

Distinctive present vegetation: Basin big sagebrush, spiny hopsage, needleandthread

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Severe—flooding

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Restrictive Features for Selected Practices

Drainage: Deep to water

Irrigation: Droughty, flooding

Terraces and diversions: Too sandy

Interpretive Groups

Land capability classification: Laxal soil—IIIw, irrigated, and VIIw, nonirrigated

Range site: Laxal soil—029X017N; Inclusion 1—028B009N; Inclusion 2—029X008N

212—Laxal-Tomel association

Positions on landscape: Fan piedmonts

Composition

Major components:

Laxal gravelly fine sandy loam, 2 to 4 percent slopes—40 percent

Tomel gravelly fine sandy loam, 2 to 4 percent slopes—25 percent

Laxal gravelly fine sandy loam, occasionally flooded, 2 to 4 percent slopes—20 percent

Contrasting inclusions:

Entic Durorthids, loamy-skeletal, mixed, mesic, 2 to 4 percent slopes—6 percent

Xeric Torriorthents, sandy-skeletal, mixed (calcareous), mesic, 2 to 4 percent slopes—5 percent

Durorthidic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 2 to 4 percent slopes—4 percent

Characteristics of the Laxal Soil

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Inset fan remnants

Parent material: Alluvium derived from shale and volcanic rock

Slope: 2 to 4 percent

Elevation: 5,600 to 5,900 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 50 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Shadscale, Bailey greasewood, galleta

Typical Profile

Depth: 0 to 10 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 10 to 60 inches

Texture: Stratified very gravelly sandy loam to very gravelly loamy coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 8 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderately rapid

Available water capacity: 2.7 to 5.0 inches

Water-supplying capacity: 6 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Characteristics of the Tomel Soil

Classification: Typic Durargids, loamy-skeletal, mixed, mesic, shallow
Positions on landscape: Fan piedmont remnants
Parent material: Alluvium derived from limestone, shale, and chert
Slope: 2 to 4 percent
Elevation: 5,600 to 5,900 feet
Average annual precipitation: About 6 inches
Average annual air temperature: About 51 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Galleta, bottlebrush squirreltail, shadscale, Bailey greasewood

Typical Profile

Rock fragments on surface: 55 percent pebbles
Depth: 0 to 4 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 4 to 18 inches
Texture: Very gravelly clay loam, very gravelly sandy clay loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Very strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 5 to 13
Depth: 18 to 33 inches
Material: Indurated hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm
Depth: 33 to 60 inches
Texture: Extremely gravelly sand
Structure: Massive
Consistence: Extremely hard, extremely firm
Reaction: Strongly alkaline
Salinity: 4 to 16 millimhos per centimeter
Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to the hardpan: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.2 to 2.3 inches
Water-supplying capacity: 5 inches

Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Laxal Soil, Occasionally Flooded

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Inset fans
Parent material: Alluvium derived from shale and volcanic rock
Slope: 2 to 4 percent
Elevation: 5,600 to 5,900 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 130 days
Dominant present vegetation: Shadscale, Bailey greasewood, galleta

Typical Profile

Depth: 0 to 10 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 10 to 60 inches
Texture: Stratified very gravelly sandy loam to very gravelly loamy coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Occasional for very brief periods in July through September
Permeability: Moderately rapid
Available water capacity: 3.9 to 5.3 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Entic Durorthids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan piedmont remnants

Distinctive present vegetation: Black sagebrush, shadscale, bottlebrush squirreltail

Inclusion 2

Classification: Xeric Torriorthents, sandy-skeletal, mixed (calcareous), mesic

Positions on landscape: Adjacent to channels in the higher areas of the unit

Distinctive present vegetation: Black sagebrush, spiny hopsage, bottlebrush squirreltail

Inclusion 3

Classification: Durorthidic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Adjacent to channels in the lower areas of the unit

Distinctive present vegetation: Basin big sagebrush, rubber rabbitbrush, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Laxal Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Tomel Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Laxal Soil, Occasionally Flooded

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Laxal Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—flooding

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Tomel Soil

Range seeding: Poor—too arid, droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, too sandy, small stones

Daily cover for landfill: Poor—cemented pan, seepage, too sandy

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—seepage, cemented pan

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Probable source

Gravel: Probable source

Laxal Soil, Occasionally Flooded

Range seeding: Poor—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Severe—flooding

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Restrictive Features for Selected Practices

Laxal Soil

Drainage: Deep to water

Irrigation: Droughty, slope, excess salt

Terraces and diversions: Too sandy

Laxal Soil, Occasionally Flooded

Drainage: Deep to water

Irrigation: Droughty, flooding, slope

Terraces and diversions: Too sandy

Interpretive Groups

Land capability classification: Laxal soil—IVs, irrigated, and VIIs, nonirrigated; Tomel soil—VIIs, nonirrigated; Laxal soil, occasionally flooded—IIIw, irrigated, and VIIw, nonirrigated

Range site: Laxal and Tomel soils—029X017N;

Inclusion 1—024X003N; Inclusion 2—029X008N;

Inclusion 3—029X009N

220—Blackhawk very fine sandy loam, 2 to 8 percent slopes

Positions on landscape: Fan piedmonts, fan skirts

Composition

Major component:

Blackhawk very fine sandy loam, 2 to 8 percent slopes—85 percent

Contrasting inclusions:

Durorthidic Xeric Torrifluvents, sandy-skeletal, mixed (calcareous), mesic, 2 to 8 percent slopes—10 percent

Broyles very fine sandy loam, moderately saline, 2 to 8 percent slopes—3 percent

Orovada fine sandy loam, 2 to 8 percent slopes—2 percent

Characteristics of the Blackhawk Soil

Classification: Entic Durorthids, loamy, mixed, mesic, shallow

Positions on landscape: Fan piedmont remnants

Parent material: Loess over mixed alluvium

Slope: 2 to 8 percent

Elevation: 4,800 to 5,200 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Typical Profile

Depth: 0 to 8 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 14 inches

Texture: Loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 14 to 17 inches

Material: Cemented hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Depth: 17 to 38 inches

Texture: Loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Very strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 38 to 60

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 2.2 to 2.7 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.43; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Classification: Durorthidic Xeric Torrifluvents, sandy-skeletal, mixed (calcareous), mesic

Positions on landscape: Narrow inset fans, areas adjacent to channels

Distinctive present vegetation: Basin big sagebrush, basin wildrye, rubber rabbitbrush

Inclusion 2

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Dissected fan skirts

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Broad inset fans

Dominant present vegetation: Wyoming big sagebrush, spiny hopsage, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—too arid, droughty

Roadfill: Good

Topsoil: Poor—cemented pan, area reclaim

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Moderate—cemented pan

Pond reservoir areas: Severe—seepage, cemented pan

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Blackhawk soil—IVe, irrigated, and VIIs, nonirrigated

Range site: Blackhawk soil—024X002N; Inclusion 1—028B009N; Inclusion 2—024X020N; Inclusion 3—024X003N

221—Blackhawk-Tenabo-Desatoya Variant association

Positions on landscape: Fan piedmonts

Composition

Major components:

Blackhawk very fine sandy loam, 8 to 15 percent slopes—40 percent

Tenabo very fine sandy loam, 2 to 4 percent slopes—25 percent

Desatoya Variant very gravelly sandy loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Grassval gravelly loam, 2 to 4 percent slopes—6 percent

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 15 to 50 percent slopes—5 percent

Durixerollic Camborthids, coarse-loamy, mixed, mesic, 2 to 8 percent slopes—4 percent

Characteristics of the Blackhawk Soil

Classification: Entic Durorthids, loamy, mixed, mesic, shallow

Positions on landscape: Shoulder slopes of fan piedmont remnants

Parent material: Loess over mixed alluvium

Slope: 8 to 15 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Typical Profile

Depth: 0 to 8 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 14 inches

Texture: Loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 14 to 17 inches

Material: Cemented hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Depth: 17 to 38 inches

Texture: Loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Very strongly alkaline

Salinity: 16 to 25 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 38 to 60

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 2.2 to 2.7 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.43; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Tenabo Soil

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow

Positions on landscape: Summits of fan piedmont remnants

Parent material: Thin loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,500 to 5,600 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 5 to 10

Depth: 4 to 15 inches

Texture: Clay loam, gravelly clay loam, silty clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 15 to 28 inches

Material: Indurated hardpan

Structure: Platy

Consistence: Extremely hard, extremely firm

Depth: 28 to 60 inches

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 40

Soil and Water Features

Depth to the hardpan: 9 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.8 to 3.2 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: D

Erosion factors (upper layer): K value—0.55; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Desatoya Variant Soil

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: South-facing side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 15 to 30 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Indian ricegrass, black sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 45 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 3 to 13 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 13 to 26 inches

Texture: Very gravelly sandy loam

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 26 to 60 inches

Texture: Very gravelly sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate over rapid
Available water capacity: 2.8 to 4.4 inches
Water-supplying capacity: 7 inches
Runoff: Rapid
Hydrologic group: B
Erosion factors (upper layer): K value—0.10; T value—5;
 wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Durargids, loamy, mixed, mesic, shallow
Positions on landscape: The higher summits of fan piedmont remnants
Distinctive present vegetation: Black sagebrush, bottlebrush squirreltail

Inclusion 2

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: East-, west-, and north-facing side slopes of fan piedmont remnants
Distinctive present vegetation: Shadscale, Wyoming big sagebrush, bottlebrush squirreltail

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans
Dominant present vegetation: Wyoming big sagebrush, pine bluegrass, needleandthread

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Blackhawk Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Tenabo Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Desatoya Variant Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Blackhawk Soil

Range seeding: Poor—too arid, droughty
Roadfill: Good
Topsoil: Poor—cemented pan, area reclaim

Daily cover for landfill: Poor—cemented pan
Shallow excavations: Severe—cemented pan, cutbanks cave
Local roads and streets: Moderate—cemented pan, slope
Pond reservoir areas: Severe—seepage, cemented pan, slope
Embankments, dikes, and levees: Severe—seepage, excess salt
Sand: Probable source
Gravel: Probable source

Tenabo Soil

Range seeding: Poor—too arid, droughty, excess sodium
Roadfill: Poor—cemented pan
Topsoil: Poor—cemented pan, small stones, too sandy
Daily cover for landfill: Poor—cemented pan, seepage, too sandy
Shallow excavations: Severe—cemented pan, cutbanks cave
Local roads and streets: Severe—cemented pan
Pond reservoir areas: Severe—seepage, cemented pan
Embankments, dikes, and levees: Severe—seepage, excess sodium, excess salt
Sand: Probable source
Gravel: Probable source

Desatoya Variant Soil

Range seeding: Poor—small stones
Roadfill: Fair—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave, slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—seepage, slope
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Interpretive Groups

Land capability classification: Blackhawk and Tenabo soils—IVe, irrigated, and VIIs, nonirrigated; Desatoya Variant soil—VIIs, nonirrigated
Range site: Blackhawk and Tenabo soils—024X002N; Desatoya Variant soil—024X030N; Inclusion 1—024X030N; Inclusion 2—024X045N; Inclusion 3—027X008N

231—Broyles very fine sandy loam, 2 to 4 percent slopes

Positions on landscape: Fan skirts

Composition

Major component:

Broyles very fine sandy loam, 2 to 4 percent slopes—85 percent

Contrasting inclusions:

Entic Durorthids, coarse-loamy, mixed, mesic, 2 to 4 percent slopes—5 percent

Creemon silt loam, 2 to 4 percent slopes—5 percent

Orovada fine sandy loam, 2 to 4 percent slopes—5 percent

Characteristics of the Broyles Soil

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Thin loess mantle over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,100 to 5,600 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 11 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 11 to 60 inches

Texture: Stratified loam to gravelly loamy sand

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 6.2 to 7.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Entic Durorthids, coarse-loamy, mixed, mesic

Positions on landscape: Adjoining fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 2

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: The lower fan skirt margins near old channels

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—small stones

Daily cover for landfill: Fair—too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Broyles soil—IIe, irrigated, and VIIc, nonirrigated

Range site: Broyles soil—024X002N; Inclusions 1 and 2—024X002N; Inclusion 3—024X020N

235—Broyles-Creemon association

Positions on landscape: Fan skirts

Composition

Major components:

Broyles silt loam, 0 to 2 percent slopes—45 percent
 Creemon silt loam, 0 to 2 percent slopes—40 percent

Contrasting inclusions:

Bubus very fine sandy loam, 0 to 2 percent slopes—7 percent
 Beoska silt loam, 0 to 2 percent slopes—6 percent
 Xerollic Camborthids, loamy-skeletal, mixed, mesic, 0 to 2 percent slopes—2 percent

Characteristics of the Broyles Soil

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The higher fan skirts

Parent material: Thin loess mantle over mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,100 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 11 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 11 to 60 inches

Texture: Stratified loam to gravelly loamy sand

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 6.2 to 7.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Creemon Soil

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: The lower fan skirts

Parent material: Mixed silty alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 5,100 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Depth: 0 to 7 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 18 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 18 to 60 inches

Texture: Stratified very fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 10 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: The lower channeled margins of adjacent alluvial flats

Distinctive present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Inclusion 2

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Adjacent to the lower fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 3

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, Indian ricegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Broyles Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Creemon Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Broyles Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—small stones

Daily cover for landfill: Fair—too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Creemon Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Creemon Soil

Drainage: Deep to water

Irrigation: Erodes easily, excess salt

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Broyles soil—II_s, irrigated, and VII_c, nonirrigated; Creemon soil—II_c, irrigated, and VII_c, nonirrigated

Range site: Broyles and Creemon soils—024X002N; Inclusion 1—024X003N; Inclusion 2—024X002N; Inclusion 3—024X020N

236—Broyles association

Positions on landscape: Fan skirts

Composition

Major components:

Broyles very fine sandy loam, 2 to 8 percent slopes—45 percent

Broyles very fine sandy loam, moderately saline, 2 to 4 percent slopes—40 percent

Contrasting inclusions:

Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic, 2 to 8 percent slopes—5 percent

Creemon very fine sandy loam, 2 to 8 percent slopes—5 percent

Orovada fine sandy loam, 2 to 8 percent slopes—5 percent

Characteristics of the Broyles Soil

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Thin loess mantle over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,100 to 5,600 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 13 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 13 to 60 inches

Texture: Stratified loam to gravelly loamy sand

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 6.2 to 7.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Broyles Soil, Moderately Saline

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The lower fan skirt margins near alluvial flats

Parent material: Thin loess mantle over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,100 to 5,600 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, black greasewood, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 5 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 10 to 20

Depth: 5 to 11 inches

Texture: Silt loam, very fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 10 to 20

Depth: 11 to 60 inches

Texture: Stratified loam to gravelly loamy sand

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 6.1 to 7.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Inset fans on the lower part of fan skirts

Distinctive present vegetation: Wyoming big sagebrush, black greasewood, basin wildrye

Inclusion 2

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Convex, lower fan skirt margins

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans on the upper part of fan skirts

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, Indian ricegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Broyles Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Broyles Soil, Moderately Saline

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Broyles Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—small stones

Daily cover for landfill: Fair—too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Broyles Soil, Moderately Saline

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—small stones, excess salt

Daily cover for landfill: Fair—too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Broyles soil—IIIe, irrigated, and VIIc, nonirrigated; Broyles soil, moderately saline—IIIs, irrigated, and VIIs, nonirrigated

Range site: Broyles soil—024X002N; Broyles soil, moderately saline—024X003N; Inclusion 1—024X022N; Inclusion 2—024X002N; Inclusion 3—024X020N

237—Broyles-Beoska-Orovada association

Positions on landscape: Fan piedmonts, fan skirts

Composition

Major components:

Broyles very fine sandy loam, 2 to 4 percent slopes—40 percent

Beoska very fine sandy loam, 2 to 8 percent slopes—30 percent

Orovada fine sandy loam, 2 to 8 percent slopes—20 percent

Contrasting inclusions:

Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—5 percent

Tenabo very fine sandy loam, 2 to 8 percent slopes—5 percent

Characteristics of the Broyles Soil

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Thin loess mantle over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,100 to 6,000 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 11 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 11 to 60 inches

Texture: Stratified loam to gravelly loamy sand

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 6.2 to 7.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Beoska Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants

Parent material: Loess over loamy and gravelly mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,100 to 6,000 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 13 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 13 to 24 inches

Texture: Silty clay loam, silt loam

Structure: Prismatic

Consistence: Hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 24 to 55 inches

Texture: Gravelly very fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 55 to 60 inches

Texture: Very gravelly fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 7.8 to 9.7 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,100 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 20 to 60 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 8.4 to 9.6 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Adjacent to channels

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, bottlebrush squirreltail

Inclusion 2

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow

Positions on landscape: The higher fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Broyles Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Beoska Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Broyles Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—small stones

Daily cover for landfill: Fair—too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Beoska Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess salt

Daily cover for landfill: Poor—small stones

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Broyles soil—IIe, irrigated, and VIIc, nonirrigated; Beoska soil—IIIe, irrigated, and VIIs, nonirrigated; Orovada soil—IIIe, irrigated, and VIc, nonirrigated

Range site: Broyles and Beoska soils—024X002N; Orovada soil—028B010N; Inclusion 1—024X020N; Inclusion 2—024X002N

239—Broyles-Tessfive-Perlor association

Positions on landscape: Low, rolling hills

Composition

Major components:

Broyles very fine sandy loam, 4 to 8 percent slopes—40 percent

Tessfive gravelly loam, 2 to 8 percent slopes—25 percent

Perlor fine sandy loam, 8 to 15 percent slopes—20 percent

Contrasting inclusions:

Duric Camborthids, coarse-loamy, mixed, mesic, 4 to 8 percent slopes—7 percent

Puett fine sandy loam, 15 to 30 percent slopes—6 percent

Orovada fine sandy loam, 0 to 2 percent slopes—2 percent

Characteristics of the Broyles Soil

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans between hills

Parent material: Thin loess mantle over mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,700 to 5,900 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile*Depth:* 0 to 13 inches*Texture:* Very fine sandy loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Moderately alkaline*Salinity:* 2 to 4 millimhos per centimeter*Sodicity (SAR):* 2 to 10*Depth:* 13 to 60 inches*Texture:* Stratified loam to gravelly loamy sand*Structure:* Massive*Consistence:* Hard, friable*Reaction:* Strongly alkaline*Salinity:* 8 to 16 millimhos per centimeter*Sodicity (SAR):* 25 to 46**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderately rapid*Available water capacity:* 6.2 to 7.5 inches*Water-supplying capacity:* 7 inches*Runoff:* Slow*Hydrologic group:* B*Erosion factors (upper layer):* K value—0.55; T value—5; wind erodibility group—3*Hazard of erosion:* By water—slight; by wind—severe*Shrink-swell potential:* Low*Corrosivity:* To steel—high; to concrete—moderate*Potential for frost action:* Low**Characteristics of the Tessfive Soil***Classification:* Lithic Xeric Torriorthents, loamy, mixed (calcareous), mesic*Positions on landscape:* Crests and shoulder slopes of rolling hills*Parent material:* Residuum that is derived from tuffaceous sediment and includes loess*Slope:* 2 to 8 percent*Elevation:* 5,700 to 5,900 feet*Average annual precipitation:* About 8 inches*Average annual air temperature:* About 49 degrees F*Frost-free season:* About 120 days*Dominant present vegetation:* Indian ricegrass, bluegrass, black sagebrush**Typical Profile***Rock fragments on surface:* 35 percent pebbles*Depth:* 0 to 6 inches*Texture:* Gravelly loam*Structure:* Platy*Consistence:* Soft, very friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 6 to 16 inches*Texture:* Gravelly loam*Structure:* Subangular blocky*Consistence:* Slightly hard, friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 16 inches*Material:* Unweathered bedrock**Soil and Water Features***Depth to bedrock:* 10 to 20 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderate*Available water capacity:* 1.8 to 2.4 inches*Water-supplying capacity:* 8 inches*Runoff:* Medium*Hydrologic group:* D*Erosion factors (upper layer):* K value—0.24; T value—1; wind erodibility group—5*Hazard of erosion:* By water—slight; by wind—slight*Shrink-swell potential:* Low*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Moderate**Characteristics of the Perlor Soil***Classification:* Typic Torriorthents, loamy, mixed (calcareous), mesic, shallow*Positions on landscape:* Side slopes of rolling hills*Parent material:* Loess-capped residuum derived from tuffaceous sediment*Slope:* 8 to 15 percent*Elevation:* 5,700 to 5,900 feet*Average annual precipitation:* About 7 inches*Average annual air temperature:* About 47 degrees F*Frost-free season:* About 120 days*Dominant present vegetation:* Indian ricegrass, bluegrass, shadscale, bud sagebrush**Typical Profile***Rock fragments on surface:* 10 percent pebbles*Depth:* 0 to 7 inches*Texture:* Fine sandy loam*Structure:* Platy*Consistence:* Slightly hard, friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 7 to 14 inches*Texture:* Loam, sandy loam, gravelly sandy loam*Structure:* Subangular blocky

Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 2 to 10

Depth: 14 inches
Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 14 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 1.6 to 2.2 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Duric Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans dissecting low hills
Distinctive present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Inclusion 2

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow
Positions on landscape: Eroded escarpments of hills
Distinctive present vegetation: Black sagebrush, bluegrass, small rabbitbrush, Wyoming big sagebrush

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Adjacent to channels
Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, Indian ricegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Broyles Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Tessfive Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Perlor Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Broyles Soil

Range seeding: Poor—too arid, excess salt, excess sodium
Roadfill: Good
Topsoil: Poor—small stones
Daily cover for landfill: Fair—too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Tessfive Soil

Range seeding: Poor—droughty
Roadfill: Poor—depth to rock
Topsoil: Poor—depth to rock, small stones
Daily cover for landfill: Poor—depth to rock, small stones
Shallow excavations: Severe—depth to rock
Local roads and streets: Moderate—depth to rock, frost action
Pond reservoir areas: Severe—depth to rock
Embankments, dikes, and levees: Severe—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Perlor Soil

Range seeding: Poor—too arid, droughty
Roadfill: Poor—depth to rock
Topsoil: Poor—depth to rock, small stones
Daily cover for landfill: Poor—depth to rock
Shallow excavations: Severe—depth to rock
Local roads and streets: Moderate—depth to rock, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Broyles soil—IIIe, irrigated, and VIIc, nonirrigated; Tessfive and Perlor soils—VIIs, nonirrigated
Range site: Broyles soil—024X002N; Tessfive soil—024X030N; Perlor soil—024X002N; Inclusion 1—024X003N; Inclusion 2—025X025N; Inclusion 3—024X020N

249—Bubus association*Positions on landscape:* Basin floors**Composition***Major components:*

Bubus very fine sandy loam, slightly saline, 2 to 4 percent slopes—65 percent

Bubus very fine sandy loam, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Typic Torriorthents, sandy-skeletal, mixed, mesic, 0 to 4 percent slopes—7 percent

Batan silt loam, 0 to 2 percent slopes—5 percent

Playas—3 percent

Characteristics of the Bubus Soil, Slightly Saline*Classification:* Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic*Positions on landscape:* Convex, higher lake plain terraces*Parent material:* Mixed alluvium that is high in content of pyroclastic material*Slope:* 2 to 4 percent*Elevation:* 5,800 to 6,300 feet*Average annual precipitation:* About 7 inches*Average annual air temperature:* About 49 degrees F*Frost-free season:* About 120 days*Dominant present vegetation:* Shadscale, bud sagebrush, bottlebrush squirreltail**Typical Profile***Depth:* 0 to 6 inches*Texture:* Very fine sandy loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Moderately alkaline*Salinity:* 4 to 8 millimhos per centimeter*Sodicity (SAR):* 5 to 13*Depth:* 6 to 60 inches*Texture:* Stratified sandy loam to silt loam*Structure:* Massive*Consistence:* Slightly hard, very friable*Reaction:* Strongly alkaline*Salinity:* 16 to 30 millimhos per centimeter*Sodicity (SAR):* 25 to 46**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderate*Available water capacity:* 9 to 10 inches*Water-supplying capacity:* 7 inches*Runoff:* Slow*Hydrologic group:* B*Erosion factors (upper layer):* K value—0.49; T value—5; wind erodibility group—3*Hazard of erosion:* By water—slight; by wind—severe*Shrink-swell potential:* Low*Corrosivity:* To steel—high; to concrete—high*Potential for frost action:* Low**Characteristics of the Bubus Soil***Classification:* Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic*Positions on landscape:* Concave, lower lake plain terraces*Parent material:* Mixed alluvium that is high in content of pyroclastic material*Slope:* 0 to 2 percent*Elevation:* 5,800 to 6,200 feet*Average annual precipitation:* About 7 inches*Average annual air temperature:* About 49 degrees F*Frost-free season:* About 120 days*Dominant present vegetation:* Shadscale, black greasewood, bottlebrush squirreltail**Typical Profile***Depth:* 0 to 6 inches*Texture:* Very fine sandy loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Moderately alkaline*Salinity:* 8 to 16 millimhos per centimeter*Sodicity (SAR):* 5 to 13*Depth:* 6 to 60 inches*Texture:* Stratified sandy loam to silt loam*Structure:* Massive*Consistence:* Slightly hard, very friable*Reaction:* Strongly alkaline*Salinity:* 16 to 30 millimhos per centimeter*Sodicity (SAR):* 46 to 60**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderate*Available water capacity:* 9 to 10 inches*Water-supplying capacity:* 7 inches*Runoff:* Slow*Hydrologic group:* B*Erosion factors (upper layer):* K value—0.49; T value—5; wind erodibility group—3*Hazard of erosion:* By water—slight; by wind—severe*Shrink-swell potential:* Low*Corrosivity:* To steel—high; to concrete—high*Potential for frost action:* Low

Contrasting Inclusions

Inclusion 1

Classification: Typic Torriorthents, sandy-skeletal, mixed, mesic

Positions on landscape: Offshore bars

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 2

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats adjacent to areas of Playas

Distinctive present vegetation: Shadscale, black greasewood, bud sagebrush, bottlebrush squirreltail

Inclusion 3

Positions on landscape: Irregularly shaped sink areas

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Bubus Soil, Slightly Saline

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Bubus Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Bubus Soil, Slightly Saline

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Bubus Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Bubus soil, slightly saline—IIc, irrigated, and VIIc, nonirrigated; Bubus soil—VIIs, nonirrigated

Range site: Bubus soil, slightly saline—024X002N; Bubus soil—024X003N; Inclusion 1—024X002N; Inclusion 2—024X003N; Inclusion 3—none

260—Umbreland-Wendane association

Positions on landscape: Lake plains, alluvial flats

Composition

Major components:

Umbreland silt loam, 0 to 2 percent slopes—50 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—40 percent

Contrasting inclusions:

Wendane silt loam, occasionally flooded, 0 to 2 percent slopes—7 percent

Wendane silt loam, strongly sodic, 0 to 2 percent slopes—3 percent

Characteristics of the Umbreland Soil

Classification: Aeric Halaquepts, fine, montmorillonitic (calcareous), mesic

Positions on landscape: Smooth lake plains

Parent material: Silty lacustrine sediment derived from various kinds of rock

Slope: 0 to 2 percent

Elevation: 5,500 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Black greasewood, rubber rabbitbrush, alkali sacaton, sickle saltbush

Typical Profile

Depth: 0 to 11 inches

Texture: Silt loam

Structure: Granular

Consistence: Slightly hard, friable

Reaction: Very strongly alkaline

Salinity: 25 to 40 millimhos per centimeter

Sodicity (SAR): 60 to 80

Depth: 11 to 60 inches

Texture: Clay, silty clay, silty clay loam

Structure: Angular blocky

Consistence: Hard, firm
Reaction: Very strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: 30 to 60 inches
Frequency of flooding: Rare
Permeability: Very slow
Available water capacity: 9.1 to 12.0 inches
Water-supplying capacity: 7 inches
Runoff: Very slow
Hydrologic group: D
Erosion factors (upper layer): K value—0.43; T value—5;
 wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Wendane Soil

Classification: Aeric Halaquepts, fine-silty, mixed
 (calcareous), mesic
Positions on landscape: Alluvial flats
Parent material: Silty alluvium derived from volcanic
 rock, tuff, loess, and volcanic ash
Slope: 0 to 2 percent
Elevation: 5,500 to 5,700 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, basin
 wildrye

Typical Profile

Depth: 0 to 7 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 30 to 50 millimhos per centimeter
Sodicity (SAR): 13 to 25
Depth: 7 to 18 inches
Texture: Silt loam, very fine sandy loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60
Depth: 18 to 60 inches
Texture: Stratified silt loam to clay loam
Structure: Massive
Consistence: Slightly hard, friable

Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 35

Soil and Water Features

Depth to a seasonal high water table: 30 to 48 inches
Frequency of flooding: Frequent for brief to long periods
 in February through June
Permeability: Moderately slow
Available water capacity: 11 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.55; T value—5;
 wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Aeric Halaquepts, fine-silty, mixed
 (calcareous), mesic
Positions on landscape: Slightly dissected, convex
 alluvial flats
Distinctive present vegetation: Black greasewood, inland
 saltgrass

Inclusion 2

Classification: Aeric Halaquepts, fine-silty, mixed
 (calcareous), mesic
Positions on landscape: Concave, narrow, linear areas
 bordering recent channels
Distinctive present vegetation: Silver buffaloberry, Torrey
 quailbush, basin wildrye

Major Uses

Current uses: Livestock grazing, wildlife habitat
Potential foreseeable use: Irrigated pasture

Suitability for Wildlife Habitat Elements

Umbreland Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Wendane Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Umbreland Soil

Range seeding: Poor—excess salt, excess sodium
Roadfill: Poor—low strength, shrink-swell
Topsoil: Poor—excess salt, excess sodium, too clayey

Daily cover for landfill: Poor—too clayey, hard to pack, excess salt

Shallow excavations: Moderate—too clayey, wetness

Local roads and streets: Severe—low strength, frost action, shrink-swell

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wendane Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Umberland Soil

Drainage: Percs slowly, frost action, excess salt

Irrigation: Wetness, percs slowly

Terraces and diversions: Erodes easily, wetness, percs slowly

Interpretive Groups

Land capability classification: Umberland and Wendane soils—VIIw, nonirrigated

Range site: Umberland soil—024X010N; Wendane soil—024X007N; Inclusion 1—024X011N; Inclusion 2—028B057N

261—Umberland-Wendane-Ocala association

Positions on landscape: Lake plains, alluvial flats

Composition

Major components:

Umberland silt loam, 0 to 2 percent slopes—35 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—35 percent

Ocala silt loam, rarely flooded, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Wendane silt loam, strongly sodic, 0 to 2 percent slopes—6 percent

Playas—4 percent

Characteristics of the Umberland Soil

Classification: Aerlic Halaquepts, fine, montmorillonitic (calcareous), mesic

Positions on landscape: Smooth lake plains

Parent material: Silty lacustrine sediment derived from various kinds of rock

Slope: 0 to 2 percent

Elevation: 5,500 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Black greasewood, rubber rabbitbrush, alkali sacaton, sickle saltbush

Typical Profile

Depth: 0 to 7 inches

Texture: Silt loam

Structure: Granular

Consistence: Slightly hard, friable

Reaction: Very strongly alkaline

Salinity: 25 to 40 millimhos per centimeter

Sodicity (SAR): 60 to 80

Depth: 7 to 60 inches

Texture: Clay, silty clay, silty clay loam

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Very strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: 30 to 60 inches

Frequency of flooding: Rare

Permeability: Very slow

Available water capacity: 9 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Pondered

Hydrologic group: D

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: High

Characteristics of the Wendane Soil

Classification: Aerlic Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats

Parent material: Silty alluvium derived from volcanic rock, tuff, loess, and volcanic ash

Slope: 0 to 2 percent

Elevation: 5,500 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, basin wildrye, rubber rabbitbrush, Torrey quailbush

Typical Profile

Depth: 0 to 7 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 30 to 50 millimhos per centimeter
Sodicity (SAR): 13 to 25

Depth: 7 to 18 inches
Texture: Silt loam, very fine sandy loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 18 to 60 inches
Texture: Stratified silt loam to clay loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 35

Soil and Water Features

Depth to a seasonal high water table: 30 to 48 inches
Frequency of flooding: Frequent for brief to long periods in February through June
Permeability: Moderately slow
Available water capacity: 11 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Ocala Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: Slightly dissected alluvial flats around small Playas
Parent material: Mixed silty alluvium that includes volcanic ash
Slope: 0 to 2 percent
Elevation: 5,500 to 5,700 feet
Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, rubber rabbitbrush, basin wildrye

Typical Profile

Depth: 0 to 4 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Very strongly alkaline
Salinity: 40 to 50 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 4 to 16 inches
Texture: Silt loam, silty clay loam
Structure: Massive
Consistence: Hard, brittle
Reaction: Strongly alkaline
Salinity: 25 to 40 millimhos per centimeter
Sodicity (SAR): 25 to 46

Depth: 16 to 60 inches
Texture: Silt loam, silty clay loam
Structure: Massive
Consistence: Very hard, very firm
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: 42 to 60 inches
Frequency of flooding: Rare
Permeability: Slow
Available water capacity: 10 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: Concave, narrow areas adjacent to channels
Distinctive present vegetation: Silver buffaloberry, Torrey quailbush, basin wildrye

Inclusion 2

Positions on landscape: Small, irregularly shaped sink areas

Distinctive present vegetation: None

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Irrigated pasture

Suitability for Wildlife Habitat Elements

Umberland Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wendane Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Ocala Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Umberland Soil

Range seeding: Poor—excess salt, excess sodium, too crusty

Roadfill: Poor—low strength, shrink-swell

Topsoil: Poor—excess salt, excess sodium, too clayey

Daily cover for landfill: Poor—too clayey, hard to pack, excess salt

Shallow excavations: Moderate—too clayey, wetness

Local roads and streets: Severe—low strength, frost action, shrink-swell

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wendane Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Ocala Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess sodium

Shallow excavations: Moderate—wetness

Local roads and streets: Severe—low strength, frost action

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Umberland Soil

Drainage: Percs slowly, frost action, excess salt

Irrigation: Wetness, percs slowly

Terraces and diversions: Erodes easily, wetness, percs slowly

Interpretive Groups

Land capability classification: Umberland, Wendane, and Ocala soils—VIIw, nonirrigated

Range site: Umberland soil—024X010N; Wendane soil—024X007N; Ocala soil—024X011N; Inclusion 1—028B057N; Inclusion 2—none

262—Umberland silt loam, frequently flooded, 0 to 2 percent slopes

Positions on landscape: Alluvial flats

Composition

Major component:

Umberland silt loam, frequently flooded, 0 to 2 percent slopes—90 percent

Contrasting inclusions:

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—6 percent

Needle Peak silt loam, occasionally flooded, 0 to 2 percent slopes—3 percent

Wendane silt loam, strongly sodic, 0 to 2 percent slopes—1 percent

Characteristics of the Umberland Soil

Classification: Aeric Halaquepts, fine, montmorillonitic (calcareous), mesic

Positions on landscape: Alluvial flats

Parent material: Silty lacustrine sediment derived from various kinds of rock

Slope: 0 to 2 percent

Elevation: 5,500 to 5,600 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Alkali sacaton, alkali cordgrass, inland saltgrass

Typical Profile

Depth: 0 to 7 inches

Texture: Silt loam

Structure: Granular

Consistence: Slightly hard, friable
Reaction: Very strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 40

Depth: 7 to 60 inches
Texture: Silty clay, silty clay loam
Structure: Angular blocky
Consistence: Hard, firm
Reaction: Very strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: 30 to 60 inches
Frequency of flooding: Frequent for long periods in December through June
Permeability: Very slow
Available water capacity: 10 to 12 inches
Water-supplying capacity: 11 inches
Runoff: Very slow
Hydrologic group: D
Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: Convex alluvial flats
Distinctive present vegetation: Black greasewood, basin wildrye

Inclusion 2

Classification: Aquic Torriorthents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Fan skirts over alluvial flats
Distinctive present vegetation: Basin big sagebrush, black greasewood, basin wildrye

Inclusion 3

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: Narrow linear areas adjacent to recent channels
Distinctive present vegetation: Silver buffaloberry, Torrey quailbush, basin wildrye

Major Uses

Current uses: Livestock grazing, wildlife habitat
Potential foreseeable use: Irrigated pasture

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—excess salt, excess sodium
Roadfill: Poor—low strength, shrink-swell
Topsoil: Poor—excess salt, excess sodium, too clayey
Daily cover for landfill: Poor—too clayey, hard to pack, excess salt
Shallow excavations: Moderate—too clayey, wetness, flooding
Local roads and streets: Severe—low strength, flooding, shrink-swell
Pond reservoir areas: Slight
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Drainage: Percs slowly, frost action, flooding
Irrigation: Wetness, percs slowly
Terraces and diversions: Erodes easily, wetness, percs slowly

Interpretive Groups

Land capability classification: Umberland soil—VIIw, nonirrigated
Range site: Umberland soil—028B002N; Inclusion 1—024X007N; Inclusion 2—024X006N; Inclusion 3—028B057N

270—Tomel-Laxal association

Positions on landscape: Fan piedmonts

Composition

Major components:
 Tomel very gravelly sandy loam, 2 to 8 percent slopes—60 percent
 Laxal gravelly loam, 2 to 8 percent slopes—30 percent
Contrasting inclusions:
 Izo gravelly sandy loam, 4 to 8 percent slopes—5 percent
 Entic Durorthids, loamy-skeletal, mixed, mesic, 4 to 8 percent slopes—5 percent

Characteristics of the Tomel Soil

Classification: Typic Durargids, loamy-skeletal, mixed, mesic, shallow
Positions on landscape: Fan piedmont remnants
Parent material: Alluvium derived from limestone, shale, and chert

Slope: 2 to 8 percent
Elevation: 5,600 to 6,200 feet
Average annual precipitation: About 6 inches
Average annual air temperature: About 51 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Galleta, bottlebrush squirreltail, shadscale, Bailey greasewood

Typical Profile

Rock fragments on surface: 65 percent pebbles
Depth: 0 to 3 inches
Texture: Very gravelly sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 3 to 12 inches
Texture: Very gravelly clay loam, very gravelly sandy clay loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Very strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 12 to 27 inches
Material: Indurated hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm
Depth: 27 to 60 inches
Texture: Extremely gravelly sand
Structure: Massive
Consistence: Extremely hard, extremely firm
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to the hardpan: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 0.8 to 1.4 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Laxal Soil

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Inset fans
Parent material: Alluvium derived from shale and volcanic rock
Slope: 2 to 8 percent
Elevation: 5,600 to 6,200 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 130 days
Dominant present vegetation: Shadscale, Bailey greasewood, galleta

Typical Profile

Depth: 0 to 10 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 10 to 60 inches
Texture: Stratified very gravelly sandy loam to very gravelly loamy coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 8 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderately rapid
Available water capacity: 2.7 to 5.0 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Typic Torriorthents, sandy-skeletal, mixed, mesic
Positions on landscape: Areas adjacent to active channels

Distinctive present vegetation: Basin big sagebrush, burrobrush, bluegrass

Inclusion 2

Classification: Entic Durorthids, loamy-skeletal, mixed, mesic

Positions on landscape: Convex, higher areas on fan piedmont remnants

Distinctive present vegetation: Black sagebrush, Indian ricegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Tomel Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Laxal Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Tomel Soil

Range seeding: Poor—too arid, droughty, small stones

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, too sandy, small stones

Daily cover for landfill: Poor—cemented pan, seepage, too sandy

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—seepage, cemented pan

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Probable source

Gravel: Probable source

Laxal Soil

Range seeding: Poor—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—flooding

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Tomel soil—VIIs, nonirrigated; Laxal soil—IVe, irrigated, and VIIs, nonirrigated

Range site: Tomel and Laxal soils—029X017N;

Inclusion 1—029X009N; Inclusion 2—029X008N

280—Chiara-Filiran association

Positions on landscape: Fan piedmonts

Composition

Major components:

Chiara gravelly loam, 2 to 8 percent slopes—45 percent
Filiran very gravelly loam, 2 to 4 percent slopes—40 percent

Contrasting inclusions:

Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—7 percent

Entic Durorthids, loamy, mixed, mesic, shallow, 2 to 4 percent slopes—4 percent

Duric Camborthids, loamy-skeletal, mixed, mesic, 15 to 50 percent slopes—4 percent

Characteristics of the Chiara Soil

Classification: Xerollic Durorthids, loamy, mixed, mesic, shallow

Positions on landscape: The higher summits of fan piedmont remnants

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,200 to 5,700 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 16 inches

Texture: Silt loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Depth: 16 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Soil and Water Features

Depth to the hardpan: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 2.3 to 2.7 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Filiran Soil

Classification: Haploxerollic Nadurargids, fine, montmorillonitic, mesic

Positions on landscape: The lower, broad summits of slightly dissected fan piedmont remnants

Parent material: Loess over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,200 to 5,700 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 7 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 12 inches

Texture: Gravelly silt loam

Structure: Platy

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 33 inches

Texture: Clay, gravelly clay

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 33 to 60 inches

Material: Cemented hardpan

Soil and Water Features

Depth to the hardpan: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 4.5 to 5.5 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—2; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Concave, narrow inset fans

Distinctive present vegetation: Wyoming big sagebrush, bluegrass, Thurber needlegrass

Inclusion 2

Classification: Entic Durorthids, loamy, mixed, mesic, shallow

Positions on landscape: Toe slopes of fan piedmont remnants at the lower elevations

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 3

Classification: Duric Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush, shadscale, bluegrass, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Chiara Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Filiran Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses**Chiara Soil**

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Filiran Soil

Range seeding: Poor—small stones, excess sodium

Roadfill: Poor—cemented pan, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones, excess sodium

Daily cover for landfill: Poor—cemented pan, hard to pack

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—shrink-swell, low strength

Pond reservoir areas: Moderate—cemented pan, slope

Embankments, dikes, and levees: Severe—excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Chiara soil—IVe, irrigated, and VIIs, nonirrigated; Filiran soil—VIIs, nonirrigated

Range site: Chiara and Filiran soils—028B010N;

Inclusion 1—028B010N; Inclusion 2—024X002N;

Inclusion 3—024X045N

284—Chiara-Dewar association

Positions on landscape: Fan piedmonts

Composition

Major components:

Chiara gravelly loam, 2 to 8 percent slopes—55 percent

Dewar gravelly loam, 2 to 8 percent slopes—30 percent

Contrasting inclusions:

Orovada gravelly loam, 2 to 8 percent slopes—9 percent

Typic Durargids, loamy, mixed, mesic, shallow, 2 to 8 percent slopes—3 percent

Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 8 to 15 percent slopes—3 percent

Characteristics of the Chiara Soil

Classification: Xerollic Durorthids, loamy, mixed, mesic, shallow

Positions on landscape: The lower fan piedmont remnants

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,900 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 16 inches

Texture: Silt loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Depth: 16 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Soil and Water Features

Depth to the hardpan: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 2.2 to 2.7 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Dewar Soil

Classification: Xerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: The higher fan piedmont remnants

Parent material: Loess and mixed silty alluvium that include volcanic ash

Slope: 2 to 8 percent
Elevation: 5,900 to 6,200 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 47 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush,
 Indian ricegrass

Typical Profile

Depth: 0 to 4 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter

Depth: 4 to 14 inches
Texture: Gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter

Depth: 14 to 50 inches
Material: Indurated hardpan
Structure: Platy
Consistence: Extremely hard, extremely firm

Soil and Water Features

Depth to the hardpan: 13 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.7 to 2.3 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.37; T value—1; wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Wyoming big sagebrush, Thurber needlegrass, bluegrass

Inclusion 2

Classification: Typic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: Convex, dissected fan aprons
Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 3

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Toe slopes of fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush, needlegrass, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Chiara Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Dewar Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Chiara Soil

Range seeding: Poor—droughty
Roadfill: Poor—cemented pan
Topsoil: Poor—cemented pan
Daily cover for landfill: Poor—cemented pan
Shallow excavations: Severe—cemented pan
Local roads and streets: Severe—cemented pan
Pond reservoir areas: Severe—cemented pan
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Dewar Soil

Range seeding: Poor—droughty
Roadfill: Poor—cemented pan
Topsoil: Poor—cemented pan, small stones
Daily cover for landfill: Poor—cemented pan
Shallow excavations: Severe—cemented pan
Local roads and streets: Severe—cemented pan
Pond reservoir areas: Severe—cemented pan
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Chiara and Dewar soils—IVe, irrigated, and VIIs, nonirrigated
Range site: Chiara and Dewar soils—028B010N; Inclusion 1—028B010N; Inclusion 2—028B017N; Inclusion 3—028B010N

290—Creemon silt loam, 0 to 2 percent slopes

Positions on landscape: Fan skirts, the lower fan piedmonts

Composition

Major component:

Creemon silt loam, 0 to 2 percent slopes—85 percent

Contrasting inclusions:

Broyles very fine sandy loam, 0 to 2 percent slopes—5 percent

Relley silt loam, 0 to 2 percent slopes—5 percent

Wholan very fine sandy loam, 0 to 2 percent slopes—5 percent

Characteristics of the Creemon Soil

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Mixed silty alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 5,100 to 6,200 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Depth: 0 to 10 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 10 to 15 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 15 to 60 inches

Texture: Stratified very fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 10 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The higher fan skirt margins

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 2

Classification: Duric Camborthids, fine-silty, mixed, mesic

Positions on landscape: The lower fan skirt margins

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 3

Classification: Typic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Fan aprons, inset fans

Distinctive present vegetation: Winterfat, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Drainage: Deep to water

Irrigation: Erodes easily, excess salt
Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Creemon soil—IIc, irrigated, and VIIc, nonirrigated
Range site: Creemon soil—024X002N; Inclusions 1 and 2—024X002N; Inclusion 3—024X004N

291—Creemon-Wholan association

Positions on landscape: Fan skirts, the lower fan piedmonts

Composition

Major components:
 Creemon silt loam, 0 to 2 percent slopes—50 percent
 Wholan silt loam, 0 to 2 percent slopes—20 percent
 Wholan silt loam, alkaline, 0 to 2 percent slopes—15 percent
Contrasting inclusions:
 Caphor very fine sandy loam, 0 to 2 percent slopes—7 percent
 Batan silt loam, 0 to 2 percent slopes—4 percent
 Rasille silt loam, 0 to 2 percent slopes—4 percent

Characteristics of the Creemon Soil

Classification: Duric Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Smooth fan skirts
Parent material: Mixed silty alluvium that includes volcanic ash
Slope: 0 to 2 percent
Elevation: 5,600 to 5,800 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Depth: 0 to 10 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 10 to 15 inches
Texture: Silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10
Depth: 15 to 60 inches
Texture: Stratified very fine sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 10 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Wholan Soil

Classification: Typic Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Smooth inset fans
Parent material: Loess mantle over silty alluvium
Slope: 0 to 2 percent
Elevation: 5,600 to 5,800 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, bluegrass, winterfat

Typical Profile

Depth: 0 to 13 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 13 to 60 inches
Texture: Silt loam, very fine sandy loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 10 to 11 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Wholan Soil, Alkaline

Classification: Typic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Slightly dissected

Parent material: Loess mantle over silty alluvium

Slope: 0 to 2 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, bluegrass, winterfat

Typical Profile

Depth: 0 to 13 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 13 to 60 inches

Texture: Silt loam, very fine sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 10 to 11 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Fan skirts

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 2

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Adjacent alluvial flat remnants near the lower lying areas

Distinctive present vegetation: Shadscale, black greasewood

Inclusion 3

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Shallow fan drainageways

Distinctive present vegetation: Wyoming big sagebrush, bluegrass, needlegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Creemon Soil**

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wholan Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Wholan Soil, Alkaline

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses**Creemon Soil**

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Wholan Soil

Range seeding: Poor—too arid
Roadfill: Good
Topsoil: Poor—excess salt
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—flooding
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Wholan Soil, Alkaline

Range seeding: Poor—too arid
Roadfill: Good
Topsoil: Poor—excess salt
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—flooding
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Creemon Soil

Drainage: Deep to water
Irrigation: Erodes easily, excess salt
Terraces and diversions: Erodes easily

Wholan Soil

Drainage: Deep to water
Irrigation: Erodes easily
Terraces and diversions: Erodes easily

Wholan Soil, Alkaline

Drainage: Deep to water
Irrigation: Erodes easily
Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Creemon, Wholan, and Wholan, alkaline, soils—IIc, irrigated, and VIIc, nonirrigated
Range site: Creemon soil—024X002N; Wholan soil—024X004N; Wholan soil, alkaline—024X012N; Inclusion 1—028B017N; Inclusion 2—024X003N; Inclusion 3—028B010N

295—Creemon-Cren association

Positions on landscape: Fan skirts, the lower fan piedmonts

Composition

Major components:

Creemon silt loam, 0 to 2 percent slopes—55 percent
 Cren silt loam, 0 to 2 percent slopes—30 percent

Contrasting inclusions:

Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent
 Typic Torriorthents, coarse-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent
 Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Characteristics of the Creemon Soil

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Mixed silty alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 5,200 to 6,100 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Depth: 0 to 10 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 10 to 15 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 15 to 60 inches

Texture: Stratified very fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate
Available water capacity: 10 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5;
 wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Cren Soil

Classification: Durorthidic Torriorthents, coarse-silty, mixed (calcareous), mesic
Positions on landscape: Inset fans
Parent material: Mixed alluvium that includes volcanic ash
Slope: 0 to 2 percent
Elevation: 5,200 to 6,100 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Depth: 0 to 7 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 7 to 26 inches
Texture: Silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 26 to 60 inches
Texture: Silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate

Available water capacity: 11 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5;
 wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic
Positions on landscape: Fan drainageways
Distinctive present vegetation: Basin big sagebrush, black greasewood, basin wildrye

Inclusion 2

Classification: Typic Torriorthents, coarse-silty, mixed (calcareous), mesic
Positions on landscape: The lower margins of fan skirts
Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic
Positions on landscape: Active channel banks
Distinctive present vegetation: Big sagebrush, black greasewood, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Creemon Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Cren Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Creemon Soil

Range seeding: Poor—too arid, excess salt
Roadfill: Good
Topsoil: Poor—thin layer
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Slight
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—piping, excess salt
Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Cren Soil

Range seeding: Poor—too arid

Roadfill: Good

Topsoil: Fair—thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Creemon Soil

Drainage: Deep to water

Irrigation: Erodes easily, excess salt

Terraces and diversions: Erodes easily

Cren Soil

Drainage: Deep to water

Irrigation: Erodes easily, excess salt

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Creemon and Cren soils—IIc, irrigated, and VIIc, nonirrigated

Range site: Creemon and Cren soils—024X002N; Inclusion 1—024X006N; Inclusion 2—024X003N; Inclusion 3—024X041N

296—Creemon-Hessing association

Positions on landscape: Fan skirts, the lower fan piedmonts

Composition

Major components:

Creemon silt loam, 0 to 2 percent slopes—65 percent

Hessing silt loam, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Durixerollic Camborthids, coarse-silty, mixed, mesic, 0 to 2 percent slopes—8 percent

Duric Camborthids, coarse-loamy, mixed, mesic, 0 to 2 percent slopes—4 percent

Typic Camborthids, loamy-skeletal, mixed, mesic, 0 to 4 percent slopes—3 percent

Characteristics of the Creemon Soil

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Convex fan skirts

Parent material: Mixed silty alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 5,100 to 5,600 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Depth: 0 to 10 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 10 to 15 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 15 to 60 inches

Texture: Stratified very fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 10 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Hessing Soil

Classification: Typic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Broad inset fans

Parent material: Loess and silty alluvium that include volcanic ash

Slope: 0 to 2 percent

Elevation: 5,100 to 5,600 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Bottlebrush squirreltail,
 Indian ricegrass, shadscale, bud sagebrush

Typical Profile

Depth: 0 to 4 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 4 to 11 inches
Texture: Silty clay loam, silt loam
Structure: Subangular blocky
Consistence: Hard, friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 11 to 18 inches
Texture: Very fine sandy loam, silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 18 to 30 inches
Texture: Gravelly loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 10 to 25

Depth: 30 to 60
Texture: Very gravelly sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 6.4 to 7.5 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—3; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Channel banks
Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, bottlebrush squirreltail

Inclusion 2

Classification: Duric Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Fan skirt margins
Distinctive present vegetation: Shadscale, winterfat, bud sagebrush

Inclusion 3

Classification: Typic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Channels
Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Creemon Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Hessing Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Creemon Soil

Range seeding: Poor—too arid, excess salt
Roadfill: Good
Topsoil: Poor—thin layer
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Slight
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—piping, excess salt
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Hessing Soil

Range seeding: Poor—too arid
Roadfill: Good

Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—seepage, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage, excess salt
Sand: Probable source
Gravel: Probable source

Restrictive Features for Selected Practices

Creemon Soil

Drainage: Deep to water
Irrigation: Erodes easily, excess salt
Terraces and diversions: Erodes easily

Hessing Soil

Drainage: Deep to water
Irrigation: Erodes easily, excess salt
Terraces and diversions: Erodes easily, too sandy

Interpretive Groups

Land capability classification: Creemon soil—IIc, irrigated, and VIIc, nonirrigated; Hessing soil—IIs, irrigated, and VIIs, nonirrigated
Range site: Creemon and Hessing soils—024X002N; Inclusion 1—024X020N; Inclusion 2—024X014N; Inclusion 3—024X002N

297—Creemon-Rasille-Tulase association

Positions on landscape: Fan skirts, the lower fan piedmonts

Composition

Major components:

Creemon silt loam, 0 to 2 percent slopes—45 percent
 Rasille very fine sandy loam, 0 to 2 percent slopes—20 percent
 Tulase very fine sandy loam, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Batan very fine sandy loam, 0 to 2 percent slopes—5 percent
 Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent
 Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 0 to 4 percent slopes—5 percent

Characteristics of the Creemon Soil

Classification: Duric Camborthids, coarse-silty, mixed, mesic
Positions on landscape: The lower fan skirts
Parent material: Mixed silty alluvium that includes volcanic ash

Slope: 0 to 2 percent
Elevation: 5,600 to 5,800 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Depth: 0 to 10 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 10 to 15 inches
Texture: Silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 2 to 10
Depth: 15 to 60 inches
Texture: Stratified very fine sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 10 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Rasille Soil

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Concave inset fans
Parent material: Silty alluvium derived from loess and various kinds of rock
Slope: 0 to 2 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 6 to 15 inches

Texture: Silt loam

Structure: Prismatic

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 15 to 60 inches

Texture: Silt loam, very fine sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 10 to 12 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Tulase Soil

Classification: Durorthidic Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic

Positions on landscape: The upper fan skirts

Parent material: Mixed silty alluvium that includes loess and volcanic ash

Slope: 0 to 2 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, bluegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 6 to 60 inches

Texture: Very fine sandy loam, silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 10 to 12 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Convex, lower fan skirt margins

Distinctive present vegetation: Shadscale

Inclusion 2

Classification: Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Big sagebrush, bluegrass, rabbitbrush

Inclusion 3

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Adjacent remnant beaches and offshore bars

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Creemon Soil**

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Rasille Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Tulase Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Creemon Soil**

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Rasille Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Tulase Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Good

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices**Creemon Soil**

Drainage: Deep to water

Irrigation: Erodes easily, excess salt

Terraces and diversions: Erodes easily

Rasille Soil

Drainage: Deep to water

Irrigation: Soil blowing, erodes easily

Terraces and diversions: Erodes easily, soil blowing

Tulase Soil

Drainage: Deep to water

Irrigation: Erodes easily

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Creemon soil—IIc, irrigated, and VIIc, nonirrigated; Rasille and Tulase soils—IIc, irrigated, and VIc, nonirrigated

Range site: Creemon soil—024X003N; Rasille soil—024X0041N; Tulase soil—024X020N; Inclusion 1—024X003N; Inclusion 2—024X041N; Inclusion 3—024X020N

298—Creemon-Misad association

Positions on landscape: Bolson floors

Composition

Major components:

Creemon silt loam, 0 to 2 percent slopes—60 percent
Misad gravelly sandy loam, 2 to 4 percent slopes—25 percent

Contrasting inclusions:

Broyles very fine sandy loam, 0 to 2 percent slopes—5 percent

Batan silt loam, 0 to 2 percent slopes—5 percent

Orovada fine sandy loam, 0 to 2 percent slopes—3 percent

Durorthidic Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—2 percent

Characteristics of the Creemon Soil

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Smooth beach plain terraces

Parent material: Mixed silty alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Depth: 0 to 10 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 10 to 15 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 15 to 45 inches

Texture: Stratified very fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 45 to 60 inches

Texture: Stratified gravelly very fine sandy loam to fine sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 10 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Misad Soil

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Offshore bars

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 4 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Typical Profile

Depth: 0 to 7 inches

Texture: Gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 31 inches

Texture: Stratified fine sandy loam to very gravelly sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 31 to 60 inches

Texture: Stratified very gravelly loamy sand to extremely gravelly coarse sand

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 3.0 to 4.2 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Adjacent fan skirts

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 2

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats between bars

Distinctive present vegetation: Shadscale, black greasewood, bud sagebrush

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Channels

Dominant present vegetation: Wyoming big sagebrush, spiny hopsage, bottlebrush squirreltail

Inclusion 4

Classification: Durorthidic Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic

Positions on landscape: Concave lagoons

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Creemon Soil**

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Misad Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses**Creemon Soil**

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Misad Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Restrictive Features for Selected Practices**Creemon Soil**

Drainage: Deep to water

Irrigation: Erodes easily, excess salt

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Creemon soil—IIc, irrigated, and VIIc, nonirrigated; Misad soil—IVe, irrigated, and VIIs, nonirrigated

Range site: Creemon and Misad soils—024X002N; Inclusion 1—024X002N; Inclusion 2—024X003N; Inclusions 3 and 4—024X020N

301—Cren-Ocala-Playas association

Positions on landscape: Fan skirts, bolson floors

Composition

Major components:

Cren silt loam, strongly saline-alkali, 0 to 2 percent slopes—40 percent

Ocala silt loam, rarely flooded, 0 to 2 percent slopes—30 percent

Playas—15 percent

Contrasting inclusions:

Ocala silt loam, occasionally flooded, 0 to 2 percent slopes—7 percent

Batan silt loam, 0 to 2 percent slopes—6 percent

Isolde fine sand, 4 to 30 percent slopes—2 percent

Characteristics of the Cren Soil

Classification: Durorthidic Torriorthents, coarse-silty, mixed (calcareous), mesic

Positions on landscape: Fan skirts

Parent material: Mixed alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 5,100 to 5,500 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush, black greasewood

Typical Profile

Depth: 0 to 7 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline
Salinity: 25 to 30 millimhos per centimeter
Sodicity (SAR): 13 to 25

Depth: 7 to 26 inches
Texture: Silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 16 to 25 millimhos per centimeter
Sodicity (SAR): 25 to 46

Depth: 26 to 60 inches
Texture: Silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 10 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Ocala Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: Alluvial flats
Parent material: Mixed silty alluvium that includes volcanic ash
Slope: 0 to 2 percent
Elevation: 5,100 to 5,500 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, rubber rabbitbrush, basin wildrye

Typical Profile

Depth: 0 to 4 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Very strongly alkaline

Salinity: 30 to 50 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 4 to 16 inches
Texture: Silt loam, silty clay loam
Structure: Massive
Consistence: Hard, brittle
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 46

Depth: 16 to 60 inches
Texture: Silt loam, silty clay loam
Structure: Massive
Consistence: Very hard, very firm
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: 42 to 60 inches
Frequency of flooding: Rare
Permeability: Slow
Available water capacity: 11 to 13 inches
Water-supplying capacity: 8 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Playas

Positions on landscape: Dry lake extensions; small, irregularly shaped sink areas
Slope: Less than 1 percent
Elevation: 5,100 to 5,200 feet

Contrasting Inclusions

Inclusion 1

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: The lower lake plains
Distinctive present vegetation: Black greasewood, basin wildrye

Inclusion 2

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Alluvial flat remnants
Distinctive present vegetation: Shadscale, black greasewood

Inclusion 3

Classification: Typic Torripsamments, mixed, mesic
Positions on landscape: Sand dunes

Distinctive present vegetation: Fourwing saltbush, rubber rabbitbrush, black greasewood

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Cren Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Ocala Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Cren Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Ocala Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess sodium

Shallow excavations: Moderate—wetness

Local roads and streets: Severe—low strength, frost action

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Cren Soil

Drainage: Deep to water

Irrigation: Erodes easily, excess salt, excess sodium

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Cren soil—IIs, irrigated, and VIIs, nonirrigated; Ocala soil—VIIw, nonirrigated; Playas—VIIIw, nonirrigated

Range site: Cren soil—024X003N; Ocala soil—024X011N; Playas—none; Inclusion 1—024X007N; Inclusion 2—024X003N; Inclusion 3—027X016N

310—Yobe-Kawich-Playas association

Positions on landscape: Alluvial flats

Composition

Major components:

Yobe silt loam, 0 to 2 percent slopes—45 percent

Kawich fine sand, 4 to 30 percent slopes—35 percent

Playas—10 percent

Contrasting inclusions:

Typic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—6 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—4 percent

Characteristics of the Yobe Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats

Parent material: Mixed silty lacustrine sediment

Slope: 0 to 2 percent

Elevation: 5,500 to 5,600 feet

Average annual precipitation: About 6 inches

Average annual air temperature: About 51 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Black greasewood, basin wildrye, rubber rabbitbrush, alkali sacaton

Typical Profile

Depth: 0 to 16 inches

Texture: Silt loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 25 to 40 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 16 to 60 inches

Texture: Silt loam, silty clay loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 16 to 25 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: 36 to 60 inches

Frequency of flooding: Occasional for brief to long periods in January through April

Permeability: Moderately slow

Available water capacity: 10 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Very slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Kawich Soil

Classification: Typic Torripsamments, mixed, mesic
Positions on landscape: Convex dunes over alluvial flats
Parent material: Eolian sand derived from various kinds of rock
Slope: 4 to 30 percent
Elevation: 5,500 to 5,600 feet
Average annual precipitation: About 6 inches
Average annual air temperature: About 53 degrees F
Frost-free season: About 130 days
Dominant present vegetation: Needleandthread, Indian ricegrass, fourwing saltbush, black greasewood

Typical Profile

Depth: 0 to 4 inches
Texture: Fine sand
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Depth: 4 to 42 inches
Texture: Fine sand
Structure: Single grain
Consistence: Loose
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Depth: 42 to 60 inches
Texture: Fine sand
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Very rapid
Available water capacity: 3.0 to 4.2 inches
Water-supplying capacity: 7 inches
Runoff: Very slow
Hydrologic group: A
Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—1
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Playas

Positions on landscape: Small, irregularly shaped sink areas
Slope: Less than 1 percent
Elevation: 5,500 to 5,550 feet

Contrasting Inclusions

Inclusion 1

Classification: Typic Torriorthents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Alluvial flat remnants
Distinctive present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Inclusion 2

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: The lower alluvial flats
Distinctive present vegetation: Black sagebrush, rabbitbrush, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Yobe Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor
Wetland plants: Poor
Shallow water areas: Fair

Kawich Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Yobe Soil

Range seeding: Poor—excess salt, excess sodium
Roadfill: Good
Topsoil: Poor—excess salt, excess sodium
Daily cover for landfill: Poor—excess salt, excess sodium
Shallow excavations: Moderate—wetness, flooding
Local roads and streets: Severe—low strength, flooding, frost action
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Kawich Soil

Range seeding: Poor—too arid, droughty, too sandy
Roadfill: Fair—slope
Topsoil: Poor—too sandy, slope

Daily cover for landfill: Poor—too sandy, slope
Shallow excavations: Severe—cutbanks cave, slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—seepage, slope
Embankments, dikes, and levees: Severe—seepage,
 piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Yobe soil—VIIw,
 nonirrigated; Kawich soil—VIIIs, nonirrigated;
 Playas—VIIIw, nonirrigated
Range site: Yobe soil—024X011N; Kawich soil—
 027X016N; Playas—none; Inclusion 1—024X003N;
 Inclusion 2—024X007N

320—Newpass-Jung association

Positions on landscape: Foothills

Composition

Major components:

Newpass very gravelly fine sandy loam, 15 to 30
 percent slopes, very stony—60 percent
 Jung very cobbly loam, 15 to 30 percent slopes—30
 percent

Contrasting inclusions:

Haplic Durargids, clayey-skeletal, mixed, mesic, 15 to
 30 percent slopes—5 percent
 Rock outcrop—3 percent
 Haploxerollic Durargids, fine, montmorillonitic, mesic, 8
 to 15 percent slopes—2 percent

Characteristics of the Newpass Soil

Classification: Haploxerollic Nadurargids, fine,
 montmorillonitic, mesic
Positions on landscape: North-facing side slopes of
 foothills
Parent material: Residuum derived from volcanic and
 metavolcanic rock
Slope: 15 to 30 percent
Elevation: 5,200 to 7,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Thurber
 needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 75
 percent pebbles
Depth: 0 to 4 inches

Texture: Very gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 4 to 14 inches

Texture: Clay

Structure: Prismatic

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 14 to 24 inches

Texture: Very cobbly silty clay, very gravelly clay

Structure: Subangular blocky

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 24 to 26 inches

Material: Cemented hardpan

Depth: 26 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 20 to 29 inches

Depth to bedrock: 21 to 36 inches

Depth to a seasonal high water table: More than 60
 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 2.6 to 3.2 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—2;
 wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Jung Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal,
 montmorillonitic, mesic

Positions on landscape: South-facing side slopes of
 foothills

Parent material: Residuum derived from volcanic and
 metavolcanic rock

Slope: 15 to 30 percent

Elevation: 5,500 to 7,000 feet

Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 25 percent cobbles, 20 percent pebbles

Depth: 0 to 8 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 19 inches

Texture: Very cobbly clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 19 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.9 to 2.5 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Haplic Durargids, clayey-skeletal, mixed, mesic

Positions on landscape: Concave side slopes of foothills

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Positions on landscape: Rimrock along shoulder slopes of foothills

Distinctive present vegetation: None

Inclusion 3

Classification: Haploxerollic Durargids, fine, montmorillonitic, mesic

Positions on landscape: Crests and shoulder slopes of foothills

Distinctive present vegetation: Wyoming big sagebrush, needleandthread, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Newpass Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Jung Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Newpass Soil

Range seeding: Poor—rooting depth, small stones, excess sodium

Roadfill: Poor—depth to rock, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones, excess sodium

Daily cover for landfill: Poor—depth to rock, hard to pack, large stones

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—shrink-swell, low strength, slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Jung Soil

Range seeding: Poor—large stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Newpass and Jung soils—VIIIs, nonirrigated

Range site: Newpass soil—027X008N; Jung soil—027X032N; Inclusion 1—024X025N; Inclusion 2—none; Inclusion 3—027X008N

321—Newpass-Old Camp association*Positions on landscape:* Foothills**Composition***Major components:*

Newpass very gravelly fine sandy loam, 8 to 15 percent slopes, very stony—45 percent

Old Camp gravelly loam, 8 to 15 percent slopes—25 percent

Old Camp very gravelly loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Xerollic Camborthids, coarse-loamy, mixed, mesic, 2 to 8 percent slopes—6 percent

Xerollic Haplargids, fine, montmorillonitic, mesic, 8 to 30 percent slopes—4 percent

Characteristics of the Newpass Soil*Classification:* Haploxerollic Nadurargids, fine, montmorillonitic, mesic*Positions on landscape:* North-facing side slopes of foothills*Parent material:* Residuum derived from volcanic and metavolcanic rock*Slope:* 8 to 15 percent*Elevation:* 6,000 to 7,200 feet*Average annual precipitation:* About 9 inches*Average annual air temperature:* About 48 degrees F*Frost-free season:* About 110 days*Dominant present vegetation:* Bluegrass, Thurber needlegrass, Wyoming big sagebrush**Typical Profile***Rock fragments on surface:* 2 percent stones and boulders, 10 percent cobbles, 75 percent pebbles*Depth:* 0 to 4 inches*Texture:* Very gravelly fine sandy loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Mildly alkaline*Salinity:* 0 to 4 millimhos per centimeter*Sodicity (SAR):* 0 to 5*Depth:* 4 to 14 inches*Texture:* Clay*Structure:* Prismatic*Consistence:* Hard, firm*Reaction:* Moderately alkaline*Salinity:* 4 to 8 millimhos per centimeter*Sodicity (SAR):* 13 to 25*Depth:* 14 to 24 inches*Texture:* Very cobbly silty clay, very gravelly clay, gravelly clay*Structure:* Subangular blocky*Consistence:* Hard, firm*Reaction:* Strongly alkaline*Salinity:* 2 to 4 millimhos per centimeter*Sodicity (SAR):* 5 to 13*Depth:* 24 to 26 inches*Material:* Cemented hardpan*Depth:* 26 inches*Material:* Unweathered bedrock**Soil and Water Features***Depth to the hardpan:* 20 to 29 inches*Depth to bedrock:* 21 to 36 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Slow*Available water capacity:* 2.6 to 3.2 inches*Water-supplying capacity:* 9 inches*Runoff:* Medium*Hydrologic group:* C*Erosion factors (upper layer):* K value—0.15; T value—2; wind erodibility group—5*Hazard of erosion:* By water—slight; by wind—slight*Shrink-swell potential:* High*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Low**Characteristics of the Old Camp Soil, Strongly Sloping***Classification:* Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic*Positions on landscape:* Summits and shoulder slopes of foothills*Parent material:* Residuum that is derived from basalt and andesite and includes some volcanic ash*Slope:* 8 to 15 percent*Elevation:* 6,000 to 7,200 feet*Average annual precipitation:* About 9 inches*Average annual air temperature:* About 48 degrees F*Frost-free season:* About 110 days*Dominant present vegetation:* Bluegrass, Thurber needlegrass, Wyoming big sagebrush**Typical Profile***Rock fragments on surface:* 50 percent pebbles*Depth:* 0 to 2 inches*Texture:* Gravelly loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Mildly alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 2 to 11 inches

Texture: Very gravelly loam, very cobbly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.2 to 1.6 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Old Camp Soil, Moderately Steep

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: South-facing side slopes of foothills

Parent material: Residuum that is derived from basalt and andesite and includes some volcanic ash

Slope: 15 to 30 percent

Elevation: 6,000 to 7,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Bluegrass, Thurber needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 50 percent pebbles

Depth: 0 to 2 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 2 to 11 inches

Texture: Very gravelly loam, very cobbly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.1 to 1.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Channel banks, narrow inset fans

Distinctive present vegetation: Basin big sagebrush, basin wildrye, bluegrass

Inclusion 2

Classification: Xerollic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: Concave shoulder slopes of foothills

Distinctive present vegetation: Singleleaf pinyon, Utah juniper, Wyoming big sagebrush, pine bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Newpass Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Old Camp Soil, Strongly Sloping

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Old Camp Soil, Moderately Steep

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Newpass Soil

Range seeding: Poor—rooting depth, small stones, excess sodium

Roadfill: Poor—depth to rock, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones, excess sodium

Daily cover for landfill: Poor—depth to rock, hard to pack, large stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—shrink-swell, low strength

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Old Camp Soil, Strongly Sloping

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Old Camp Soil, Moderately Steep

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Newpass and Old Camp soils—VIIs, nonirrigated

Range site: Newpass soil—027X008N; Old Camp soils—027X007N; Inclusion 1—024X006N; Inclusion 2—025X062N

360—Eastwell-Blackhawk-Pineval association

Positions on landscape: Fan piedmonts

Composition

Major components:

Eastwell gravelly loam, 4 to 15 percent slopes—45 percent

Blackhawk very fine sandy loam, 2 to 8 percent slopes—25 percent

Pineval gravelly loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Durixerollic Haplargids, coarse-loamy, mixed, mesic, 4 to 8 percent slopes—6 percent

Xerollic Durorthids, loamy, mixed, mesic, shallow, 8 to 15 percent slopes—4 percent

Characteristics of the Eastwell Soil

Classification: Haploxerollic Durorthids, loamy-skeletal, mixed, mesic, shallow

Positions on landscape: The highest summits and shoulder slopes of fan piedmont remnants

Parent material: Mixed alluvium that includes loess

Slope: 4 to 15 percent

Elevation: 5,500 to 6,500 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, bluegrass, black sagebrush

Typical Profile

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 5 to 15 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 15 to 17 inches

Material: Cemented hardpan

Structure: Massive

Consistence: Very hard, very firm

Depth: 17 to 60 inches

Texture: Very gravelly loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to the hardpan: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 1.5 to 3.5 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.32; T value—2; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Blackhawk Soil

Classification: Entic Durorthids, loamy, mixed, mesic, shallow
Positions on landscape: The lower summits of fan piedmont remnants
Parent material: Loess over mixed alluvium
Slope: 2 to 8 percent
Elevation: 5,500 to 6,000 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 47 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Typical Profile

Depth: 0 to 3 inches
Texture: Very fine sandy loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 3 to 14 inches
Texture: Loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 14 to 30 inches
Material: Cemented hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm
Depth: 30 to 48 inches
Texture: Loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Very strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 48 to 60

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 8 to 15 millimhos per centimeter

Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to the hardpan: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 2.2 to 2.7 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.43; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Pineval Soil

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 15 to 30 percent

Elevation: 5,500 to 6,500 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 11 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 11 to 60 inches
Texture: Extremely gravelly sandy loam, extremely gravelly loamy sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 3.2 to 4.4 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Wyoming big sagebrush, pine bluegrass

Inclusion 2

Classification: Xerollic Durorthids, loamy, mixed, mesic, shallow
Positions on landscape: Convex, south-facing shoulder slopes of fan piedmont remnants
Distinctive present vegetation: Singleleaf pinyon, Utah juniper, Wyoming big sagebrush, pine bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Eastwell Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Blackhawk Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Pineval Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Eastwell Soil

Range seeding: Poor—droughty
Roadfill: Fair—large stones
Topsoil: Poor—cemented pan, small stones, area reclaim
Daily cover for landfill: Poor—cemented pan, small stones
Shallow excavations: Severe—cemented pan
Local roads and streets: Moderate—cemented pan, slope, large stones
Pond reservoir areas: Severe—seepage, cemented pan, slope
Embankments, dikes, and levees: Moderate—piping, large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Blackhawk Soil

Range seeding: Poor—too arid, droughty
Roadfill: Good
Topsoil: Poor—cemented pan, area reclaim
Daily cover for landfill: Poor—cemented pan
Shallow excavations: Severe—cemented pan, cutbanks cave
Local roads and streets: Moderate—cemented pan
Pond reservoir areas: Severe—seepage, cemented pan
Embankments, dikes, and levees: Severe—seepage, excess salt
Sand: Probable source
Gravel: Probable source

Pineval Soil

Range seeding: Fair—too arid
Roadfill: Fair—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave, slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Interpretive Groups

Land capability classification: Eastwell soil—VIIs, nonirrigated; Blackhawk soil—IVe, irrigated, and VIIs, nonirrigated; Pineval soil—VIe, nonirrigated
Range site: Eastwell soil—027X032N; Blackhawk soil—024X002N; Pineval soil—027X008N; Inclusions 1 and 2—027X008N

404—Glean-Gando association*Positions on landscape:* Mountains**Composition***Major components:*

Glean very gravelly loam, 50 to 75 percent slopes—50 percent

Gando very cobbly loam, 50 to 75 percent slopes—35 percent

Contrasting inclusions:

Rock outcrop and rubble land—8 percent

Welch loam, drained, 8 to 15 percent slopes—3 percent

Welch loam, 8 to 15 percent slopes—2 percent

Lithic Cryoborolls, 15 to 50 percent slopes—2 percent

Characteristics of the Glean Soil*Classification:* Pachic Haploxerolls, loamy-skeletal, mixed, frigid*Positions on landscape:* Concave, north-facing side slopes of mountains*Parent material:* Colluvium derived from various kinds of rock*Slope:* 50 to 75 percent*Elevation:* 7,000 to 8,000 feet*Average annual precipitation:* About 14 inches*Average annual air temperature:* About 45 degrees F*Frost-free season:* About 80 days*Dominant present vegetation:* Bluebunch wheatgrass, Idaho fescue, mountain big sagebrush, serviceberry**Typical Profile***Rock fragments on surface:* 20 percent pebbles*Depth:* 0 to 6 inches*Texture:* Very gravelly loam*Structure:* Subangular blocky*Consistence:* Slightly hard, very friable*Reaction:* Neutral*Depth:* 6 to 39 inches*Texture:* Very gravelly sandy loam, very gravelly loam*Structure:* Subangular blocky*Consistence:* Slightly hard, very friable*Reaction:* Neutral*Depth:* 39 to 51 inches*Texture:* Very gravelly sandy loam*Structure:* Massive*Consistence:* Soft, very friable*Reaction:* Neutral*Depth:* 51 inches*Material:* Unweathered bedrock**Soil and Water Features***Depth to bedrock:* 40 to 60 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderately rapid*Available water capacity:* 3 to 5 inches*Water-supplying capacity:* 14 inches*Runoff:* Rapid*Hydrologic group:* B*Erosion factors (upper layer):* K value—0.10; T value—3; wind erodibility group—8*Hazard of erosion:* By water—slight; by wind—slight*Shrink-swell potential:* Low*Corrosivity:* To steel—moderate; to concrete—low*Potential for frost action:* Moderate**Characteristics of the Gando Soil***Classification:* Lithic Haploxerolls, loamy-skeletal, mixed, frigid*Positions on landscape:* Crests and ridges of mountains*Parent material:* Residuum derived from sedimentary rock*Slope:* 50 to 75 percent*Elevation:* 6,500 to 8,000 feet*Average annual precipitation:* About 16 inches*Average annual air temperature:* About 42 degrees F*Frost-free season:* About 80 days*Dominant present vegetation:* Bluegrass, Idaho fescue, low sagebrush, black sagebrush**Typical Profile***Rock fragments on surface:* 10 percent cobbles, 20 percent pebbles*Depth:* 0 to 4 inches*Texture:* Very cobbly loam*Structure:* Granular*Consistence:* Soft, very friable*Reaction:* Mildly alkaline*Depth:* 4 to 10 inches*Texture:* Very gravelly loam, extremely gravelly loam*Structure:* Granular*Consistence:* Soft, very friable*Reaction:* Mildly alkaline*Depth:* 10 inches*Material:* Unweathered bedrock**Soil and Water Features***Depth to bedrock:* 10 to 20 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderate*Available water capacity:* 1.1 to 1.5 inches*Water-supplying capacity:* 10 inches*Runoff:* Rapid*Hydrologic group:* D

Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—8
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Positions on landscape: Scattered peaks and screes on side slopes
Distinctive present vegetation: None

Inclusion 2

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid
Positions on landscape: Entrenched narrow drainageways
Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 3

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid
Positions on landscape: Narrow drainageways, canyon bottoms
Distinctive present vegetation: Willow, sedge, tufted hairgrass

Inclusion 4

Classification: Lithic Cryoborolls
Positions on landscape: Convex, windswept, north-facing crests on mountains
Distinctive present vegetation: Low sagebrush, Idaho fescue

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Glean Soil

Wild herbaceous plants (nonirrigated): Good
Shrubs (nonirrigated): Good

Gando Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Glean Soil

Range seeding: Poor—small stones
Roadfill: Poor—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—seepage, slope
Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Gando Soil

Range seeding: Poor—droughty, large stones
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—depth to rock, small stones, slope
Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—depth to rock, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—seepage
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Glean and Gando soils—VIIs, nonirrigated
Range site: Glean soil—024X023N; Gando soil—028B034N; Inclusion 1—none; Inclusion 2—028B024N; Inclusion 3—025X005N; Inclusion 4—028B038N

441—Gund-Umberland association

Positions on landscape: Bolson floors

Composition

Major components:

Gund silt loam, 0 to 2 percent slopes—50 percent
 Umberland silt loam, 0 to 2 percent slopes—35 percent

Contrasting inclusions:

Aquic Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—8 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—4 percent

Playas—3 percent

Characteristics of the Gund Soil

Classification: Aquic Durorthidic Torriorthents, fine-silty over clayey, mixed, nonacid, mesic

Positions on landscape: The upper lake plain remnants

Parent material: Silty alluvium derived from loess and volcanic ash over lake sediment

Slope: 0 to 2 percent

Elevation: 5,600 to 5,700 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Basin wildrye, basin big sagebrush, black greasewood, rubber rabbitbrush

Typical Profile

Depth: 0 to 4 inches

Texture: Silt loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 10 to 25

Depth: 4 to 23 inches
Texture: Silt loam
Structure: Platy
Consistence: Hard, firm
Reaction: Moderately alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 46

Depth: 23 to 60 inches
Texture: Silty clay, clay
Structure: Massive
Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 8 to 15 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: 36" to 42 inches
Frequency of flooding: Rare
Permeability: Slow
Available water capacity: 9 to 11 inches
Water-supplying capacity: 8 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.49; T value—5;
 wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the UMBERLAND SOIL

Classification: Aeric Halaquepts, fine, montmorillonitic (calcareous), mesic
Positions on landscape: The lower lake plain remnants
Parent material: Silty lacustrine sediment derived from various kinds of rock
Slope: 0 to 2 percent
Elevation: 5,600 to 5,700 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 130 days
Dominant present vegetation: Black greasewood, rubber rabbitbrush, Indian ricegrass, shadscale, bud sagebrush

Typical Profile

Depth: 0 to 7 inches
Texture: Silt loam

Structure: Granular
Consistence: Slightly hard, friable
Reaction: Very strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 30 to 50

Depth: 7 to 60 inches
Texture: Clay, silty clay, silty clay loam
Structure: Angular blocky
Consistence: Hard, firm
Reaction: Very strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 20 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Very slow
Available water capacity: 9 to 11 inches
Water-supplying capacity: 7 inches
Runoff: Very slow
Hydrologic group: D
Erosion factors (upper layer): K value—0.43; T value—5;
 wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Aquic Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic
Positions on landscape: The highest lake plain remnants
Distinctive present vegetation: Black greasewood, Indian ricegrass

Inclusion 2

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: Lake plain margins
Distinctive present vegetation: Black greasewood, basin wildrye, rubber rabbitbrush

Inclusion 3

Positions on landscape: Dry lake extensions; isolated, irregularly shaped sink areas
Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Gund Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Wetland plants: Very poor

Shallow water areas: Fair

Umberland Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Gund Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength, shrink-swell

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—too clayey, hard to pack, excess salt

Shallow excavations: Moderate—too clayey, wetness

Local roads and streets: Severe—low strength, frost action, shrink-swell

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Umberland Soil

Range seeding: Poor—excess salt, excess sodium, too crusty

Roadfill: Poor—low strength, shrink-swell

Topsoil: Poor—excess salt, excess sodium, too clayey

Daily cover for landfill: Poor—too clayey, hard to pack, excess sodium

Shallow excavations: Moderate—too clayey, wetness

Local roads and streets: Severe—low strength, frost action, shrink-swell

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Gund soil—VIIw, nonirrigated; Umberland soil—VII, nonirrigated

Range site: Gund soil—024X006N; Umberland soil—024X003N; Inclusion 1—024X008N; Inclusion 2—024X007N; Inclusion 3—none

442—Gund-Bubus-Wendane association

Positions on landscape: Bolson floors

Composition

Major components:

Gund silt loam, strongly saline-alkali, drained, 0 to 2 percent slopes—35 percent

Bubus very fine sandy loam, 0 to 2 percent slopes—30 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Aquic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—7 percent

Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic, 0 to 2 percent slopes—4 percent

Wendane silt loam, occasionally flooded, 0 to 2 percent slopes—4 percent

Characteristics of the Gund Soil

Classification: Aquic Durorthidic Torriorthents, fine-silty over clayey, mixed, nonacid, mesic

Positions on landscape: Lake plain terraces

Parent material: Silty alluvium derived from loess and volcanic ash over lake sediment

Slope: 0 to 2 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Basin wildrye, black greasewood, rubber rabbitbrush

Typical Profile

Depth: 0 to 4 inches

Texture: Silt loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 75 to 99 millimhos per centimeter

Sodicity (SAR): 10 to 25

Depth: 4 to 23 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 15 to 30 millimhos per centimeter

Sodicity (SAR): 50 to 80

Depth: 23 to 60 inches

Texture: Silty clay, clay

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: 60 to 72 inches

Frequency of flooding: Rare

Permeability: Slow

Available water capacity: 8.6 to 11.0 inches

Water-supplying capacity: 8 inches

Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.49; T value—5;
 wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Bubus Soil

Classification: Durorthidic Torriorthents, coarse-loamy,
 mixed (calcareous), mesic
Positions on landscape: Alluvial flat remnants
Parent material: Mixed alluvium that is high in content of
 pyroclastic material
Slope: 0 to 2 percent
Elevation: 5,600 to 5,800 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Shadscale, black
 greasewood, bottlebrush squirreltail

Typical Profile

Depth: 0 to 6 inches
Texture: Very fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 5 to 13
Depth: 6 to 60 inches
Texture: Stratified sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60
 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 9 to 10 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.49; T value—5;
 wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Wendane Soil

Classification: Aeric Halaquepts, fine-silty, mixed
 (calcareous), mesic
Positions on landscape: Alluvial flats
Parent material: Silty alluvium derived from volcanic
 rock, tuff, loess, and volcanic ash
Slope: 0 to 2 percent
Elevation: 5,600 to 5,800 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, basin
 wildrye

Typical Profile

Depth: 0 to 7 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 30 to 50 millimhos per centimeter
Sodicity (SAR): 13 to 25
Depth: 7 to 18 inches
Texture: Silt loam, very fine sandy loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60
Depth: 18 to 60 inches
Texture: Stratified silt loam to clay loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 40

Soil and Water Features

Depth to a seasonal high water table: 30 to 48 inches
Frequency of flooding: Frequent for brief to long periods
 in February through June
Permeability: Moderately slow
Available water capacity: 11 to 13 inches
Water-supplying capacity: 7 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.55; T value—5;
 wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Aquic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Adjacent inset fans

Distinctive present vegetation: Basin big sagebrush, black greasewood

Inclusion 2

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Shorelines, offshore bars

Distinctive present vegetation: Black greasewood, shadscale

Inclusion 3

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: The lower lake plains

Distinctive present vegetation: Black greasewood

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Gund Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wetland plants: Very poor

Shallow water areas: Fair

Bubus Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wendane Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Gund Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength, shrink-swell

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—too clayey, hard to pack, excess salt

Shallow excavations: Moderate—too clayey, wetness

Local roads and streets: Severe—low strength, frost action, shrink-swell

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Bubus Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wendane Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Gund and Wendane soils—VIIw, nonirrigated; Bubus soil—VIIs, nonirrigated

Range site: Gund soil—024X008N; Bubus soil—024X003N; Wendane soil—024X007N; Inclusion 1—024X006N; Inclusion 2—024X008N; Inclusion 3—024X011N

443—Gund-Batan association

Positions on landscape: Bolson floors

Composition

Major components:

Gund silt loam, strongly saline-alkali, drained, 0 to 2 percent slopes—65 percent

Batan silt loam, 0 to 2 percent slopes—25 percent

Contrasting inclusions:

Aeric Halaquepts, fine, montmorillonitic, mesic, 0 to 2 percent slopes—5 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—3 percent

Ocala Variant silt loam, 0 to 2 percent slopes—2 percent

Characteristics of the Gund Soil

Classification: Aquic Durorthidic Torriorthents, fine-silty over clayey, mixed, nonacid, mesic

Positions on landscape: Lake plain terraces

Parent material: Silty alluvium derived from loess and volcanic ash over lake sediment

Slope: 0 to 2 percent

Elevation: 5,600 to 5,700 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Basin wildrye, black greasewood, rubber rabbitbrush

Typical Profile

Depth: 0 to 4 inches

Texture: Silt loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 75 to 100 millimhos per centimeter

Sodicity (SAR): 10 to 25

Depth: 4 to 23 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 50 to 80

Depth: 23 to 60 inches

Texture: Silty clay, clay

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: 60 to 72 inches

Frequency of flooding: Rare

Permeability: Slow

Available water capacity: 8.6 to 11.0 inches

Water-supplying capacity: 8 inches

Runoff: Very slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: High

Characteristics of the Batan Soil

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flat remnants

Parent material: Silty alluvium that is high in content of loess and pyroclastic material

Slope: 0 to 2 percent

Elevation: 5,600 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Typical Profile

Depth: 0 to 5 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, very friable

Reaction: Strongly alkaline

Salinity: 20 to 40 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 5 to 68 inches

Texture: Stratified silt loam to silty clay loam

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 11 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Aeric Halaquepts, fine, montmorillonitic, mesic

Positions on landscape: Ponded lake plains

Distinctive present vegetation: Black greasewood

Inclusion 2

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Channeled lake plains

Distinctive present vegetation: Black greasewood, basin wildrye, rubber rabbitbrush

Inclusion 3

Classification: Aeric Halaquepts, fine, montmorillonitic, mesic

Positions on landscape: Lake plains that have a static water table

Distinctive present vegetation: Alkali rabbitbrush, alkaligrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Gund Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wetland plants: Very poor

Shallow water areas: Fair

Batan Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Gund Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength, shrink-swell

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—too clayey, hard to pack, excess salt

Shallow excavations: Moderate—too clayey, wetness

Local roads and streets: Severe—low strength, frost action, shrink-swell

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Batan Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Severe—low strength

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Batan Soil

Drainage: Deep to water

Irrigation: Excess salt, excess sodium

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Gund soil—VIIw,

nonirrigated; Batan soil—VIIs, nonirrigated

Range site: Gund soil—024X008N; Batan soil—024X003N; Inclusion 1—024X011N; Inclusion 2—024X007N; Inclusion 3—024X044N

444—Gund association

Positions on landscape: Lake plains

Composition

Major components:

Gund silt loam, 0 to 2 percent slopes—60 percent

Gund silt loam, drained, 0 to 2 percent slopes—25 percent

Contrasting inclusions:

Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Orovada fine sandy loam, 0 to 2 percent slopes—5 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—5 percent

Characteristics of the Gund Soil

Classification: Aquic Durorthidic Torriorthents, fine-silty over clayey, mixed, nonacid, mesic

Positions on landscape: The lower lake plains

Parent material: Silty alluvium derived from loess and volcanic ash over lake sediment

Slope: 0 to 2 percent

Elevation: 5,700 to 5,800 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Basin wildrye, black greasewood, basin big sagebrush, western wheatgrass

Typical Profile

Depth: 0 to 4 inches

Texture: Silt loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 10 to 25

Depth: 4 to 23 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 23 to 60 inches

Texture: Silty clay, clay
Structure: Massive
Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: 36 to 42 inches
Frequency of flooding: Rare
Permeability: Slow
Available water capacity: 8.6 to 11.0 inches
Water-supplying capacity: 8 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.49; T value—5;
 wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Gund Soil, Drained

Classification: Aquic Durorthidic Torriorthents, fine-silty over clayey, mixed, nonacid, mesic
Positions on landscape: The higher lake plains
Parent material: Silty alluvium derived from loess and volcanic ash over lake sediment
Slope: 0 to 2 percent
Elevation: 5,700 to 5,800 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 47 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Black greasewood, basin wildrye, seepweed

Typical Profile

Depth: 0 to 4 inches
Texture: Silt loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 75 to 100 millimhos per centimeter
Sodicity (SAR): 10 to 25

Depth: 4 to 23 inches
Texture: Silt loam
Structure: Platy
Consistence: Hard, firm
Reaction: Moderately alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 50 to 80
Depth: 23 to 60 inches
Texture: Silty clay, clay
Structure: Massive

Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: 60 to 72 inches
Frequency of flooding: Rare
Permeability: Very slow
Available water capacity: 8.6 to 11.0 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.49; T value—5;
 wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic
Positions on landscape: Dissected lake plains
Distinctive present vegetation: Wyoming big sagebrush, black greasewood

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Adjacent fan skirts
Distinctive present vegetation: Wyoming big sagebrush, Indian ricegrass, bluegrass

Inclusion 3

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: Channeled, lower lake plains
Distinctive present vegetation: Black greasewood, rubber rabbitbrush, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Gund Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor
Wetland plants: Very poor
Shallow water areas: Fair

Gund Soil, Drained

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor
Wetland plants: Very poor
Shallow water areas: Fair

Suitability and Limitations for Selected Uses

Gund Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength, shrink-swell

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—too clayey, hard to pack, excess salt

Shallow excavations: Moderate—too clayey, wetness

Local roads and streets: Severe—low strength, frost action, shrink-swell

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Gund Soil, Drained

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength, shrink-swell

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—too clayey, hard to pack, excess salt

Shallow excavations: Moderate—too clayey, wetness

Local roads and streets: Severe—low strength, frost action, shrink-swell

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Gund soils—VIIw, nonirrigated

Range site: Gund soil—024X006N; Gund soil, drained—024X008N; Inclusion 1—024X022N; Inclusion 2—028B010N; Inclusion 3—024X007N

461—Hapgood-Packer-Layview association

Positions on landscape: Mountains

Composition

Major components:

Hapgood very gravelly loam, 30 to 50 percent slopes—40 percent

Packer extremely gravelly loam, 15 to 50 percent slopes—25 percent

Layview very gravelly sandy loam, 8 to 15 percent slopes—15 percent

Contrasting inclusions:

Entic Cryumbrepts, loamy-skeletal, mixed, 30 to 50 percent slopes—8 percent

Rock outcrop and Rubble land—7 percent

Argic Cryoborolls, loamy-skeletal, mixed, 15 to 30 percent slopes—4 percent

Hackwood bouldery loam, 30 to 50 percent slopes—1 percent

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Concave back slopes of mountains

Parent material: Colluvium that includes loess and volcanic ash

Slope: 30 to 50 percent

Elevation: 8,000 to 9,800 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, mountain brome, bluegrass, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 17 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 4.8 to 6.0 inches

Water-supplying capacity: 16 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Packer Soil

Classification: Argic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Convex, windswept shoulder slopes and upper side slopes of mountains

Parent material: Mixed residuum that includes loess and volcanic ash

Slope: 15 to 50 percent

Elevation: 8,000 to 9,800 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Depth: 0 to 10 inches

Texture: Extremely gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 21 inches

Texture: Extremely cobbly clay loam, extremely cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 21 to 60 inches

Texture: Extremely cobbly sandy loam, extremely cobbly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 3.6 to 5.4 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—3; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Layview Soil

Classification: Argic Lithic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Convex, windswept crests of mountains

Parent material: Residuum derived from andesite, rhyolite, and tuff

Slope: 8 to 15 percent

Elevation: 8,500 to 9,800 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Rock fragments on surface: 25 percent cobbles, 50 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 3 to 12 inches

Texture: Very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 12 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 0.8 to 1.2 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Entic Cryumbrepts, loamy-skeletal, mixed
Positions on landscape: Concave snow pockets below the ridgeline

Distinctive present vegetation: Lupine, Letterman needlegrass

Inclusion 2

Positions on landscape: Scattered peaks, rimrock, stripes below areas of Rock outcrop

Distinctive present vegetation: None

Inclusion 3

Classification: Argic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Concave back slopes of mountains

Distinctive present vegetation: Low sagebrush, Idaho fescue

Inclusion 4

Classification: Pachic Cryoborolls, fine-loamy, mixed

Positions on landscape: Concave snow pockets

Distinctive present vegetation: Quaking aspen

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Hapgood Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Packer Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Layview Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Hapgood Soil**

Range seeding: Poor—small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Packer Soil

Range seeding: Poor—small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage, large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Layview Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Hapgood, Packer, and Layview soils—VIIIs, nonirrigated

Range site: Hapgood soil—024X032N; Packer and Layview soils—024X016N; Inclusion 1—025X028N;

Inclusion 2—none; Inclusion 3—024X027N;

Inclusion 4—025X065N

463—Hapgood-Packer-Rubble land association

Positions on landscape: Mountains

Composition

Major components:

Hapgood gravelly loam, 50 to 75 percent slopes—45 percent

Packer extremely cobbly sandy loam, 30 to 50 percent slopes—20 percent

Rubble land—20 percent

Contrasting inclusions:

Layview very cobbly loam, 8 to 30 percent slopes—6 percent

Walti very cobbly loam, 15 to 30 percent slopes—5 percent

Pachic Cryoborolls, loamy-skeletal, mixed, 15 to 30 percent slopes—4 percent

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Concave, north-facing side slopes of mountains in areas where snow accumulates

Parent material: Colluvium that includes loess and volcanic ash

Slope: 50 to 75 percent

Elevation: 8,200 to 9,000 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, mountain brome, bluegrass, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 17 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.8 to 7.4 inches

Water-supplying capacity: 16 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Packer Soil

Classification: Argic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: East-, west-, and south-facing side slopes of mountains

Parent material: Mixed residuum that includes loess and volcanic ash

Slope: 30 to 50 percent

Elevation: 7,800 to 9,000 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Depth: 0 to 10 inches

Texture: Extremely cobbly sandy loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 21 inches

Texture: Extremely cobbly clay loam, extremely cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 21 to 60 inches

Texture: Extremely cobbly sandy loam, extremely cobbly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 3.6 to 5.4 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Rubble Land

Positions on landscape: Side slopes below sharp shoulder scarps of mountains

Slope: 50 to 75 percent

Contrasting Inclusions**Inclusion 1**

Classification: Argic Lithic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Crests, shoulder slopes, and convex, upper side slopes of mountains

Distinctive present vegetation: Black sagebrush, low sagebrush, Idaho fescue

Inclusion 2

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Convex, lower side slopes of mountains

Distinctive present vegetation: Low sagebrush, Idaho fescue

Inclusion 3

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Foot slopes below areas on side slopes of mountains where snow accumulates and areas of Rubble land

Distinctive present vegetation: Oceanspray, mountain brome

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Hapgood Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Packer Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Hapgood Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Packer Soil

Range seeding: Poor—large stones

Roadfill: Poor—slope, large stones

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope, large stones

Local roads and streets: Severe—slope, large stones

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage, large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Interpretive Groups

Land capability classification: Hapgood soil—VIIe, nonirrigated; Packer soil—VIIs, nonirrigated; Rubble land—VIIIs, nonirrigated

Range site: Hapgood soil—024X032N; Packer soil—024X016N; Rubble land—none; Inclusion 1—024X016N; Inclusion 2—024X027N; Inclusion 3—024X034N

465—Hapgood-Halacan-Hatur association

Positions on landscape: Mountains

Composition

Major components:

Hapgood gravelly loam, 30 to 50 percent slopes—55 percent

Halacan very gravelly loam, 8 to 15 percent slopes—20 percent

Hatur very gravelly loam, 30 to 50 percent slopes—15 percent

Contrasting inclusions:

Crylic Lithic Rendolls, loamy-skeletal, carbonatic, 8 to 30 percent slopes—4 percent

Rock outcrop—3 percent

Cumulic Cryoborolls, fine-loamy, mixed, drained, 2 to 4 percent slopes—2 percent

Rubble land—1 percent

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Concave side slopes of mountains in areas where snow accumulates

Parent material: Colluvium that includes loess and volcanic ash

Slope: 30 to 50 percent

Elevation: 8,800 to 9,500 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, mountain brome, bluegrass, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 17 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.8 to 7.4 inches

Water-supplying capacity: 16 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5;
wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Halacan Soil

Classification: Cryic Lithic Rendolls, loamy-skeletal, carbonatic

Positions on landscape: Crests and shoulder slopes of mountains

Parent material: Residuum and colluvium derived from limestone

Slope: 8 to 15 percent

Elevation: 8,200 to 9,500 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 38 degrees F

Frost-free season: About 40 days

Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Rock fragments on surface: 50 percent pebbles

Depth: 0 to 5 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 5 to 17 inches

Texture: Extremely channery loam, very channery loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 17 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 1.0 to 1.6 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1;
wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Hatur Soil

Classification: Cryic Rendolls, loamy-skeletal, carbonatic

Positions on landscape: Side slopes of mountains

Parent material: Colluvium and residuum derived from limestone

Slope: 30 to 50 percent

Elevation: 8,000 to 9,300 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 60 days

Dominant present vegetation: Idaho fescue, mountain brome, needlegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 90 percent pebbles

Depth: 0 to 14 inches

Texture: Very gravelly loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 14 to 29 inches

Texture: Extremely gravelly loam, extremely gravelly sandy loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 29 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 3.0 to 3.6 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—2;
wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Cryic Lithic Rendolls, loamy-skeletal, carbonatic

Positions on landscape: Windswept crests of mountains
Distinctive present vegetation: Black sagebrush, Idaho fescue

Inclusion 2

Positions on landscape: Scattered peaks
Distinctive present vegetation: None

Inclusion 3

Classification: Cumulic Cryoborolls, fine-loamy, mixed
Positions on landscape: Mountain drainageways, canyon bottoms
Distinctive present vegetation: Basin wildrye, basin big sagebrush, rose, willow

Inclusion 4

Positions on landscape: Side slopes of mountains below areas of Rock outcrop
Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Hapgood Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Halacan Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Hatur Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Hapgood Soil

Range seeding: Poor—erodes easily
Roadfill: Poor—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Moderate—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Halacan Soil

Range seeding: Poor—droughty, small stones
Roadfill: Poor—depth to rock
Topsoil: Poor—depth to rock, small stones
Daily cover for landfill: Poor—depth to rock, small stones
Shallow excavations: Severe—depth to rock
Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—seepage, large stones

Sand: Improbable source—excess fines, large stones
Gravel: Improbable source—excess fines, large stones

Hatur Soil

Range seeding: Poor—small stones
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—small stones, slope
Daily cover for landfill: Poor—depth to rock, seepage, small stones
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Severe—seepage
Sand: Improbable source—small stones
Gravel: Improbable source—thin layer

Interpretive Groups

Land capability classification: Hapgood soil—VIIIe, nonirrigated; Halacan and Hatur soils—VIIc, nonirrigated

Range site: Hapgood soil—024X032N; Halacan soil—024X016N; Hatur soil—028B029N; Inclusion 1—024X042N; Inclusion 2—none; Inclusion 3—025X003N; Inclusion 4—none

491—Enko-Orovada association, gently sloping

Positions on landscape: Piedmont slopes

Composition

Major components:

Enko sandy loam, 2 to 4 percent slopes—55 percent
 Orovada fine sandy loam, 2 to 4 percent slopes—30 percent

Contrasting inclusions:

Pineval gravelly loam, 2 to 4 percent slopes—6 percent
 Zineb gravelly loam, 2 to 4 percent slopes—5 percent
 Duric Camborthids, coarse-silty, mixed, mesic, 0 to 2 percent slopes—4 percent

Characteristics of the Enko Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Fan skirts
Parent material: Mixed alluvium that includes loess and volcanic ash
Slope: 2 to 4 percent
Elevation: 6,000 to 6,400 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 6 inches

Texture: Sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 12 inches

Texture: Loam, sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 12 to 18 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 18 to 60 inches

Texture: Sandy loam, fine sandy loam

Structure: Massive

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6.1 to 8.2 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans, margins of fan skirts

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 6,000 to 6,400 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 20 to 60 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 8.5 to 10.0 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Inset fans near stream channels

Distinctive present vegetation: Annuals

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Irrigated cropland

Suitability for Wildlife Habitat Elements

Enko Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Enko Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Enko soil—Ile, irrigated, and VIc, nonirrigated; Orovada soil—Ile, irrigated, and VIc, nonirrigated

Range site: Enko and Orovada soils—028B010N; Inclusions 1 and 2—028B010N

492—Enko-Glyphs association

Positions on landscape: Fan piedmonts

Composition

Major components:

Enko sandy loam, gravelly substratum, 0 to 2 percent slopes—60 percent

Glyphs fine sandy loam, 0 to 2 percent slopes—25 percent

Contrasting inclusions:

Orovada very fine sandy loam, 0 to 2 percent slopes—9 percent

Orovada gravelly fine sandy loam, gravelly substratum, 0 to 2 percent slopes—6 percent

Characteristics of the Enko Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan aprons

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 0 to 2 percent

Elevation: 6,300 to 6,600 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 14 inches

Texture: Sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 14 to 53 inches

Texture: Loam, sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 53 to 63 inches

Texture: Very gravelly loamy sand, extremely gravelly sand

Structure: Single grain

Consistence: Loose

Reaction: Mildly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6.5 to 8.5 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.32; T value—4; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Glyphs Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants

Parent material: Mixed alluvium that is derived from volcanic rock and includes loess and volcanic ash

Slope: 0 to 2 percent

Elevation: 6,200 to 6,400 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, needleandthread, bluegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 7 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 17 inches

Texture: Gravelly clay loam, gravelly sandy clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 17 to 37 inches

Texture: Gravelly sandy loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 37 to 60 inches

Texture: Very gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow over very rapid

Available water capacity: 4.5 to 7.0 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—3; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Adjacent fan skirts

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Irrigated cropland

Suitability for Wildlife Habitat Elements**Enko Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Glyphs Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Enko Soil**

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, area reclaim

Daily cover for landfill: Fair—thin layer

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Inset fans near stream channels

Distinctive present vegetation: Annuals

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Irrigated cropland

Suitability for Wildlife Habitat Elements

Enko Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Enko Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Enko soil—Ile, irrigated, and Vls, nonirrigated; Orovada soil—Ile, irrigated, and Vlc, nonirrigated

Range site: Enko and Orovada soils—028B010N; Inclusions 1 and 2—028B010N

492—Enko-Glyphs association

Positions on landscape: Fan piedmonts

Composition

Major components:

Enko sandy loam, gravelly substratum, 0 to 2 percent slopes—60 percent

Glyphs fine sandy loam, 0 to 2 percent slopes—25 percent

Contrasting inclusions:

Orovada very fine sandy loam, 0 to 2 percent slopes—9 percent

Orovada gravelly fine sandy loam, gravelly substratum, 0 to 2 percent slopes—6 percent

Characteristics of the Enko Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan aprons

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 0 to 2 percent

Elevation: 6,300 to 6,600 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 14 inches

Texture: Sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 14 to 53 inches

Texture: Loam, sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 53 to 63 inches

Texture: Very gravelly loamy sand, extremely gravelly sand

Structure: Single grain

Consistence: Loose

Reaction: Mildly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6.5 to 8.5 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.32; T value—4; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Glyphs Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants

Parent material: Mixed alluvium that is derived from volcanic rock and includes loess and volcanic ash

Slope: 0 to 2 percent

Elevation: 6,200 to 6,400 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, needleandthread, bluegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 7 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 17 inches

Texture: Gravelly clay loam, gravelly sandy clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 17 to 37 inches

Texture: Gravelly sandy loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 37 to 60 inches

Texture: Very gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow over very rapid

Available water capacity: 4.5 to 7.0 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—3; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Adjacent fan skirts

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Irrigated cropland

Suitability for Wildlife Habitat Elements**Enko Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Glyphs Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Enko Soil**

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, area reclaim

Daily cover for landfill: Fair—thin layer

Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—frost action
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Probable source
Gravel: Probable source

Glyphs Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—frost action
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Restrictive Features for Selected Practices

Enko Soil

Drainage: Deep to water
Irrigation: Percs slowly, soil blowing
Terraces and diversions: Soil blowing

Glyphs Soil

Drainage: Deep to water
Irrigation: Rooting depth, excess salt
Terraces and diversions: Too sandy

Interpretive Groups

Land capability classification: Enko soil—IIs, irrigated, and VIs, nonirrigated; Glyphs soil—IIIs, irrigated, and VIc, nonirrigated
Range site: Enko and Glyphs soils—028B010N; Inclusions 1 and 2—028B010N

493—Enko-Orovada association, nearly level

Positions on landscape: Piedmont slopes

Composition

Major components:
 Enko sandy loam, 0 to 2 percent slopes—45 percent
 Orovada fine sandy loam, 0 to 2 percent slopes—40 percent
Contrasting inclusions:
 Glyphs gravelly fine sandy loam, 0 to 4 percent slopes—5 percent
 Orovada fine sandy loam, gullied, 0 to 4 percent slopes—5 percent
 Aridic Haploxerolls, fine-loamy, mixed, mesic, 0 to 2 percent slopes—5 percent

Characteristics of the Enko Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Fan skirts
Parent material: Mixed alluvium that includes loess and volcanic ash
Slope: 0 to 2 percent
Elevation: 6,600 to 6,800 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 6 inches
Texture: Sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 6 to 12 inches
Texture: Loam, sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 12 to 18 inches
Texture: Sandy loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 18 to 60 inches
Texture: Sandy loam, fine sandy loam
Structure: Massive
Consistence: Hard, firm
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5
Soil and Water Features
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 6 to 9 inches
Water-supplying capacity: 9 inches
Runoff: Slow
Hydrologic group: C

Erosion factors (upper layer): K value—0.43; T value—5;
wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans
Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium
Slope: 0 to 2 percent
Elevation: 6,600 to 6,800 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches
Texture: Fine sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 8 to 20 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 20 to 65 inches
Texture: Stratified fine sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderate
Available water capacity: 8 to 10 inches
Water-supplying capacity: 9 inches
Runoff: Slow
Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5;
wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic
Positions on landscape: Fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush, needlegrass

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Fan drainageways
Distinctive present vegetation: Big sagebrush, rabbitbrush

Inclusion 3

Classification: Aridic Haploxerolls, fine-loamy, mixed, mesic
Positions on landscape: Areas adjacent to active channels
Distinctive present vegetation: Basin big sagebrush, basin wildrye

Major Uses

Current uses: Livestock grazing, wildlife habitat
Potential foreseeable use: Irrigated cropland

Suitability for Wildlife Habitat Elements

Enko Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Enko Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Poor—excess salt
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—frost action
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Improbable—excess fines
Gravel: Improbable—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action, flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices**Enko Soil**

Drainage: Deep to water

Irrigation: Soil blowing, percs slowly

Terraces and diversions: Erodes easily, soil blowing

Orovada Soil

Drainage: Deep to water

Irrigation: Soil blowing, erodes easily

Terraces and diversions: Erodes easily, soil blowing

Interpretive Groups

Land capability classification: Enko soil—II_s, irrigated, and VI_s, nonirrigated; Orovada soil—II_c, irrigated, and VI_c, nonirrigated

Range site: Enko and Orovada soils—028B010N; Inclusion 1—028B010N; Inclusion 2—028B009N; Inclusion 3—028B003N

512—Hessing-Relley association

Positions on landscape: Fan skirts, basin floors

Composition

Major components:

Hessing gravelly silt loam, 0 to 2 percent slopes—55 percent

Relley silt loam, frequently flooded, 0 to 2 percent slopes—30 percent

Contrasting inclusions:

Typic Camborthids, sandy-skeletal, mixed, mesic, 0 to 2 percent slopes—5 percent

Creemon very fine sandy loam, 0 to 2 percent slopes—5 percent

Durorthidic Torriorthents, coarse-loamy, mixed, mesic, occasionally flooded, 0 to 2 percent slopes—5 percent

Characteristics of the Hessing Soil

Classification: Typic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts at the higher elevations

Parent material: Loess and silty alluvium that include volcanic ash

Slope: 0 to 2 percent

Elevation: 5,200 to 5,500 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, shadscale, bud sagebrush

Typical Profile

Depth: 0 to 4 inches

Texture: Gravelly silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 4 to 11 inches

Texture: Silty clay loam, silt loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 11 to 18 inches

Texture: Very fine sandy loam, silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 18 to 30 inches

Texture: Gravelly loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 40

Depth: 30 to 60 inches

Texture: Very gravelly sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.8 to 7.3 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.32; T value—3;
wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Relley Soil

Classification: Duric Camborthids, fine-silty, mixed, mesic

Positions on landscape: Broad inset fans, the lower fan skirts

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 0 to 2 percent

Elevation: 5,100 to 5,500 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, sickle saltbush

Typical Profile

Depth: 0 to 8 inches

Texture: Silt loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 16 inches

Texture: Silt loam

Structure: Prismatic

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 16 to 28 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 28 to 60 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Frequent for very brief periods in December through June

Permeability: Moderate

Available water capacity: 11 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5;
wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Typic Camborthids, sandy-skeletal, mixed, mesic

Positions on landscape: Smooth stream terraces adjacent to flood plains

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Flood plain remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Durorthidic Torriorthents, coarse-loamy, mixed, mesic

Positions on landscape: Flood plains

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Hessing Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Relley Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Hessing Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—seepage, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage, excess salt
Sand: Probable source
Gravel: Probable source

Relley Soil

Range seeding: Poor—too arid
Roadfill: Fair—low strength, shrink-swell
Topsoil: Fair—thin layer
Daily cover for landfill: Good
Shallow excavations: Moderate—flooding
Local roads and streets: Severe—flooding
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—piping, excess salt
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Hessing Soil

Drainage: Deep to water
Irrigation: Excess salt
Terraces and diversions: Erodes easily, too sandy

Relley Soil

Drainage: Deep to water
Irrigation: Erodes easily, flooding, excess salt
Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Hessing soil—IIs, irrigated, and VIIs, nonirrigated; Relley soil—IIIw, irrigated, and VIIw, nonirrigated
Range site: Hessing soil—024X002N; Relley soil—024X012N; Inclusions 1 and 2—024X002N; Inclusion 3—024X006N

560—Jesse Camp silt loam

Positions on landscape: Stream terraces

Composition

Major component:
 Jesse Camp silt loam, 0 to 2 percent slopes—85 percent
Contrasting inclusions:
 Xeric Torriorthents, coarse-loamy, mixed (calcareous), frigid, 0 to 4 percent slopes—8 percent
 Fenster silt loam, slightly alkali, 0 to 4 percent slopes—4 percent

Jesse Camp silt loam, occasionally flooded, 0 to 2 percent slopes—3 percent

Characteristics of the Jesse Camp Soil

Classification: Xerollic Camborthids, fine-silty, mixed, frigid
Positions on landscape: Stream terraces
Parent material: Silty alluvium that includes volcanic ash
Slope: 0 to 2 percent
Elevation: 6,000 to 6,500 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Basin wildrye, basin big sagebrush, western wheatgrass

Typical Profile

Depth: 0 to 4 inches
Texture: Silt loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 4 to 12 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 12 to 60 inches
Texture: Silt loam
Structure: Platy
Consistence: Hard, friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderately slow
Available water capacity: 11 to 12 inches
Water-supplying capacity: 9 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Xeric Torriorthents, coarse-loamy, mixed (calcareous), frigid

Positions on landscape: The higher parts of stream terraces

Distinctive present vegetation: Indian ricegrass, Wyoming big sagebrush

Inclusion 2

Classification: Typic Torriorthents, fine-silty, mixed (calcareous), frigid

Positions on landscape: Outer margins of stream terraces

Distinctive present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Inclusion 3

Classification: Xerollic Camborthids, fine-silty, mixed, frigid

Positions on landscape: The lowest parts of stream terraces

Distinctive present vegetation: Basin big sagebrush, rabbitbrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Range seeding: Fair—too arid

Roadfill: Fair—low strength, shrink-swell

Topsoil: Good

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—low strength, frost action, shrink-swell

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Jesse Camp soil—IIc, irrigated, and VIc, nonirrigated

Range site: Jesse Camp soil—028B003N; Inclusion 1—028B010N; Inclusion 2—028B017N; Inclusion 3—028B009N

621—Loncan-Gando-Glean association

Positions on landscape: Mountains

Composition*Major components:*

Loncan gravelly loam, 15 to 50 percent slopes—40 percent

Gando very gravelly loam, 15 to 30 percent slopes—25 percent

Glean very gravelly loam, 15 to 30 percent slopes—25 percent

Contrasting inclusions:

Rock outcrop and Rubble land—4 percent

Welch loam, drained, 4 to 15 percent slopes—3 percent

Argic Pachic Cryoborolls, 15 to 30 percent slopes—2 percent

Welch loam, 4 to 15 percent slopes—1 percent

Characteristics of the Loncan Soil

Classification: Aridic Haploxerolls, loamy-skeletal, mixed, frigid

Positions on landscape: The intermediate and lower side slopes of mountains

Parent material: Residuum and colluvium derived from chert

Slope: 15 to 50 percent

Elevation: 6,500 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 30 percent pebbles

Depth: 0 to 9 inches

Texture: Gravelly loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Neutral

Depth: 9 to 22 inches

Texture: Very gravelly loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Neutral

Depth: 22 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 21 to 38 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.9 to 2.7 inches

Water-supplying capacity: 12 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.17; T value—2;
 wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Gando Soil

Classification: Lithic Haploxerolls, loamy-skeletal, mixed,
 frigid
Positions on landscape: Crests and the upper side
 slopes of mountains
Parent material: Residuum derived from mixed
 sedimentary rock
Slope: 15 to 30 percent
Elevation: 7,000 to 8,200 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 43 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Bluegrass, Idaho fescue,
 low sagebrush, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 20
 percent pebbles
Depth: 0 to 4 inches
Texture: Very gravelly loam
Structure: Granular
Consistence: Soft, very friable
Reaction: Mildly alkaline
Depth: 4 to 10 inches
Texture: Very gravelly loam, extremely gravelly loam
Structure: Granular
Consistence: Soft, very friable
Reaction: Mildly alkaline
Depth: 10 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60
 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 0.6 to 1.0 inch
Water-supplying capacity: 10 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—1;
 wind erodibility group—7
Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Glean Soil

Classification: Pachic Haploxerolls, loamy-skeletal,
 mixed, frigid
Positions on landscape: North-facing, concave side
 slopes of mountains
Parent material: Colluvium derived from various kinds of
 rock
Slope: 15 to 30 percent
Elevation: 7,500 to 8,200 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Bluebunch wheatgrass,
 Idaho fescue, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 20 percent pebbles
Depth: 0 to 6 inches
Texture: Very gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 6 to 39 inches
Texture: Very gravelly sandy loam, very gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 39 to 51 inches
Texture: Very gravelly sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Neutral
Depth: 51 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 40 to 60 inches
Depth to a seasonal high water table: More than 60
 inches
Frequency of flooding: None
Permeability: Moderately rapid
Available water capacity: 3.1 to 5.1 inches
Water-supplying capacity: 14 inches
Runoff: Rapid
Hydrologic group: B
Erosion factors (upper layer): K value—0.10; T value—3;
 wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Positions on landscape: Crests and side slopes of mountains

Distinctive present vegetation: None

Inclusion 2

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Narrow, entrenched mountain drainageways

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 3

Classification: Argic Pachic Cryoborolls

Positions on landscape: The higher, concave, north-facing back slopes of mountains

Distinctive present vegetation: Common chokecherry, snowberry, Idaho fescue

Inclusion 4

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Narrow mountain drainageways and canyon bottoms

Distinctive present vegetation: Sedge, willow, tufted hairgrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Loncan Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Gando Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Glean Soil

Wild herbaceous plants (nonirrigated): Good

Shrubs (nonirrigated): Good

Suitability and Limitations for Selected Uses

Loncan Soil

Range seeding: Fair—erodes easily, too arid, droughty

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Gando Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Glean Soil

Range seeding: Poor—small stones

Roadfill: Fair—depth to rock, thin layer, slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Loncan and Glean soils—VIIe, nonirrigated; Gando soil—VIIc, nonirrigated

Range site: Loncan and Glean soils—028B030N; Gando soil—024X016N; Inclusion 1—none; Inclusion 2—025X003N; Inclusion 3—028B026N; Inclusion 4—025X005N

632—McConnel-Orovada-Misad association

Positions on landscape: Bolson floors, fan piedmonts

Composition

Major components:

McConnel gravelly loam, 2 to 8 percent slopes—50 percent

Orovada fine sandy loam, 2 to 4 percent slopes—20 percent

Misad gravelly very fine sandy loam, 2 to 4 percent slopes—15 percent

Contrasting inclusions:

Typic Camborthids, sandy-skeletal, mixed, mesic, 4 to 15 percent slopes—6 percent

Duric Camborthids, loamy-skeletal, mixed, mesic, 4 to 15 percent slopes—6 percent

Duric Camborthids, coarse-silty, mixed, mesic, 0 to 2 percent slopes—3 percent

Characteristics of the McConnel Soil

Classification: Xerollic Camborthids, sandy-skeletal, mixed, mesic
Positions on landscape: Beach terrace remnants
Parent material: Alluvium that includes some loess and ash over lacustrine sediment
Slope: 2 to 8 percent
Elevation: 6,100 to 6,400 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles
Depth: 0 to 6 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 6 to 12 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 12 to 60 inches
Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid over very rapid
Available water capacity: 2.9 to 4.2 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.32; T value—2; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—moderate
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans, areas between beach terrace remnants
Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium
Slope: 2 to 4 percent
Elevation: 6,100 to 6,400 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches
Texture: Fine sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 8 to 20 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 20 to 65 inches
Texture: Stratified fine sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 9.0 to 10.5 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Misad Soil

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: The lower areas on offshore bars

Parent material: Mixed alluvium that includes loess that is high in content of ash

Slope: 2 to 4 percent

Elevation: 6,100 to 6,300 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Typical Profile

Depth: 0 to 7 inches

Texture: Gravelly very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 31 inches

Texture: Stratified fine sandy loam to very gravelly sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 31 to 60 inches

Texture: Stratified very gravelly loamy sand to extremely gravelly coarse sand

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 2.9 to 4.1 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Classification: Typic Camborthids, sandy-skeletal, mixed, mesic

Positions on landscape: Convex barrier bars and offshore bars adjacent to lake plains

Distinctive present vegetation: Wyoming big sagebrush, black greasewood, basin wildrye

Inclusion 2

Classification: Duric Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: The higher remnant barrier and offshore bars

Distinctive present vegetation: Shadscale, bud sagebrush, black greasewood

Inclusion 3

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Remnant lagoons and fan skirts

Distinctive present vegetation: Annuals

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**McConnel Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Misad Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses**McConnel Soil**

Range seeding: Fair—too arid, droughty

Roadfill: Good

Topsoil: Poor—too sandy, small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Probable source

Gravel: Probable source

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Misad Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: McConnel and Misad soils—IVe, irrigated, and VIIs, nonirrigated; Orovada soil—IIe, irrigated, and VIc, nonirrigated

Range site: McConnel soil—024X005N; Orovada soil—028B010N; Misad soil—024X002N; Inclusion 1—024X022N; Inclusion 2—024X003N; Inclusion 3—024X004N

633—McConnel-Rasille-Wholan association

Positions on landscape: The lower fan piedmonts, beach terraces

Composition

Major components:

McConnel gravelly loam, 2 to 8 percent slopes—35 percent

Rasille silt loam, 0 to 2 percent slopes—25 percent

Wholan silt loam, 0 to 2 percent slopes—25 percent

Contrasting inclusions:

Orovada fine sandy loam, 2 to 4 percent slopes—8 percent

Defler gravelly fine sandy loam, 0 to 4 percent slopes—5 percent

Xerollic Haplargids, fine, montmorillonitic, mesic, 0 to 2 percent slopes—2 percent

Characteristics of the McConnel Soil

Classification: Xerollic Camborthids, sandy-skeletal, mixed, mesic

Positions on landscape: Beach terrace remnants that follow the contour of the shoreline

Parent material: Alluvium that includes some loess and ash over lacustrine sediment

Slope: 2 to 8 percent

Elevation: 6,000 to 6,300 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 12 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 12 to 60 inches

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid over very rapid

Available water capacity: 2.9 to 4.2 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.32; T value—2; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—moderate

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Rasilie Soil

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Fan skirts, areas between beach terrace remnants

Parent material: Silty alluvium derived from loess and various kinds of rock

Slope: 0 to 2 percent

Elevation: 6,000 to 6,300 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 15 inches

Texture: Silt loam

Structure: Prismatic

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 15 to 60 inches

Texture: Silt loam, very fine sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 10 to 12 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Wholan Soil

Classification: Typic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess mantle over silty alluvium

Slope: 0 to 2 percent

Elevation: 6,000 to 6,300 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, bluegrass, winterfat

Typical Profile

Depth: 0 to 6 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 60 inches

Texture: Silt loam, very fine sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 10 to 11 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The highest parts of inset fans and fan drainageways

Distinctive present vegetation: Wyoming big sagebrush, bottlebrush squirreltail

Inclusion 2

Classification: Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Convex inset fans dissecting remnant shorelines

Distinctive present vegetation: Winterfat, bud sagebrush, Indian ricegrass

Inclusion 3

Classification: Xerollic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: Remnant lagoons

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**McConnel Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Rasille Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Wholan Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses**McConnel Soil**

Range seeding: Fair—too arid, droughty

Roadfill: Good

Topsoil: Poor—too sandy, small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Probable source

Gravel: Probable source

Rasille Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wholan Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fine

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices**Rasille Soil**

Drainage: Deep to water

Irrigation: Erodes easily, excess salt

Terraces and diversions: Erodes easily

Wholan Soil

Drainage: Deep to water

Irrigation: Erodes easily

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: McConnel soil—IVe, irrigated, and VIIc, nonirrigated; Rasille soil—IIIc, irrigated, and VIc, nonirrigated; Wholan soil—IIc, irrigated, and VIIc, nonirrigated

Range site: McConnel soil—024X005N; Rasille soil—028B010N; Wholan soil—024X004N; Inclusion 1—028B010N; Inclusion 2—028B013N; Inclusion 3—024X006N

635—McConnel-Rasille association

Positions on landscape: The lower fan piedmonts

Composition

Major components:

McConnel gravelly loam, 2 to 4 percent slopes—55 percent

Rasille silt loam, gravelly substratum, 0 to 2 percent slopes—30 percent

Contrasting inclusions:

Orovada fine sandy loam, 0 to 2 percent slopes—8 percent

Allor fine sandy loam, 2 to 4 percent slopes—4 percent

Durixerollic Camborthids, coarse-silty, mixed, mesic, 0 to 2 percent slopes—3 percent

Characteristics of the McConnel Soil

Classification: Xerollic Camborthids, sandy-skeletal, mixed, mesic

Positions on landscape: Beach terrace remnants that follow the contour of the shoreline

Parent material: Alluvium that includes some loess and ash over lacustrine sediment

Slope: 2 to 4 percent

Elevation: 5,800 to 6,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 12 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 12 to 60 inches

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid over very rapid

Available water capacity: 2.9 to 4.2 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.32; T value—2; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—moderate

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Rasille Soil

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Areas between beach terrace remnants and fan skirts

Parent material: Silty alluvium derived from loess and various kinds of rock

Slope: 0 to 2 percent

Elevation: 5,800 to 6,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 15 inches

Texture: Silt loam

Structure: Prismatic

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 15 to 41 inches

Texture: Silt loam, very fine sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 41 to 60 inches

Texture: Stratified fine sandy loam to very gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 7.6 to 9.3 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5;
wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Fan drainageways
Distinctive present vegetation: Wyoming big sagebrush, bottlebrush squirreltail

Inclusion 2

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic
Positions on landscape: Nonburied fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush, bottlebrush squirreltail

Inclusion 3

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Sickie saltbush, halogeton, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

McConnel Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Rasille Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

McConnel Soil

Range seeding: Fair—too arid, droughty
Roadfill: Good
Topsoil: Poor—too sandy, small stones, area reclaim
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage, excess salt
Sand: Probable source
Gravel: Probable source

Rasille Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Fair—area reclaim, excess salt
Daily cover for landfill: Fair—thin layer
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—flooding, frost action
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Rasille Soil

Drainage: Deep to water
Irrigation: Erodes easily, excess salt
Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: McConnel soil—IVe, irrigated, and VIIc, nonirrigated; Rasille soil—IIIc, irrigated, and VIc, nonirrigated
Range site: McConnel soil—024X005N; Rasille soil—028B010N; Inclusions 1 and 2—028B010N; Inclusion 3—024X012N

636—McConnel-Defler-Rasille association

Positions on landscape: The lower fan piedmonts and fan skirts

Composition

Major components:

McConnel gravelly loam, 2 to 4 percent slopes—40 percent
Defler gravelly fine sandy loam, 2 to 4 percent slopes—30 percent
Rasille silt loam, 0 to 2 percent slopes—15 percent
Contrasting inclusions:
Typic Camborthids, coarse-loamy, mixed, mesic, 0 to 2 percent slopes—9 percent
Xerollic Camborthids, loamy-skeletal, mixed, mesic, 0 to 4 percent slopes—4 percent
Broyles very fine sandy loam, 0 to 2 percent slopes—2 percent

Characteristics of the McConnel Soil

Classification: Xerollic Camborthids, sandy-skeletal, mixed, mesic
Positions on landscape: Beach terrace remnants that follow the contour of the shoreline
Parent material: Alluvium that includes some loess and ash over lacustrine sediment
Slope: 2 to 4 percent

Elevation: 6,000 to 6,300 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles
Depth: 0 to 6 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 6 to 12 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 12 to 60 inches
Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid over very rapid
Available water capacity: 2.9 to 4.2 inches
Water-supplying capacity: 9 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.32; T value—2; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—moderate
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Characteristics of the Defler Soil

Classification: Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Convex inset fans
Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 4 percent
Elevation: 6,200 to 6,300 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 47 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, winterfat

Typical Profile

Rock fragments on surface: 30 percent pebbles
Depth: 0 to 5 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 5 to 35 inches
Texture: Very gravelly fine sandy loam, very gravelly sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 35 to 70 inches
Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand
Structure: Massive
Consistence: Hard, very friable
Reaction: Moderately alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderately rapid
Available water capacity: 2.9 to 4.4 inches
Water-supplying capacity: 9 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Rasille Soil

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Smooth fan skirts

Parent material: Silty alluvium derived from loess and various kinds of rock

Slope: 0 to 2 percent

Elevation: 6,000 to 6,300 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 15 inches

Texture: Silt loam

Structure: Prismatic

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 15 to 60 inches

Texture: Silt loam, very fine sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 11 to 12 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Typic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The lower inset fans

Distinctive present vegetation: Bud sagebrush, winterfat

Inclusion 2

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The lower fan skirt margins

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

McConnel Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Defler Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Rasille Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

McConnel Soil

Range seeding: Fair—too arid, droughty

Roadfill: Good

Topsoil: Poor—too sandy, small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Probable source

Gravel: Probable source

Defler Soil

Range seeding: Poor—droughty, too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—flooding

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—small stones

Gravel: Probable source

Rasille Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Fair—excess salt
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—flooding, frost action
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices**Rasille Soil**

Drainage: Deep to water
Irrigation: Erodes easily
Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: McConnel soil—IVe, irrigated, and VIIs, nonirrigated; Defler soil—IVe, irrigated, and VIIc, nonirrigated; Rasille soil—IIIc, irrigated, and VIc, nonirrigated

Range site: McConnel soil—024X005N; Defler soil—024X004N; Rasille soil—028B010N; Inclusion 1—024X004N; Inclusion 2—028B010N; Inclusion 3—024X002N

637—McConnel-Orovada association

Positions on landscape: Fan skirts, inset fans

Composition

Major components:

McConnel fine sandy loam, 0 to 2 percent slopes—35 percent

Orovada very fine sandy loam, rarely flooded, 0 to 2 percent slopes—25 percent

McConnel gravelly fine sandy loam, 0 to 2 percent slopes—25 percent

Contrasting inclusions:

Duric Camborthids, loamy-skeletal, mixed, mesic, 0 to 2 percent slopes—6 percent

Orovada fine sandy loam, 0 to 4 percent slopes—6 percent

Wholan silt loam, gravelly substratum, 0 to 2 percent slopes—3 percent

Characteristics of the McConnel Soil

Classification: Xerollic Camborthids, sandy-skeletal, mixed, mesic

Positions on landscape: Broad inset fan remnants

Parent material: Alluvium that includes some loess and ash over lacustrine sediment

Slope: 0 to 2 percent

Elevation: 6,200 to 6,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 50 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sedgebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 6 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 12 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 12 to 60 inches

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid over very rapid

Available water capacity: 2.9 to 4.2 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.37; T value—2; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirt remnants

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 0 to 2 percent
Elevation: 6,200 to 6,500 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches
Texture: Very fine sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 20 to 65 inches
Texture: Stratified fine sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderate
Available water capacity: 9.5 to 11.0 inches
Water-supplying capacity: 9 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the McConnel Soil, Gravelly

Classification: Xerollic Camborthids, sandy-skeletal, mixed, mesic
Positions on landscape: Outer margins of inset fan remnants near fan skirts
Parent material: Alluvium that includes some loess and ash over lacustrine sediment

Slope: 0 to 2 percent
Elevation: 6,200 to 6,500 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 6 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 6 to 12 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 12 to 60 inches
Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid over very rapid
Available water capacity: 2.7 to 4.0 inches
Water-supplying capacity: 9 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.32; T value—2; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—moderate
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Duric Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Fan skirt remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Adjacent to channeled areas on the lower inset fans

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Typic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Convex, occasionally flooded inset fans

Distinctive present vegetation: Bottlebrush squirreltail, winterfat

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

McConnel Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

McConnel Soil, Gravelly

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

McConnel Soil

Range seeding: Fair—too arid, droughty

Roadfill: Good

Topsoil: Poor—too sandy, small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Probable source

Gravel: Probable source

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action, flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

McConnel Soil, Gravelly

Range seeding: Fair—too arid, droughty

Roadfill: Good

Topsoil: Poor—too sandy, small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: McConnel soil—IVs, irrigated, and VIs, nonirrigated; Orovada soil—IIc, irrigated, and VIc, nonirrigated; McConnel soil, gravelly—IVs, irrigated, and VIIs, nonirrigated

Range site: McConnel and Orovada soils—028B010N; Inclusion 1—028B017N; Inclusion 2—028B010N; Inclusion 3—028B013N

638—McConnel-Wholan association

Positions on landscape: Fan skirts, inset fans

Composition

Major components:

McConnel fine sandy loam, 0 to 2 percent slopes—75 percent

Wholan silt loam, occasionally flooded, 0 to 2 percent slopes—20 percent

Contrasting inclusion:

Orovada very fine sandy loam, 0 to 4 percent slopes—5 percent

Characteristics of the McConnel Soil

Classification: Xerollic Camborthids, sandy-skeletal, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Alluvium that includes some loess and ash over lacustrine sediment

Slope: 0 to 2 percent

Elevation: 6,200 to 6,400 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 50 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 6 inches
Texture: Fine sandy loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 6 to 12 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 12 to 60 inches
Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid over very rapid
Available water capacity: 2.9 to 4.2 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.37; T value—2; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Characteristics of the Wholan Soil

Classification: Typic Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Narrow inset fans
Parent material: Loess mantle over silty alluvium
Slope: 0 to 2 percent
Elevation: 6,200 to 6,400 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, bluegrass, winterfat

Typical Profile

Depth: 0 to 6 inches

Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 6 to 60 inches
Texture: Silt loam, very fine sandy loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Occasional for very brief periods in December through April
Permeability: Moderate
Available water capacity: 10 to 12 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusion

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Broad areas on inset fans
Distinctive present vegetation: Wyoming big sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

McConnel Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Wholan Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

McConnel Soil

Range seeding: Fair—too arid, droughty
Roadfill: Good
Topsoil: Poor—too sandy, small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Probable source

Gravel: Probable source

Wholan Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Moderate—flooding

Local roads and streets: Severe—flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Wholan Soil

Drainage: Deep to water

Irrigation: Erodes easily, flooding

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: McConnel soil—IVs, irrigated, and VIIs, nonirrigated; Wholan soil—IIw, irrigated, and VIIw, nonirrigated

Range site: McConnel soil—028B010N; Wholan soil—028B013N; Inclusion—028B010N

670—Filiran-Pineval-Kingingham association

Positions on landscape: Fan piedmonts

Composition

Major components:

Filiran silt loam, 2 to 4 percent slopes—40 percent

Pineval gravelly fine sandy loam, 4 to 8 percent slopes—30 percent

Kingingham gravelly very fine sandy loam, 2 to 4 percent slopes—15 percent

Contrasting inclusions:

Allor gravelly loam, 4 to 15 percent slopes—8 percent

Orovada fine sandy loam, 2 to 4 percent slopes—7 percent

Characteristics of the Filiran Soil

Classification: Haploxerollic Nadurargids, fine, montmorillonitic, mesic

Positions on landscape: The upper summits of fan piedmont remnants

Parent material: Loess over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,700 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 7 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 7 to 12 inches

Texture: Gravelly silt loam

Structure: Platy

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 5 to 10

Depth: 12 to 33 inches

Texture: Clay, gravelly clay

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 33 to 60 inches

Material: Cemented hardpan

Soil and Water Features

Depth to the hardpan: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 4.5 to 5.5 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: D

Erosion factors (upper layer): K value—0.49; T value—2; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—moderate

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Pineval Soil

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan aprons

Parent material: Mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,700 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 5 to 11 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 11 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.0 to 4.2 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Kingingham Soil

Classification: Typic Nadurargids, fine, montmorillonitic, mesic

Positions on landscape: The lower summits of fan piedmont remnants

Parent material: Thin loess mantle over alluvium derived from various kinds of rock

Slope: 2 to 4 percent

Elevation: 5,600 to 5,900 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 7 inches

Texture: Gravelly very fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 7 to 22 inches

Texture: Gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 40

Depth: 22 to 60 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Soil and Water Features

Depth to the hardpan: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 3.5 to 4.2 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.32; T value—2; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Indian ricegrass, bluegrass, Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Filiran Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Pineval Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Kingingham Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Filiran Soil

Range seeding: Poor—excess sodium

Roadfill: Poor—cemented pan, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones, excess sodium

Daily cover for landfill: Poor—cemented pan, hard to pack

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—shrink-swell, low strength

Pond reservoir areas: Moderate—cemented pan, slope

Embankments, dikes, and levees: Severe—excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Pineval Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Kingingham Soil

Range seeding: Poor—excess sodium, rooting depth

Roadfill: Poor—cemented pan, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones, excess salt

Daily cover for landfill: Poor—cemented pan, hard to pack

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—shrink-swell, low strength

Pond reservoir areas: Moderate—cemented pan, slope

Embankments, dikes, and levees: Severe—excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Filiran and Kingingham soils—VIIs, nonirrigated; Pineval soil—IVe, irrigated, and VIIs, nonirrigated

Range site: Filiran and Pineval soils—028B010N; Kingingham soil—024X002N; Inclusions 1 and 2—028B010N

674—Filiran-Buffaran association

Positions on landscape: Fan piedmonts

Composition

Major components:

Filiran very gravelly loam, 2 to 4 percent slopes—50 percent

Buffaran extremely gravelly loam, 8 to 30 percent slopes—35 percent

Contrasting inclusions:

Pineval gravelly loam, 2 to 8 percent slopes—8 percent

Allor gravelly loam, 4 to 8 percent slopes—4 percent

Haplic Nadurargids, loamy-skeletal, mixed, mesic, 2 to 4 percent slopes—3 percent

Characteristics of the Filiran Soil

Classification: Haploxerollic Nadurargids, fine, montmorillonitic, mesic

Positions on landscape: Summits of fan piedmont remnants

Parent material: Loess over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days
Dominant present vegetation: Bottlebrush squirreltail,
 bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 7 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 12 inches

Texture: Gravelly silt loam

Structure: Platy

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 12 to 33 inches

Texture: Clay, gravelly clay

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 33 to 60 inches

Material: Cemented hardpan

Soil and Water Features

Depth to the hardpan: 20 to 40 inches

Depth to a seasonal high water table: More than 60
 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 4.5 to 5.5 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—2;
 wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Buffaran Soil

Classification: Xerollic Durargids, clayey,
 montmorillonitic, mesic, shallow

Positions on landscape: Shoulder slopes and side
 slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 8 to 30 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Thurber needlegrass,
 bottlebrush squirreltail, Indian ricegrass, big
 sagebrush

Typical Profile

Rock fragments on surface: 65 percent pebbles

Depth: 0 to 5 inches

Texture: Extremely gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 5 to 16 inches

Texture: Clay, gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 16 to 27 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Depth: 27 to 60 inches

Material: Cemented hardpan

Structure: Platy

Consistence: Very hard, very firm

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60
 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.9 to 2.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.05; T value—1
 wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, loamy-skeletal,
 mixed, mesic

Positions on landscape: Foot slopes of fan piedmonts
Distinctive present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The lower side slopes of fan piedmont remnants

Distinctive present vegetation: Bottlebrush squirreltail, Wyoming big sagebrush

Inclusion 3

Classification: Haplic Nadurargids, loamy-skeletal, mixed, mesic

Positions on landscape: The lower summits and shoulder slopes of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Filiran Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Buffaran Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Filiran Soil

Range seeding: Poor—small stones, excess sodium

Roadfill: Poor—cemented pan, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones, excess sodium

Daily cover for landfill: Poor—cemented pan, hard to pack

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—shrink-swell, low strength

Pond reservoir areas: Moderate—cemented pan, slope

Embankments, dikes, and levees: Severe—excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Buffaran Soil

Range seeding: Poor—droughty, rooting depth, small stones

Roadfill: Poor—cemented pan, shrink-swell, low strength

Topsoil: Poor—cemented pan, too clayey, small stones

Daily cover for landfill: Poor—cemented pan, hard to pack, slope

Shallow excavations: Severe—cemented pan, slope

Local roads and streets: Severe—cemented pan, shrink-swell, low strength

Pond reservoir areas: Severe—cemented pan, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Filiran and Buffaran soils—VIIIs, nonirrigated

Range site: Filiran and Buffaran soils—028B010N; Inclusions 1 and 2—028B010N; Inclusion 3—024X002N

675—Filiran-Buffaran-Orovada association

Positions on landscape: Fan piedmonts

Composition

Major components:

Filiran very gravelly loam, 2 to 4 percent slopes—40 percent

Buffaran gravelly loam, 4 to 8 percent slopes—25 percent

Orovada fine sandy loam, 2 to 4 percent slopes—20 percent

Contrasting inclusions:

Chiara gravelly loam, 4 to 15 percent slopes—8 percent

Pineval gravelly loam, 4 to 8 percent slopes—7 percent

Characteristics of the Filiran Soil

Classification: Haploxerollic Nadurargids, fine, montmorillonitic, mesic

Positions on landscape: Summits of fan piedmont remnants

Parent material: Loess over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 7 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 12 inches
Texture: Gravelly silt loam
Structure: Platy
Consistence: Hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 12 to 33 inches
Texture: Clay, gravelly clay
Structure: Prismatic
Consistence: Very hard, very firm
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 13 to 25

Depth: 33 to 60 inches
Material: Cemented hardpan

Soil and Water Features

Depth to the hardpan: 20 to 40 inches
Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None
Permeability: Very slow
Available water capacity: 4.5 to 5.5 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: D
Erosion factors (upper layer): K value—0.20; T value—2; wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Buffaran Soil

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow
Positions on landscape: Shoulder slopes of fan piedmont remnants
Parent material: Mixed alluvium
Slope: 4 to 8 percent
Elevation: 5,800 to 6,200 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Thurber needlegrass, bottlebrush squirreltail, Indian ricegrass, big sagebrush

Typical Profile

Rock fragments on surface: 15 percent pebbles
Depth: 0 to 5 inches
Texture: Gravelly loam
Structure: Platy

Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 5 to 16 inches
Texture: Clay, gravelly clay, gravelly clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 16 to 27 inches
Material: Indurated hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm

Depth: 27 to 60 inches
Material: Cemented hardpan
Structure: Platy
Consistence: Very hard, very firm

Soil and Water Features

Depth to the hardpan: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.9 to 2.4 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans
Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium
Slope: 2 to 4 percent
Elevation: 5,800 to 6,200 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 20 to 65 inches
Texture: Stratified fine sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 9.0 to 11.0 inches
Water-supplying capacity: 9 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Durorthids, loamy, mixed, mesic, shallow
Positions on landscape: South-facing side slopes of fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: The higher parts of inset fans
Distinctive present vegetation: Bluegrass, rabbitbrush, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Filiran Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Buffaran Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Filiran Soil

Range seeding: Poor—small stones, excess sodium
Roadfill: Poor—cemented pan, shrink-swell, low strength
Topsoil: Poor—too clayey, small stones, excess sodium
Daily cover for landfill: Poor—cemented pan, hard to pack
Shallow excavations: Severe—cemented pan
Local roads and streets: Severe—shrink-swell, low strength
Pond reservoir areas: Moderate—cemented pan, slope
Embankments, dikes, and levees: Severe—excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Buffaran Soil

Range seeding: Poor—droughty, rooting depth
Roadfill: Poor—cemented pan, shrink-swell, low strength
Topsoil: Poor—cemented pan, too clayey, small stones
Daily cover for landfill: Poor—cemented pan, hard to pack
Shallow excavations: Severe—cemented pan
Local roads and streets: Severe—cemented pan, shrink-swell, low strength
Pond reservoir areas: Severe—cemented pan
Embankments, dikes, and levees: Severe—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Fair—small stones, thin layer
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—frost action
Pond reservoir areas: Moderate—seepage, slope
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Filiran and Buffaran soils—

Vlls, nonirrigated; Orovada soil—Ile, irrigated, and Vlc, nonirrigated

Range site: Filiran, Buffaran, and Orovada soils—028B010N; Inclusions 1 and 2—028B010N

680—Skullwak-Umberland-Wendane association

Positions on landscape: Bolson floors

Composition

Major components:

Skullwak silt loam, frequently flooded, 0 to 2 percent slopes—35 percent

Umberland silt loam, occasionally flooded, 0 to 2 percent slopes—35 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—15 percent

Contrasting inclusions:

Playas—7 percent

Batan silt loam, 0 to 2 percent slopes—5 percent

Dune land, clay—3 percent

Characteristics of the Skullwak Soil

Classification: Aeric Halaquepts, fine, montmorillonitic (calcareous), mesic

Positions on landscape: The higher lake plains

Parent material: Lacustrine sediment

Slope: 0 to 2 percent

Elevation: 5,600 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Inland saltgrass, Nuttall alkaligrass, alkali rabbitbrush, rubber rabbitbrush

Typical Profile

Depth: 0 to 10 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, friable

Reaction: Very strongly alkaline

Salinity: 16 to 40 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 10 to 60 inches

Texture: Silty clay loam, silty clay

Structure: Massive

Consistence: Very hard, very firm

Reaction: Moderately alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: 18 to 36 inches

Frequency of flooding: Frequent for brief periods in December through June

Permeability: Very slow

Available water capacity: 11 to 12 inches

Water-supplying capacity: 10 inches

Runoff: Slow

Hydrologic group: D

Erosion factors (upper layer): K value—0.55; T value—5 wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Moderate

Characteristics of the Umberland Soil

Classification: Aeric Halaquepts, fine, montmorillonitic (calcareous), mesic

Positions on landscape: The lower lake plains with coppice mounds

Parent material: Silty lacustrine sediment derived from various kinds of rock

Slope: 0 to 2 percent

Elevation: 5,600 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Black greasewood, rubber rabbitbrush, basin wildrye

Typical Profile

Depth: 0 to 7 inches

Texture: Silt loam

Structure: Granular

Consistence: Slightly hard, friable

Reaction: Very strongly alkaline

Salinity: 40 to 60 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 7 to 60 inches

Texture: Silty clay, silty clay loam

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Very strongly alkaline

Salinity: 20 to 40 millimhos per centimeter

Sodicity (SAR): 30 to 46

Soil and Water Features

Depth to a seasonal high water table: 30 to 60 inches

Frequency of flooding: Occasional for long periods in December through June

Permeability: Very slow

Available water capacity: 9 to 12 inches

Water-supplying capacity: 8 inches

Runoff: Very slow

Hydrologic group: D

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: High

Characteristics of the Wendane Soil

Classification: Aerlic Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats

Parent material: Silty alluvium derived from volcanic rock, tuff, loess, and ash

Slope: 0 to 2 percent

Elevation: 5,600 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Black greasewood, basin wildrye

Typical Profile

Depth: 0 to 7 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 30 to 50 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 7 to 18 inches

Texture: Silt loam, very fine sandy loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 18 to 60 inches

Texture: Stratified silt loam to clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: 30 to 48 inches

Frequency of flooding: Frequent for brief to long periods in December through June

Permeability: Moderately slow

Available water capacity: 11 to 12.5 inches

Water-supplying capacity: 8 inches

Runoff: Very slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Positions on landscape: Sink areas

Distinctive present vegetation: None

Inclusion 2

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Dissected lake plain remnants

Distinctive present vegetation: Black greasewood, shadscale, bud sagebrush

Inclusion 3

Positions on landscape: Near Playas

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Skullwak Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wetland plants: Poor

Shallow water areas: Poor

Umlerland Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wetland plants: Poor

Shallow water areas: Poor

Wendane Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wetland plants: Poor

Shallow water areas: Poor

Suitability and Limitations for Selected Uses

Skullwak Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—shrink-swell, low strength

Topsoil: Poor—too clayey, excess salt

Daily cover for landfill: Poor—too clayey, hard to pack

Shallow excavations: Severe—wetness

Local roads and streets: Severe—shrink-swell, low strength, flooding

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—wetness, excess salt

Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Umbreland Soil

Range seeding: Poor—excess salt, excess sodium, too crusty

Roadfill: Poor—low strength, shrink-swell

Topsoil: Poor—excess salt, excess sodium, too clayey

Daily cover for landfill: Poor—too clayey, hard to pack, excess salt

Shallow excavations: Moderate—too clayey, wetness, flooding

Local roads and streets: Severe—low strength, flooding, shrink-swell

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wendane Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Skullwak, Umbreland, and Wendane soils—VIIw, nonirrigated

Range site: Skullwak soil—024X044N; Umbreland soil—024X011N; Wendane soil—024X007N; Inclusion 1—none; Inclusion 2—024X003N; Inclusion 3—none

683—Ocala-Sonoma-Paranat association

Positions on landscape: Flood plains, alluvial flats

Composition

Major components:

Ocala silt loam, occasionally flooded, 0 to 2 percent slopes—40 percent

Sonoma silt loam, occasionally flooded, strongly saline, 0 to 2 percent slopes—25 percent

Paranat silt loam, strongly saline, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Aquic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—8 percent

Aeric Halaquepts, fine-silty, mixed, mesic, 0 to 2 percent slopes—5 percent

Durorthidic Torriorthents, coarse-silty, mixed (calcareous), mesic, 2 to 4 percent slopes—2 percent

Characteristics of the Ocala Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats

Parent material: Mixed silty alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 5,700 to 5,900 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Black greasewood, rubber rabbitbrush, basin wildrye, alkali sacaton

Typical Profile

Depth: 0 to 4 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Very strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 30 to 46

Depth: 4 to 36 inches

Texture: Silt loam, silty clay loam

Structure: Massive

Consistence: Hard, brittle

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 20 to 46

Depth: 36 to 60 inches

Texture: Silt loam, silty clay loam

Structure: Massive

Consistence: Very hard, very firm

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 20 to 35

Soil and Water Features

Depth to a seasonal high water table: 42 to 60 inches

Frequency of flooding: Occasional for brief to long periods in February through May

Permeability: Slow

Available water capacity: 11 to 12 inches

Water-supplying capacity: 8 inches

Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.43; T value—5;
 wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Sonoma Soil

Classification: Aeric Fluvaquents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Stream flood plains
Parent material: Mixed silty alluvium that includes volcanic ash
Slope: 0 to 2 percent
Elevation: 5,700 to 5,900 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Alkali sacaton, alkali cordgrass, inland saltgrass, basin wildrye

Typical Profile

Depth: 0 to 12 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 13 to 25

Depth: 12 to 60 inches
Texture: Silt loam, silty clay loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: 18 to 36 inches
Frequency of flooding: Occasional for brief to long periods in February through June
Permeability: Moderately slow
Available water capacity: 11 to 12 inches
Water-supplying capacity: 10 inches
Runoff: Slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.43; T value—5;
 wind erodibility group—6
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Paranat Soil

Classification: Fluvaquentic Haplaquolls, fine-silty, mixed (calcareous), mesic
Positions on landscape: Adjacent to channels and depressional areas
Parent material: Silty fluvial deposits
Slope: 0 to 2 percent
Elevation: 5,700 to 5,900 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Alkali sacaton, alkali cordgrass, alkali bluegrass, western wheatgrass

Typical Profile

Depth: 0 to 11 inches
Texture: Silt loam
Structure: Granular
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 13 to 20

Depth: 11 to 60 inches
Texture: Silt loam, silty clay loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: 18 to 42 inches
Frequency of flooding: Frequent for brief to long periods in December through June
Permeability: Moderately slow
Available water capacity: 11 to 12 inches
Water-supplying capacity: 12 inches
Runoff: Slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.55; T value—5;
 wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Aquic Torriorthents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Flood plain remnants
Distinctive present vegetation: Basin wildrye, basin big sagebrush, black greasewood

Inclusion 2

Classification: Aeric Halaquepts, fine-silty, mixed, mesic

Positions on landscape: Stream flood plain remnants, braided channels

Distinctive present vegetation: Basin wildrye, inland saltgrass, basin big sagebrush

Inclusion 3

Classification: Durorthidic Torriorthents, coarse-silty, mixed (calcareous), mesic

Positions on landscape: Fan skirt margins adjacent to alluvial flats and flood plains

Distinctive present vegetation: Wyoming big sagebrush, rubber rabbitbrush, black greasewood

Major Current Uses

Livestock grazing, wildlife habitat, native pasture

Suitability for Wildlife Habitat Elements**Ocala Soil**

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wetland plants: Fair

Shallow water areas: Fair

Sonoma Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Wetland plants: Fair

Shallow water areas: good

Paranat Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Wetland plants: Good

Shallow water areas: Fair

Suitability and Limitations for Selected Uses**Ocala Soil**

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—low strength, flooding, frost action

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Sonoma Soil

Range seeding: Poor—excess salt

Roadfill: Poor—low strength

Topsoil: Fair—excess salt, too clayey

Daily cover for landfill: Fair—too clayey, wetness

Shallow excavations: Severe—wetness

Local roads and streets: Severe—low strength, frost action, flooding

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—wetness, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Paranat Soil

Range seeding: Poor—excess salt

Roadfill: Poor—low strength

Topsoil: Poor—excess salt

Daily cover for landfill: Fair—too clayey, wetness

Shallow excavations: Severe—wetness

Local roads and streets: Severe—low strength, frost action, flooding

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—piping, excess salt, wetness

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices**Sonoma Soil**

Drainage: Frost action, flooding

Irrigation: Wetness, erodes easily

Terraces and diversions: Wetness, erodes easily

Paranat Soil

Drainage: Flooding, frost action, excess salt

Irrigation: Wetness, erodes easily, flooding

Terraces and diversions: Erodes easily, wetness

Interpretive Groups

Land capability classification: Ocala, Sonoma, and Paranat soils—VIIw, nonirrigated

Range site: Ocala soil—024X007N; Sonoma and Paranat soils—024X009N; Inclusion 1—024X006N; Inclusion 2—024X010N; Inclusion 3—024X022N

700—Orovada-Rasille-Wholan association

Positions on landscape: Piedmont slopes

Composition

Major components:

Orovada fine sandy loam, 0 to 2 percent slopes—35 percent

Rasille silt loam, 0 to 2 percent slopes—30 percent

Wholan silt loam, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Duric Haplargids, loamy-skeletal, mixed, mesic, 0 to 2 percent slopes—7 percent

Aquic Duric Haploxerolls, fine-loamy, mixed, mesic, 0 to 2 percent slopes—4 percent

Xerollic Camborthids, sandy-skeletal, mixed, mesic, 0 to 4 percent slopes—2 percent

Cumulic Haploxerolls, loamy-skeletal, mixed, mesic, 0 to 2 percent slopes—2 percent

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fan remnants

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,900 to 6,300 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 26 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 26 to 61 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 9 to 11 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Rasille Soil

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Silty alluvium derived from loess and various kinds of rock

Slope: 0 to 2 percent

Elevation: 5,900 to 6,300 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 15 inches

Texture: Silt loam

Structure: Prismatic

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 15 to 60 inches

Texture: Silt loam, very fine sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 10 to 12 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Wholan Soil

Classification: Typic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess mantle over silty alluvium

Slope: 0 to 2 percent

Elevation: 5,900 to 6,300 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, bluegrass, winterfat

Typical Profile

Depth: 0 to 6 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 60 inches

Texture: Silt loam, very fine sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 10 to 11 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Duric Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Beach terrace remnants

Distinctive present vegetation: Shadscale, bottlebrush squirreltail, halogeton

Inclusion 2

Classification: Aquic Duric Haploxerolls, fine-loamy, mixed, mesic

Positions on landscape: Fan skirt margins

Distinctive present vegetation: Basin wildrye, basin big sagebrush, black greasewood

Inclusion 3

Classification: Xerollic Camborthids, sandy-skeletal, mixed, mesic

Positions on landscape: Offshore bars

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 4

Classification: Cumulic Haploxerolls, loamy-skeletal, mixed, mesic

Positions on landscape: Banks adjacent to deeply entrenched channels

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Rasille Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Wholan Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Rasille Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wholan Soil

Range seeding: Fair—too arid, excess salt

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Rasille Soil

Drainage: Deep to water

Irrigation: Erodes easily, excess salt

Terraces and diversions: Erodes easily

Wholan Soil

Drainage: Deep to water

Irrigation: Erodes easily

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Orovada and Wholan soils—IIc, irrigated, and VIc, nonirrigated; Rasille soil—IIIc, irrigated, and VIc, nonirrigated

Range site: Orovada and Rasille soils—028B010N; Wholan soil—024X004N; Inclusion 1—024X002N; Inclusion 2—024X006N; Inclusion 3—028B010N; Inclusion 4—028B003N

701—Orovada fine sandy loam, 2 to 4 percent slopes

Positions on landscape: Fan skirts, inset fans

Composition

Major component:

Orovada fine sandy loam, 2 to 4 percent slopes—85 percent

Contrasting inclusions:

Broyles very fine sandy loam, 2 to 4 percent slopes—5 percent

Creemon silt loam, 2 to 4 percent slopes—5 percent

Davey fine sandy loam, 2 to 4 percent slopes—5 percent

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts, inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 4,800 to 5,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 20 to 60 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 9 to 11 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The higher fan skirt remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: The slightly dissected, lower inset fans

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Xerollic Camborthids, sandy, mixed, mesic

Positions on landscape: Sand sheets

Distinctive present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Orovada soil—Ile, irrigated, and VIc, nonirrigated

Range site: Orovada soil—028B010N; Inclusions 1 and 2—024X002N; Inclusion 3—024X017N

702—Orovada-Creemon association

Positions on landscape: Fan skirts, inset fans

Composition

Major components:

Orovada fine sandy loam, 2 to 4 percent slopes—55 percent

Creemon fine sandy loam, strongly saline, 0 to 2 percent slopes—30 percent

Contrasting inclusions:

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 0 to 4 percent slopes—8 percent

Duric Camborthids, coarse-loamy, mixed, mesic, 0 to 4 percent slopes—4 percent

Typic Camborthids, loamy-skeletal, mixed, mesic, 0 to 4 percent slopes—3 percent

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Broad inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,500 to 6,100 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 20 to 60 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 9.0 to 10.5 inches

Water-supplying capacity: 8 inches

Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.43; T value—5;
 wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Creemon Soil

Classification: Duric Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Fan skirts
Parent material: Mixed silty alluvium that includes volcanic ash
Slope: 0 to 2 percent
Elevation: 5,500 to 5,700 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Shadscale, bud sagebrush, black greasewood, Indian ricegrass

Typical Profile

Depth: 0 to 10 inches
Texture: Fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 10 to 20
Depth: 10 to 15 inches
Texture: Silt loam, very fine sandy loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 46
Depth: 15 to 45 inches
Texture: Stratified very fine sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 13 to 30
Depth: 45 to 60 inches
Texture: Stratified gravelly very fine sandy loam to fine sandy loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 10 to 11 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.32; T value—5;
 wind erodibility group—5
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: Fan skirt margins bordering fan piedmont remnants
Distinctive present vegetation: Basin wildrye, basin big sagebrush

Inclusion 2

Classification: Duric Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Fan skirt margins bordering alluvial flat
Distinctive present vegetation: Fourwing saltbush, winterfat, bud sagebrush

Inclusion 3

Classification: Typic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Areas adjacent to active channels
Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Creemon Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Creemon Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Creemon Soil

Drainage: Deep to water

Irrigation: Erodes easily, excess salt, soil blowing

Terraces and diversions: Erodes easily, soil blowing

Interpretive Groups

Land capability classification: Orovada soil—Ile, irrigated, and VIc, nonirrigated; Creemon soil—IIs, irrigated, and VIIs, nonirrigated

Range site: Orovada soil—028B010N; Creemon soil—024X003N; Inclusion 1—024X006N; Inclusion 2—028B014N; Inclusion 3—024X002N

703—Orovada fine sandy loam, 0 to 2 percent slopes

Positions on landscape: Inset fans

Composition

Major component:

Orovada fine sandy loam, 0 to 2 percent slopes—85 percent

Contrasting inclusions:

Chedehap sandy loam, 0 to 2 percent slopes—10 percent

Xeric Torriorthents, loamy-skeletal, mixed, mesic—3 percent

Durixerollic Camborthids, coarse-loamy, mixed, mesic—2 percent

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 20 to 65 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 9.0 to 10.5 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The lower inset fans

Distinctive present vegetation: Spiny hopsage, needlegrass, Wyoming big sagebrush

Inclusion 2

Classification: Xeric Torriorthents, loamy-skeletal, mixed, mesic

Positions on landscape: The lower areas adjacent to channels

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The higher channel banks

Distinctive present vegetation: Basin wildrye, western wheatgrass, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action, flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Orovada soil—I1c, irrigated, and V1c, nonirrigated

Range site: Orovada soil—028B010N; Inclusion 1—028B052N; Inclusion 2—028B009N; Inclusion 3—024X006N

704—Orovada-McConnel association

Positions on landscape: Fan piedmonts, fan skirts

Composition

Major components:

Orovada fine sandy loam, 2 to 4 percent slopes—50 percent

McConnel gravelly fine sandy loam, 2 to 4 percent slopes—35 percent

Contrasting inclusions:

Duric Camborthids, coarse-loamy, mixed, mesic, 0 to 2 percent slopes—6 percent

Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 0 to 4 percent slopes—5 percent

Fluventic Haploxerolls, loamy-skeletal, mixed, mesic, 0 to 2 percent slopes—4 percent

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts, the lower inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 6,000 to 6,300 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 20 to 65 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 9.0 to 10.5 inches

Water-supplying capacity: 8 inches

Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.43; T value—5;
 wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the McConnel Soil

Classification: Xerollic Camborthids, sandy-skeletal, mixed, mesic
Positions on landscape: Beach terraces, the higher inset fan remnants
Parent material: Alluvium that includes some loess and volcanic ash over lacustrine sediment
Slope: 2 to 4 percent
Elevation: 6,000 to 6,300 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles
Depth: 0 to 6 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 6 to 12 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 12 to 60 inches
Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid over very rapid

Available water capacity: 2.9 to 4.2 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.32; T value—2;
 wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Duric Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: The lower margins of fan skirts
Distinctive present vegetation: Bud sagebrush, bottlebrush squirreltail, winterfat

Inclusion 2

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Fan drainageways
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Fluventic Haploxerolls, loamy-skeletal, mixed, mesic
Positions on landscape: Intermountain valley fans and drainageways
Distinctive present vegetation: Basin big sagebrush, rubber rabbitbrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

McConnel Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Orovada Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Fair—small stones, thin layer
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—frost action
Pond reservoir areas: Moderate—seepage, slope
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

McConnel Soil

Range seeding: Fair—too arid, droughty

Roadfill: Good

Topsoil: Poor—too sandy, small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Orovada soil—Ile, irrigated, and VIc, nonirrigated; McConnel soil—IVe, irrigated, and VIIs, nonirrigated

Range site: Orovada soil—028B010N; McConnel soil—024X005N; Inclusion 1—024X004N; Inclusion 2—028B010N; Inclusion 3—028B003N

705—Orovada-Valmy association

Positions on landscape: Piedmont slopes

Composition

Major components:

Orovada fine sandy loam, 2 to 4 percent slopes—45 percent

Valmy very fine sandy loam, 0 to 2 percent slopes—40 percent

Contrasting inclusions:

Gund silt loam, 0 to 2 percent slopes—7 percent

Zineb gravelly loam, 0 to 4 percent slopes—5 percent

Haploxerollic Durorthids, coarse-loamy, mixed, mesic, 2 to 4 percent slopes—3 percent

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirt remnants

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,700 to 5,900 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 20 to 65 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 9 to 11 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Valmy Soil

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Inset fans, fan skirts

Parent material: Loess cap that is high in content of volcanic ash over mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,700 to 5,900 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 50 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Basin wildrye, black greasewood, basin big sagebrush

Typical Profile

Depth: 0 to 3 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 3 to 43 inches

Texture: Fine sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 43 to 66 inches

Texture: Gravelly sand, very gravelly sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 5 to 7 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—4; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Aquic Durorthidic Torriorthents, fine-silty over clayey, mixed, nonacid, mesic

Positions on landscape: Alluvial flats

Distinctive present vegetation: Basin big sagebrush, black greasewood

Inclusion 2

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Narrow, higher inset fans

Distinctive present vegetation: Indian ricegrass, Wyoming big sagebrush

Inclusion 3

Classification: Haploxerollic Durorthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Valmy Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Valmy Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Fair—small stones, thin layer

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Moderate—thin layer, seepage, piping

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Orovada soil—IIe, irrigated, and VIc, nonirrigated; Valmy soil—IIs, irrigated, and VIIc, nonirrigated

Range site: Orovada soil—028B010N; Valmy soil—024X022N; Inclusion 1—024X006N; Inclusions 2 and 3—028B010N

740—Playas

Positions on landscape: Basin floors

Composition

Major component:

Playas—100 percent

Characteristics of the Playas

Positions on landscape: Depressions and sink areas on basin floors
Parent material: Lacustrine sediment veneered by fine-textured sediment
Frequency of flooding: Frequent for brief to long periods in September through July
Runoff: Pondered
Hydrologic group: D

Interpretive Groups

Land capability classification: VIIIw, nonirrigated
Range site: None

751—Poorcal-Lopwash association

Positions on landscape: Inset fans

Composition

Major components:

Poorcal loam, 0 to 4 percent slopes—55 percent
 Lopwash loam, 0 to 4 percent slopes—40 percent

Contrasting inclusions:

Bubus loam, 0 to 4 percent slopes—2 percent
 Durixerollic Haplargids, fine-loamy, mixed, frigid, 0 to 4 percent slopes—2 percent
 Shipley fine sandy loam, occasionally flooded, 0 to 4 percent slopes—1 percent

Characteristics of the Poorcal Soil

Classification: Durixerollic Calciorthids, coarse-loamy, mixed, frigid
Positions on landscape: Broad inset fans
Parent material: Alluvium that is derived from sedimentary rock and includes loess and volcanic ash
Slope: 0 to 4 percent
Elevation: 6,200 to 6,800 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 46 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 5 percent pebbles
Depth: 0 to 9 inches
Texture: Loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 9 to 30 inches

Texture: Loam, gravelly sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 30 to 62 inches
Texture: Very gravelly loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 4.5 to 6.0 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.32; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Lopwash Soil

Classification: Typic Camborthids, loamy-skeletal, mixed, frigid
Positions on landscape: Narrow inset fans adjacent to channels
Parent material: Alluvium derived from various kinds of rock and loess
Slope: 0 to 4 percent
Elevation: 6,200 to 6,800 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 46 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, shadscale, bud sagebrush

Typical Profile

Depth: 0 to 12 inches
Texture: Loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 12 to 60 inches

Texture: Very gravelly sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 4.5 to 5.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.37; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Stream terraces

Distinctive present vegetation: Black greasewood

Inclusion 2

Classification: Durixerollic Haplargids, fine-loamy, mixed, frigid

Positions on landscape: Nonburied fan piedmont remnants

Distinctive present vegetation: Needlegrass, bluegrass, Wyoming big sagebrush

Inclusion 3

Classification: Xeric Torriorthents, coarse-loamy, mixed (calcareous), frigid

Positions on landscape: Concave inset fans that are subject to run-on

Distinctive present vegetation: Bottlebrush squirreltail, winterfat

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Poorcal Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Lopwash Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Poorcal Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Lopwash Soil

Range seeding: Poor—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Poorcal and Lopwash soils—Ive, irrigated, and VIIc, nonirrigated

Range site: Poorcal soil—028B010N; Lopwash soil—028B017N; Inclusion 1—024X003N; Inclusion 2—028B010N; Inclusion 3—028B013N

811—Ravenswood-Itca-Walti association

Positions on landscape: Mountains

Composition

Major components:

Ravenswood gravelly loam, 15 to 50 percent slopes, very stony—50 percent

Itca stony loam, 15 to 50 percent slopes—20 percent

Walti cobbly loam, 8 to 15 percent slopes—15 percent

Contrasting inclusions:

Rock outcrop—8 percent

Robson very gravelly loam, 8 to 15 percent slopes—4 percent

Cleavage very gravelly fine sandy loam, 8 to 30 percent slopes—3 percent

Characteristics of the Ravenswood Soil

Classification: Typic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: North- and east-facing side slopes of mountains

Parent material: Colluvium and residuum derived from metavolcanic and volcanic rock

Slope: 15 to 50 percent

Elevation: 6,200 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, mountain big sagebrush, singleleaf pinyon

Site index for singleleaf pinyon: 55

Typical Profile

Rock fragments on surface: 3 percent stones and boulders, 10 percent cobbles, 65 percent pebbles

Depth: 0 to 9 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 9 to 13 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 13 to 36 inches

Texture: Very gravelly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 36 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 30 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 5 to 6 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.20; T value—2; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: South- and west-facing side slopes of mountains

Parent material: Residuum derived from extrusive volcanic and pyroclastic rock

Slope: 15 to 50 percent

Elevation: 6,200 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush

Site index for singleleaf pinyon: 70

Typical Profile

Rock fragments on surface: 5 percent cobbles, 5 percent pebbles

Depth: 0 to 2 inches

Texture: Stony loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 2 to 14 inches

Texture: Very cobbly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 14 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 2.0 to 2.5 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Walti Soil

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Summits and shoulder slopes of mountains

Parent material: Colluvium and residuum derived from rhyolite, andesite, and tuff

Slope: 8 to 15 percent

Elevation: 6,800 to 8,200 feet

Average annual precipitation: About 14 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 10 percent pebbles

Depth: 0 to 4 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 10 inches

Texture: Clay loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 10 to 30 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Neutral

Depth: 30 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 3.7 to 4.7 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—2; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Positions on landscape: Scattered peaks, rimrock

Distinctive present vegetation: None

Inclusion 2

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: The lower shoulder slopes of mountains

Distinctive present vegetation: Bluebunch wheatgrass, bluegrass, low sagebrush

Inclusion 3

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Windswept crests and nose slopes of mountains

Distinctive present vegetation: Bluegrass, black sagebrush, low sagebrush

Major Current Uses

Livestock grazing, wildlife habitat, cordwood production

Suitability for Wildlife Habitat Elements

Ravenswood Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Itca Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Walti Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Ravenswood Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Itca Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, large stones, slope

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Walti Soil

Range seeding: Poor—rooting depth, large stones
Roadfill: Poor—depth to rock, shrink-swell, low strength
Topsoil: Poor—too clayey, small stones
Daily cover for landfill: Poor—depth to rock, hard to pack
Shallow excavations: Severe—depth to rock
Local roads and streets: Severe—shrink-swell, low strength
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Severe—hard to pack
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Ravenswood and Itca soils—VIIe, nonirrigated; Walti soil—VIIs, nonirrigated
Range site: Ravenswood and Itca soils—025X061N; Walti soil—024X027N; Inclusion 1—none; Inclusion 2—024X018N; Inclusion 3—024X016N

812—Ravenswood-Shagnasty-Walti association

Positions on landscape: Mountains

Composition

Major components:
 Ravenswood gravelly loam, 15 to 30 percent slopes, extremely stony—40 percent
 Shagnasty very cobbly loam, 15 to 30 percent slopes—25 percent
 Walti very cobbly loam, 8 to 15 percent slopes—20 percent
Contrasting inclusions:
 Welch loam, drained, 2 to 8 percent slopes—5 percent
 Aridic Argixerolls, fine-loamy, mixed, frigid, 2 to 8 percent slopes—5 percent
 Rock outcrop—4 percent
 Rubble land—1 percent

Characteristics of the Ravenswood Soil

Classification: Typic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: Convex, south- and west-facing side slopes of mountains
Parent material: Colluvium and residuum derived from metavolcanic and volcanic rock
Slope: 15 to 30 percent
Elevation: 6,000 to 7,500 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 42 degrees F
Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, mountain big sagebrush, singleleaf pinyon

Site index for singleleaf pinyon: 55

Typical Profile

Rock fragments on surface: 10 percent stones and boulders, 35 percent pebbles

Depth: 0 to 9 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 9 to 13 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 13 to 36 inches

Texture: Very gravelly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 36 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 30 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 5 to 6 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.20; T value—2; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Shagnasty Soil

Classification: Typic Argixerolls, fine, montmorillonitic, frigid
Positions on landscape: Concave, north- and east-facing side slopes of mountains
Parent material: Colluvium over residuum derived from rhyolite, andesite, or quartzite
Slope: 15 to 30 percent
Elevation: 6,000 to 7,500 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, singleleaf pinyon

Site index for singleleaf pinyon: 55

Typical Profile

Rock fragments on surface: 30 percent cobbles, 15 percent pebbles

Depth: 0 to 15 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 15 to 36 inches

Texture: Clay, clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 36 to 57 inches

Texture: Cobbly clay loam, cobbly silty clay loam

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 57 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 50 to 60 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 7.2 to 8.5 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—3; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Walti Soil

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Crests of mountains

Parent material: Colluvium and residuum derived from rhyolite, andesite, and tuff

Slope: 8 to 15 percent

Elevation: 6,800 to 7,500 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 4 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 10 inches

Texture: Clay loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 10 to 30 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Neutral

Depth: 30 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 3.8 to 5.0 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Narrow intermountain drainageways

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Inclusion 2

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid

Positions on landscape: Foot slopes of mountains

Distinctive present vegetation: Bluebunch wheatgrass, mountain big sagebrush

Inclusion 3

Positions on landscape: Shoulder slopes and scattered peaks of mountains

Distinctive present vegetation: None

Inclusion 4

Positions on landscape: Below areas of Rock outcrop

Distinctive present vegetation: None

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Cordwood production

Suitability for Wildlife Habitat Elements

Ravenswood Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Shagnasty Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Walti Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Ravenswood Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Shagnasty Soil

Range seeding: Poor—large stones

Roadfill: Poor—low strength, shrink-swell

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—too clayey, hard to pack, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—low strength, slope, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer, hard to pack, large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Walti Soil

Range seeding: Poor—rooting depth, large stones

Roadfill: Poor—depth to rock, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones

Daily cover for landfill: Poor—depth to rock, hard to pack

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—shrink-swell, low strength

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—hard to pack

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Ravenswood soil—VIs, nonirrigated; Shagnasty and Walti soils—VIIs, nonirrigated

Range site: Ravenswood and Shagnasty soils—025X061N; Walti soil—024X027N; Inclusion 1—028B024N; Inclusion 2—028B030N; Inclusion 3—none; Inclusion 4—none

850—Relley silt loam, 0 to 2 percent slopes

Positions on landscape: Piedmont slopes

Composition

Major component:

Relley silt loam, 0 to 2 percent slopes—85 percent

Contrasting inclusions:

Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Batan silt loam, 0 to 2 percent slopes—4 percent

Bubus very fine sandy loam, 0 to 2 percent slopes—3 percent

Wholan very fine sandy loam, 0 to 2 percent slopes—3 percent

Characteristics of the Relley Soil

Classification: Duric Camborthids, fine-silty, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 0 to 2 percent

Elevation: 5,100 to 5,500 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, shadscale, bud sagebrush

Typical Profile*Depth:* 0 to 8 inches*Texture:* Silt loam*Structure:* Subangular blocky*Consistence:* Slightly hard, very friable*Reaction:* Strongly alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 8 to 16 inches*Texture:* Silt loam*Structure:* Prismatic*Consistence:* Slightly hard, very friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 16 to 28 inches*Texture:* Silt loam*Structure:* Massive*Consistence:* Slightly hard, very friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 28 to 60 inches*Texture:* Silt loam*Structure:* Massive*Consistence:* Slightly hard, friable*Reaction:* Moderately alkaline*Salinity:* 8 to 16 millimhos per centimeter*Sodicity (SAR):* 5 to 13**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderate*Available water capacity:* 11 to 13 inches*Water-supplying capacity:* 7 inches*Runoff:* Slow*Hydrologic group:* B*Erosion factors (upper layer):* K value—0.55; T value—5; wind erodibility group—6*Hazard of erosion:* By water—slight; by wind—slight*Shrink-swell potential:* Moderate*Corrosivity:* To steel—high; to concrete—moderate*Potential for frost action:* Low**Contrasting Inclusions****Inclusion 1***Classification:* Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic*Positions on landscape:* Slightly convex fan skirts*Distinctive present vegetation:* Shadscale, bud sagebrush**Inclusion 2***Classification:* Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic*Positions on landscape:* Alluvial flat remnants*Distinctive present vegetation:* Black greasewood, shadscale, bud sagebrush**Inclusion 3***Classification:* Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic*Positions on landscape:* Alluvial flat remnants near channels*Distinctive present vegetation:* Black greasewood, shadscale, bud sagebrush**Inclusion 4***Classification:* Typic Camborthids, coarse-silty, mixed, mesic*Positions on landscape:* Inset fans*Distinctive present vegetation:* Indian ricegrass, winterfat, halogeton**Major Current Uses**

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements*Wild herbaceous plants (nonirrigated):* Poor*Shrubs (nonirrigated):* Poor**Suitability and Limitations for Selected Uses***Range seeding:* Poor—too arid*Roadfill:* Fair—low strength, shrink-swell*Topsoil:* Fair—thin layer*Daily cover for landfill:* Good*Shallow excavations:* Slight*Local roads and streets:* Moderate—low strength, shrink-swell*Pond reservoir areas:* Moderate—seepage*Embankments, dikes, and levees:* Severe—piping, excess salt*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Interpretive Groups***Land capability classification:* Relley soil—IIc, irrigated; VIIc, nonirrigated*Range site:* Relley soil—024X002N; Inclusion 1—024X002N; Inclusions 2, 3, and 4—024X003N**854—Relley silt loam, frequently flooded, 0 to 2 percent slopes***Positions on landscape:* Piedmont slopes

Composition

Major component:

Relley silt loam, frequently flooded, 0 to 2 percent slopes—85 percent

Contrasting inclusions:

Durorthidic Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—9 percent

Duric Camborthids, fine-loamy, mixed, mesic, 0 to 2 percent slopes—4 percent

Creemon silt loam, 0 to 2 percent slopes—2 percent

Characteristics of the Relley Soil

Classification: Duric Camborthids, fine-silty, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 0 to 2 percent

Elevation: 5,100 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, sickle saltbush

Typical Profile

Depth: 0 to 8 inches

Texture: Silt loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 16 inches

Texture: Silt loam

Structure: Prismatic

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 16 to 28 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 28 to 60 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Frequent for very brief periods in December through June

Permeability: Moderate

Available water capacity: 11 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durorthidic Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic

Positions on landscape: Active inset fans

Distinctive present vegetation: Wyoming big sagebrush, black sagebrush, basin big sagebrush

Inclusion 2

Classification: Duric Camborthids, fine-loamy, mixed, mesic

Positions on landscape: Fan aprons

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Inset fan remnants

Dominant present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—too arid

Roadfill: Fair—low strength, shrink-swell

Topsoil: Fair—thin layer

Daily cover for landfill: Good

Shallow excavations: Moderate—flooding

Local roads and streets: Severe—flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Relley soil—IIIw, irrigated; VIIw, nonirrigated

Range site: Relley soil—024X012N; Inclusion 1—024X006N; Inclusions 2 and 3—024X002N

910—Rutab loam, 0 to 2 percent slopes

Positions on landscape: Piedmont slopes

Composition

Major component:

Rutab loam, 0 to 2 percent slopes—90 percent

Contrasting inclusions:

Fluventic Haploxerolls, loamy-skeletal, mixed, frigid, 0 to 4 percent slopes—5 percent

Glyphs fine sandy loam, 0 to 4 percent slopes—5 percent

Characteristics of the Rutab Soil

Classification: Xerollic Camborthids, loamy-skeletal, mixed, frigid

Positions on landscape: Fan skirts

Parent material: Mixed alluvium

Slope: 0 to 2 percent

Elevation: 6,300 to 7,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 46 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 5 percent pebbles

Depth: 0 to 8 inches

Texture: Loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 8 to 21 inches

Texture: Gravelly loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 21 to 60 inches

Texture: Extremely gravelly sandy loam

Structure: Single grain

Consistence: Loose

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 3.2 to 5.3 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.32; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Fluventic Haploxerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Inset fans

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Inclusion 2

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants

Distinctive present vegetation: Bluegrass, needlegrass, Wyoming big sagebrush, small rabbitbrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Rutab soil—III_s, irrigated; VII_c, nonirrigated

Range site: Rutab soil—028B010N; Inclusion 1—028B003N; Inclusion 2—028B010N

931—Shagnasty-Roca-Rock outcrop association

Positions on landscape: Mountains

Composition

Major components:

Shagnasty very cobbly loam, 30 to 50 percent slopes—45 percent

Roca very cobbly loam, 30 to 50 percent slopes—25 percent

Rock outcrop—15 percent

Contrasting inclusions:

Walti very cobbly loam, 8 to 30 percent slopes—8 percent

Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid, 15 to 50 percent slopes—5 percent

Welch loam, drained, 2 to 8 percent slopes—2 percent

Characteristics of the Shagnasty Soil

Classification: Typic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Convex, north-, east-, and west-facing side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolite, andesite, and quartzite

Slope: 30 to 50 percent

Elevation: 6,800 to 7,600 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, singleleaf pinyon

Site index for singleleaf pinyon: 55

Typical Profile

Rock fragments on surface: 30 percent cobbles, 15 percent pebbles

Depth: 0 to 15 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 15 to 36 inches

Texture: Clay, clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 36 to 57 inches

Texture: Cobbly clay loam, cobbly silty clay loam

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 57 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 50 to 60 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 7.0 to 8.5 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—3; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Roca Soil

Classification: Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: South-facing side slopes of mountains

Parent material: Residuum derived from shale and chert

Slope: 30 to 50 percent

Elevation: 6,800 to 7,500 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Bluegrass, bluebunch wheatgrass, big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 4 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 4 to 24 inches

Texture: Very gravelly clay loam, very gravelly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 24 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 2.6 to 3.4 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Rock Outcrop

Positions on landscape: Scattered peaks on mountains

Elevation: 7,200 to 7,700 feet

Contrasting Inclusions

Inclusion 1

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Crests of mountains

Distinctive present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Inclusion 2

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Mountain ridge nose slopes

Distinctive present vegetation: Black sagebrush, low sagebrush, bluegrass

Inclusion 3

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Basin wildrye, willows, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Shagnasty Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Roca Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Shagnasty Soil

Range seeding: Poor—large stones

Roadfill: Poor—low strength, shrink-swell, slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—too clayey, hard to pack, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—low strength, slope, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer, hard to pack, large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Roca Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Shagnasty and Roca soils—VIIs, nonirrigated; Rock outcrop—VIIIs, nonirrigated

Range site: Shagnasty soil—025X061N; Roca soil—024X028N; Rock outcrop—none; Inclusion 1—028B037N; Inclusion 2—028B038N; Inclusion 3—028B024N

932—Shagnasty-Softscrabble association

Positions on landscape: Mountains

Composition

Major components:

Shagnasty very cobbly loam, 30 to 50 percent slopes—50 percent

Softscrabble very cobbly fine sandy loam, 15 to 30 percent slopes—35 percent

Contrasting inclusions:

Walti extremely stony loam, 8 to 15 percent slopes—6 percent

Pachic Argixerolls, loamy-skeletal, mixed, frigid, 15 to 30 percent slopes—4 percent

Welch loam, drained, 2 to 8 percent slopes—4 percent
Welch loam, 2 to 8 percent slopes—1 percent

Characteristics of the Shagnasty Soil

Classification: Typic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Convex side slopes of mountains

Parent material: Colluvium over residuum derived from rhyolite, andesite, and quartzite

Slope: 30 to 50 percent

Elevation: 6,500 to 8,500 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, singleleaf pinyon

Site index for singleleaf pinyon: 55

Typical Profile

Rock fragments on surface: 40 percent stones and boulders, 30 percent cobbles, 15 percent pebbles

Depth: 0 to 15 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 15 to 36 inches

Texture: Clay, clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 36 to 57 inches

Texture: Cobbly clay loam, cobbly silty clay loam

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 57 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 50 to 60 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 7.2 to 8.3 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—3; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, north-facing side slopes of mountains in areas where snow accumulates

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 15 to 30 percent

Elevation: 6,500 to 8,200 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Depth: 0 to 16 inches

Texture: Very cobbly fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 16 to 30 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 30 to 60 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6.0 to 7.8 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Stable, convex side slopes of mountains

Distinctive present vegetation: Idaho fescue, needlegrass, low sagebrush

Inclusion 2

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Side slopes of mountains in small areas where snow accumulates

Distinctive present vegetation: Chokecherry

Inclusion 3

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Entrenched intermountain drainageways and canyon bottoms

Distinctive present vegetation: Basin wildrye, bluegrass, basin big sagebrush

Inclusion 4

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Smooth intermountain drainageways

Distinctive present vegetation: Tufted hairgrass, sedge, iris, willow

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Cordwood production

Suitability for Wildlife Habitat Elements

Shagnasty Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Shagnasty Soil

Range seeding: Poor—large stones

Roadfill: Poor—low strength, shrink-swell, slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—too clayey, hard to pack, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—low strength, slope, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer, hard to pack, large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Poor—large stones

Roadfill: Fair—large stones, slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Shagnasty and Softscrabble soils—VIIIs, nonirrigated

Range site: Shagnasty soil—025X061N; Softscrabble soil—024X021N; Inclusion 1—024X027N; Inclusion 2—024X035N; Inclusion 3—028B024N; Inclusion 4—025X005N

942—Shibley silt loam, occasionally flooded, 0 to 2 percent slopes

Positions on landscape: Inset fans

Composition

Major component:

Shibley silt loam, occasionally flooded, 0 to 2 percent slopes—90 percent

Contrasting inclusions:

Shibley silt loam, gravelly substratum, gullied, 0 to 4 percent slopes—5 percent

Rutab gravelly sandy loam, 0 to 4 percent slopes—5 percent

Characteristics of the Shibley Soil

Classification: Xeric Torriorthents, coarse-loamy, mixed (calcareous), frigid

Positions on landscape: Inset fans

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 0 to 2 percent

Elevation: 6,400 to 6,600 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, winterfat

Typical Profile

Rock fragments on surface: 5 percent pebbles

Depth: 0 to 5 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 5 to 41 inches

Texture: Silt loam, very fine sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 41 to 60 inches

Texture: Extremely gravelly sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Occasional for very brief periods in January through May

Permeability: Moderate

Available water capacity: 6.5 to 9.0 inches

Water-supplying capacity: 11 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.49; T value—4; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Xeric Torriorthents, coarse-loamy, mixed (calcareous), frigid

Positions on landscape: Areas adjacent to recently entrenched channels

Distinctive present vegetation: Wyoming big sagebrush, basin wildrye

Inclusion 2

Classification: Xerollic Camborthids, loamy-skeletal, mixed, frigid

Positions on landscape: Inset fan remnants

Distinctive present vegetation: Indian ricegrass, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—excess salt, too arid, excess sodium

Roadfill: Good

Topsoil: Poor—area reclaim

Daily cover for landfill: Fair—thin layer

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Severe—flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Shipley soil—IIIw, irrigated; VIw, nonirrigated

Range site: Shipley soil—028B013N; Inclusion 1—028B009N; Inclusion 2—028B010N

950—Silverado sandy loam, 0 to 2 percent slopes

Positions on landscape: Inset fans

Composition

Major component:

Silverado sandy loam, 0 to 2 percent slopes—85 percent

Contrasting inclusions:

Xeric Torriorthents, coarse-loamy, mixed (calcareous), frigid, 0 to 2 percent slopes—6 percent

Xerollic Haplargids, fine-loamy, mixed, frigid, 0 to 2 percent slopes—5 percent

Typic Camborthids, loamy-skeletal, mixed, frigid, 0 to 2 percent slopes—4 percent

Characteristics of the Silverado Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, frigid

Positions on landscape: Inset fans

Parent material: Mixed alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 6,200 to 6,600 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 2 inches
Texture: Sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter

Depth: 2 to 19 inches
Texture: Sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter

Depth: 19 to 38 inches
Texture: Sandy loam, gravelly sandy loam
Structure: Massive
Consistence: Hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter

Depth: 38 to 60 inches
Texture: Very gravelly coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid
Available water capacity: 4.0 to 5.5 inches
Water-supplying capacity: 9 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.32; T value—3; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xeric Torriorthents, coarse-loamy, mixed (calcareous), frigid

Positions on landscape: Areas adjacent to narrow active channels

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage

Inclusion 2

Classification: Xerollic Haplargids, fine-loamy, mixed, frigid

Positions on landscape: Fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush, needlegrass

Inclusion 3

Classification: Typic Camborthids, loamy-skeletal, mixed, frigid

Positions on landscape: Inset fans in the lower areas near fan skirts

Distinctive present vegetation: Shadscale, black greasewood, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Silverado soil—IVs, irrigated; VIIc, nonirrigated

Range site: Silverado soil—028B010N; Inclusions 1 and 2—028B010N; Inclusion 3—024X022N

990—Sonoma-Wendane association

Positions on landscape: Stream flood plains, alluvial flats

Composition

Major components:

Sonoma silt loam, drained, occasionally flooded, 0 to 2 percent slopes—65 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 0 to 2 percent slopes—5 percent

Durixerollic Camborthids, coarse-loamy, mixed, mesic, 0 to 4 percent slopes—5 percent

Paranat silt loam, 0 to 2 percent slopes—5 percent

Characteristics of the Sonoma Soil

Classification: Aeric Fluvaquents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Outer margins of flood plains

Parent material: Silty mixed alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 5,700 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 50 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Basin wildrye, alkali sacaton, basin big sagebrush, black greasewood

Typical Profile

Depth: 0 to 12 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 12 to 60 inches

Texture: Silt loam, silty clay loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: 42 to 60 inches

Frequency of flooding: Occasional for brief to long periods in March through June

Permeability: Moderately slow

Available water capacity: 11 to 13 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: High

Characteristics of the Wendane Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats

Parent material: Silty alluvium derived from volcanic rock, tuff, loess, and volcanic ash

Slope: 0 to 2 percent

Elevation: 5,700 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Black greasewood, basin wildrye

Typical Profile

Depth: 0 to 7 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 30 to 50 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 7 to 18 inches

Texture: Silt loam, very fine sandy loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 18 to 60 inches

Texture: Stratified silt loam to clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 25 to 35

Soil and Water Features

Depth to a seasonal high water table: 35 to 48 inches

Frequency of flooding: Frequent for brief to long periods in February through June

Permeability: Moderately slow

Available water capacity: 11 to 13 inches

Water-supplying capacity: 7 inches

Runoff: Very slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan skirt remnants

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts

Distinctive present vegetation: Wyoming big sagebrush, black greasewood

Inclusion 3

Classification: Fluvaquentic Haplaquolls, fine-silty, mixed (calcareous), mesic

Positions on landscape: Active flood plains adjacent to channels

Distinctive present vegetation: Saltgrass, alkali sacaton

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Sonoma Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Wetland plants: Fair

Shallow water areas: Fair

Wendane Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wetland plants: Poor

Shallow water areas: Fair

Suitability and Limitations for Selected Uses

Sonoma Soil

Range seeding: Poor—excess salt

Roadfill: Poor—low strength

Topsoil: Fair—excess salt

Daily cover for landfill: Fair—too clayey

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—low strength, frost action, flooding

Pond reservoir areas: Slight

Embankments, dikes, and levees: Moderate—wetness, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wendane Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Sonoma Soil

Drainage: Deep to water

Irrigation: Erodes easily, flooding, excess salt

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Sonoma soil—IIIw, irrigated, and VIw, nonirrigated; Wendane soil—VIIw, nonirrigated

Range site: Sonoma soil—024X006N; Wendane soil—024X007N; Inclusion 1—025X003N; Inclusion 2—024X022N; Inclusion 3—025X001N

998—Sonoma-Paranat association

Positions on landscape: Stream flood plains

Composition

Major components:

Sonoma silt loam, frequently flooded, 0 to 2 percent slopes—45 percent

Paranat silt loam, 0 to 2 percent slopes—20 percent

Sonoma silt loam, drained, occasionally flooded, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Duric Camborthids, fine-loamy, mixed, mesic, 0 to 2 percent slopes—6 percent

Durorthidic Torriorthents, fine-loamy, mixed (calcareous), mesic, 0 to 2 percent slopes—4 percent

Duric Camborthids, loamy-skeletal, mixed, mesic, 2 to 4 percent slopes—3 percent

Typic Camborthids, coarse-silty, mixed, mesic, 0 to 2 percent slopes—2 percent

Characteristics of the Sonoma Soil, Frequently Flooded

Classification: Aeric Fluvaquents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Smooth outer margins of broad flood plains

Parent material: Silty mixed alluvium that includes volcanic ash

Slope: 0 to 2 percent
Elevation: 5,500 to 6,000 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Creeping wildrye, bluegrass, rush, sedge

Typical Profile

Depth: 0 to 12 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 2 to 10

Depth: 12 to 60 inches
Texture: Silt loam, silty clay loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: 18 to 36 inches
Frequency of flooding: Frequent for brief to long periods in February through June
Permeability: Moderately slow
Available water capacity: 11 to 13 inches
Water-supplying capacity: 11 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: High

Characteristics of the Paranat Soil

Classification: Fluvaquentic Haplaquolls, fine-silty, mixed (calcareous), mesic
Positions on landscape: Slightly concave flood plains
Parent material: Silty fluvial deposits
Slope: 0 to 2 percent
Elevation: 5,500 to 6,000 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Rush, sedge, creeping wildrye, bluegrass, basin wildrye

Typical Profile

Depth: 0 to 20 inches

Texture: Silt loam
Structure: Granular
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 20 to 48 inches
Texture: Silt loam, silty clay loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 48 to 60 inches
Texture: Stratified very fine sandy loam to silty clay
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: 18 to 42 inches
Frequency of flooding: Frequent for brief to long periods in December through June
Permeability: Moderately slow
Available water capacity: 11 to 13 inches
Water-supplying capacity: 12 inches
Runoff: Slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: High

Characteristics of the Sonoma Soil, Occasionally Flooded

Classification: Aeric Fluvaquents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Stream terraces
Parent material: Silty mixed alluvium that includes volcanic ash
Slope: 0 to 2 percent
Elevation: 5,500 to 6,000 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Basin wildrye, inland saltgrass, basin big sagebrush, black greasewood

Typical Profile

Depth: 0 to 12 inches

Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 2 to 10

Depth: 12 to 60 inches
Texture: Silt loam, silty clay loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: 42 to 60 inches
Frequency of flooding: Occasional for brief to long periods in March through June
Permeability: Moderately slow
Available water capacity: 11 to 13 inches
Water-supplying capacity: 9 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Duric Camborthids, fine-loamy, mixed, mesic
Positions on landscape: Stream terrace remnants
Distinctive present vegetation: Rubber rabbitbrush, basin wildrye, black greasewood

Inclusion 2

Classification: Durorthidic Torriorthents, fine-loamy, mixed (calcareous), mesic
Positions on landscape: Small fanlettes adjacent to fan piedmont remnants
Distinctive present vegetation: Basin big sagebrush, basin wildrye, rubber rabbitbrush, bluegrass

Inclusion 3

Classification: Duric Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Areas adjacent to channels on stream terraces
Distinctive present vegetation: Rubber rabbitbrush, black greasewood, basin wildrye

Inclusion 4

Classification: Typic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Fan skirts adjacent to fan piedmont remnants
Distinctive present vegetation: Black greasewood, basin wildrye, inland saltgrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Sonoma Soil, Frequently Flooded

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor
Wetland plants: Good
Shallow water areas: Fair

Paranat Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair
Wetland plants: Good
Shallow water areas: Good

Sonoma Soil, Occasionally Flooded

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor
Wetland plants: Fair
Shallow water areas: Fair

Suitability and Limitations for Selected Uses

Sonoma Soil, Frequently Flooded

Range seeding: Poor—excess salt
Roadfill: Poor—low strength
Topsoil: Fair—excess salt
Daily cover for landfill: Fair—too clayey, wetness
Shallow excavations: Severe—wetness
Local roads and streets: Severe—low strength, frost action, flooding
Pond reservoir areas: Slight
Embankments, dikes, and levees: Severe—wetness
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Paranat Soil

Range seeding: Fair—excess salts
Roadfill: Poor—low strength
Topsoil: Good
Daily cover for landfill: Fair—too clayey, wetness
Shallow excavations: Severe—wetness
Local roads and streets: Severe—low strength, frost action, flooding
Pond reservoir areas: Slight
Embankments, dikes, and levees: Severe—piping, wetness
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Sonoma Soil, Occasionally Flooded

Range seeding: Poor—excess salt
Roadfill: Poor—low strength

Topsoil: Fair—excess salt

Daily cover for landfill: Fair—too clayey

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—low strength, frost action, flooding

Pond reservoir areas: Slight

Embankments, dikes, and levees: Moderate—wetness, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Sonoma Soil, Frequently Flooded

Drainage: Frost action, flooding

Irrigation: Wetness, erodes easily

Terraces and diversions: Wetness, erodes easily

Paranat Soil

Drainage: Flooding, frost action

Irrigation: Wetness, erodes easily, flooding

Terraces and diversions: Erodes easily, wetness

Sonoma Soil, Occasionally Flooded

Drainage: Deep to water

Irrigation: Erodes easily, flooding, excess salt

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Sonoma, frequently flooded; Paranat; and Sonoma, occasionally flooded, soils—IIIw, irrigated, and VIw, nonirrigated

Range site: Sonoma, frequently flooded, and Paranat soils—025X001N; Sonoma soil, occasionally flooded—024X006N; Inclusion 1—024X007N; Inclusion 2—028B003N; Inclusion 3—024X007N; Inclusion 4—024X015N

999—Sonoma-Wendane-Paranat association

Positions on landscape: Stream flood plains, alluvial flats

Composition

Major components:

Sonoma silt loam, drained, occasionally flooded, 0 to 2 percent slopes—45 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—25 percent

Paranat silt loam, 0 to 2 percent slopes—15 percent

Contrasting inclusions:

Fluvaquentic Haplaquolls, fine-loamy, mixed (calcareous), mesic, 0 to 2 percent slopes—8 percent

Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic, 0 to 4 percent slopes—5 percent

Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—2 percent

Characteristics of the Sonoma Soil

Classification: Aeric Fluvaquents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Outer margins of flood plains

Parent material: Mixed silty alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 5,500 to 6,000 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 50 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Basin wildrye, basin big sagebrush, black greasewood

Typical Profile

Depth: 0 to 12 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 12 to 60 inches

Texture: Silt loam, silty clay loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: 42 to 60 inches

Frequency of flooding: Occasional for brief to long periods in March through June

Permeability: Moderately slow

Available water capacity: 11 to 13 inches

Water-supplying capacity: 9 inches

Runoff: Very slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: High

Characteristics of the Wendane Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats

Parent material: Silty alluvium derived from volcanic rock, tuff, loess, and volcanic ash

Slope: 0 to 2 percent
Elevation: 5,500 to 6,000 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, basin wildrye

Typical Profile

Depth: 0 to 7 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 30 to 50 millimhos per centimeter
Sodicity (SAR): 13 to 25

Depth: 7 to 18 inches
Texture: Silt loam, very fine sandy loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 18 to 60 inches
Texture: Stratified silt loam to clay loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: 30 to 48 inches
Frequency of flooding: Frequent for brief to long periods in February through June
Permeability: Moderately slow
Available water capacity: 11 to 13 inches
Water-supplying capacity: 8 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Paranat Soil

Classification: Fluvaquent Haplaquolls, fine-silty, mixed (calcareous), mesic
Positions on landscape: Active flood plains near channels
Parent material: Silty fluvial deposits
Slope: 0 to 2 percent

Elevation: 5,500 to 6,000 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Rush, sedge, creeping wildrye, basin wildrye, bluegrass, willow

Typical Profile

Depth: 0 to 20 inches
Texture: Silt loam
Structure: Granular
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 20 to 48 inches
Texture: Silt loam, silty clay loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 48 to 60 inches
Texture: Stratified very fine sandy loam to silty clay
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: 18 to 42 inches
Frequency of flooding: Frequent for brief to long periods in December through June
Permeability: Moderately slow
Available water capacity: 11 to 13 inches
Water-supplying capacity: 12 inches
Runoff: Slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Fluvaquent Haplaquolls, fine-loamy, mixed (calcareous), mesic
Positions on landscape: Inactive, partially backfilled channels
Distinctive present vegetation: Rush, sedge, inland saltgrass, basin wildrye

Inclusion 2

Classification: Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic
Positions on landscape: Fanlettes adjacent to fan piedmont remnants
Distinctive present vegetation: Basin big sagebrush, rubber rabbitbrush, basin wildrye

Inclusion 3

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Stream terraces
Distinctive present vegetation: Black greasewood

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Sonoma Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor
Wetland plants: Fair
Shallow water areas: Fair

Wendane Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor
Wetland plants: Poor
Shallow water areas: Fair

Paranat Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair
Wetland plants: Good
Shallow water areas: Good

Suitability and Limitations for Selected Uses

Sonoma Soil

Range seeding: Poor—excess salt
Roadfill: Poor—low strength
Topsoil: Fair—excess salt
Daily cover for landfill: Fair—too clayey
Shallow excavations: Moderate—wetness, flooding
Local roads and streets: Severe—low strength, frost action, flooding
Pond reservoir areas: Slight
Embankments, dikes, and levees: Moderate—wetness, piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Wendane Soil

Range seeding: Poor—excess salt, excess sodium
Roadfill: Poor—low strength
Topsoil: Poor—low strength

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Paranat Soil

Range seeding: Fair—excess salt

Roadfill: Poor—low strength

Topsoil: Good

Daily cover for landfill: Fair—too clayey, wetness

Shallow excavations: Severe—wetness

Local roads and streets: Severe—low strength, frost action, flooding

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—piping, wetness

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Sonoma Soil

Drainage: Frost action, flooding

Irrigation: Erodes easily

Terraces and diversions: Erodes easily

Paranat Soil

Drainage: Flooding, frost action

Irrigation: Wetness, erodes easily, flooding

Terraces and diversions: Erodes easily, wetness

Interpretive Groups

Land capability classification: Sonoma soil—IIIw, irrigated, and VIw, nonirrigated; Wendane soil—VIIw, nonirrigated; Paranat soil—IIIw, irrigated, and VIw, nonirrigated

Range site: Sonoma soil—024X006N; Wendane soil—024X007N; Paranat soil—025X001N; Inclusion 1—025X001N; Inclusion 2—028B003N; Inclusion 3—024X011N

1011—Stampede-Handy-Caniwe association

Positions on landscape: Fan piedmonts, mountain valley fans

Composition

Major components:

Stampede gravelly loam, 4 to 8 percent slopes—50 percent

Handy gravelly loam, 8 to 15 percent slopes—30 percent

Caniwe very fine sandy loam, 2 to 4 percent slopes—10 percent

Contrasting inclusions:

Buffaran gravelly loam, 4 to 15 percent slopes—7 percent

Pachic Haploxerolls, fine-loamy, mixed, frigid, 0 to 2 percent slopes—3 percent

Characteristics of the Stampede Soil

Classification: Aridic Durixerolls, fine, montmorillonitic, frigid

Positions on landscape: Summits of fan piedmont remnants and mountain valley fan remnants

Parent material: Alluvium and colluvium derived from various kinds of rock

Slope: 4 to 8 percent

Elevation: 5,500 to 7,100 feet

Average annual precipitation: About 11 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 10 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, friable

Reaction: Neutral

Depth: 10 to 31 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Neutral

Depth: 31 to 60 inches

Material: Indurated hardpan

Soil and Water Features

Depth to the hardpan: 20 to 36 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 3.4 to 5.3 inches

Water-supplying capacity: 11 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.43; T value—2; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Handy Soil

Classification: Xerollic Haplargids, fine, montmorillonitic, frigid

Positions on landscape: Side slopes of fan piedmont remnants and mountain valley fan remnants

Parent material: Mixed alluvium

Slope: 8 to 15 percent

Elevation: 5,500 to 7,100 feet

Average annual precipitation: About 11 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, needlegrass, western wheatgrass, big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 4 to 30 inches

Texture: Clay, gravelly clay

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Moderately alkaline

Depth: 30 to 60 inches

Texture: Stratified gravelly loam to very gravelly loamy sand

Structure: Massive

Consistence: Hard, firm

Reaction: Moderately alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 5.7 to 7.4 inches

Water-supplying capacity: 11 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Caniwe Soil

Classification: Aridic Duric Haploxerolls, fine-silty, mixed mesic

Positions on landscape: Inset fans

Parent material: Loess, mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,800 to 6,800 feet

Average annual precipitation: About 11 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, bluegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 17 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 17 to 60 inches

Texture: Stratified silt loam to silty clay loam

Structure: Subangular blocky

Consistence: Hard, very friable

Reaction: Mildly alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 10 to 12 inches

Water-supplying capacity: 11 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow

Positions on landscape: The lower parts of summits and shoulder slopes of fan remnants

Distinctive present vegetation: Indian ricegrass, bluegrass, Wyoming big sagebrush

Inclusion 2

Classification: Pachic Haploxerolls, fine-loamy, mixed, frigid

Positions on landscape: Along stream and channel banks

Distinctive present vegetation: Basin big sagebrush, basin wildrye, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Stampede Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Handy Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Caniwe Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Stampede Soil

Range seeding: Fair—droughty

Roadfill: Poor—cemented pan, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones

Daily cover for landfill: Poor—cemented pan, hard to pack

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—shrink-swell, low strength

Pond reservoir areas: Moderate—cemented pan, slope

Embankments, dikes, and levees: Moderate—thin layer, hard to pack

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Handy Soil

Range seeding: Poor—rooting depth

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Caniwe Soil

Range seeding: Good

Roadfill: Poor—low strength

Topsoil: Fair—too clayey

Daily cover for landfill: Fair—too clayey

Shallow excavations: Slight

Local roads and streets: Severe—low strength

Pond reservoir areas: Moderate—slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Stampede soil—IVe, irrigated, and VIc, nonirrigated; Handy soil—VIIc, nonirrigated; Caniwe soil—IIe, irrigated, and VIc, nonirrigated

Range site: Stampede soil—025X014N; Handy and Caniwe soils—028B007N; Inclusion 1—028B010N; Inclusion 2—028B003N

1041—Tenabo-Orovada-Buffaran association

Positions on landscape: Fan piedmonts

Composition

Major components:

Tenabo gravelly very fine sandy loam, 4 to 8 percent slopes—50 percent

Orovada fine sandy loam, 2 to 4 percent slopes—20 percent

Buffaran gravelly loam, 4 to 8 percent slopes—15 percent

Contrasting inclusions:

Typic Torriorthents, fine-loamy, mixed, mesic, 8 to 30 percent slopes—8 percent

Broyles fine sandy loam, 2 to 4 percent slopes—4 percent

Typic Torriorthents, fine-loamy, mixed, mesic, 8 to 15 percent slopes—3 percent

Characteristics of the Tenabo Soil

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow

Positions on landscape: The lower summits of fan piedmont remnants

Parent material: Thin loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,600 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 4 to 15 inches

Texture: Clay loam, gravelly clay loam, silty clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 15 to 28 inches

Material: Indurated hardpan

Structure: Platy

Consistence: Extremely hard, extremely firm

Depth: 28 to 60 inches

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to the hardpan: 9 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.5 to 2.9 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,600 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 26 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 26 to 61 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 9 to 11 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Buffaran Soil

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow

Positions on landscape: The higher summits of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,600 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Thurber needlegrass, bottlebrush squirreltail, Indian ricegrass, big sagebrush

Typical Profile

Rock fragments on surface: 15 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 5 to 16 inches

Texture: Clay, gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 16 to 27 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Depth: 27 to 60 inches

Material: Cemented hardpan

Structure: Platy

Consistence: Very hard, very firm

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.9 to 2.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Typic Torriorthents, fine-loamy, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The lower inset fans near scarp breaks

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Typic Torriorthents, fine-loamy, mixed, mesic

Positions on landscape: Fan toe slopes, scarp breaks

Distinctive present vegetation: Big sagebrush, black greasewood

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Tenabo Soil**

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Buffaran Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Tenabo Soil**

Range seeding: Poor—droughty, excess sodium

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones, too sandy

Daily cover for landfill: Poor—cemented pan, seepage, too sandy

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—seepage, cemented pan

Embankments, dikes, and levees: Severe—seepage, excess sodium, excess salt

Sand: Probable source

Gravel: Probable source

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Buffaran Soil

Range seeding: Poor—droughty, rooting depth

Roadfill: Poor—cemented pan, shrink-swell, low strength

Topsoil: Poor—cemented pan, too clayey, small stones

Daily cover for landfill: Poor—cemented pan, hard to pack

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan, shrink swell, low strength

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Tenabo soil—IVe, irrigated, and VIIs, nonirrigated; Orovada soil—IIe, irrigated, and VIc, nonirrigated; Buffaran soil—VIIs, nonirrigated

Range site: Tenabo soil—024X002N; Orovada and Buffaran soils—028B010N; Inclusions 1 and 2—024X002N; Inclusion 3—024X022N

1042—Tenabo-Ricert-Desatoya association

Positions on landscape: Fan piedmonts

Composition

Major components:

Tenabo gravelly very fine sandy loam, 4 to 8 percent slopes—45 percent

Ricert very gravelly very fine sandy loam, 2 to 4 percent slopes—25 percent

Desatoya gravelly fine sandy loam, 8 to 15 percent slopes—15 percent

Contrasting inclusions:

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 4 percent slopes—7 percent

Haploxerollic Durargids, loamy, mixed, mesic, shallow, 4 to 8 percent slopes—4 percent

Allor gravelly loam, 2 to 4 percent slopes—4 percent

Characteristics of the Tenabo Soil

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow

Positions on landscape: The higher summits and shoulder slopes of fan piedmont remnants

Parent material: Thin loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 4 to 8 percent

Elevation: 6,200 to 6,500 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly very fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 4 to 15 inches
Texture: Clay loam, gravelly clay loam, silty clay loam
Structure: Prismatic
Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 25 to 46
Depth: 15 to 28 inches
Material: Indurated hardpan
Structure: Platy
Consistence: Extremely hard, extremely firm
Depth: 28 to 60
Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to the hardpan: 9 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 2.5 to 2.9 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Characteristics of the Ricert Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic
Positions on landscape: The lower summits and shoulder slopes of fan piedmont remnants
Parent material: Thin loess deposits over mixed alluvium
Slope: 2 to 4 percent
Elevation: 6,200 to 6,500 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days
Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 6 inches
Texture: Very gravelly very fine sandy loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 6 to 18 inches
Texture: Loam, clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Strongly alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 25 to 46
Depth: 18 to 60 inches
Texture: Very gravelly sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 4 to 6 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Desatoya Soil

Classification: Durixerollic Haplargids, clayey over loamy-skeletal, montmorillonitic, mesic
Positions on landscape: North-facing side slopes of fan piedmont remnants
Parent material: Mixed alluvium
Slope: 8 to 15 percent
Elevation: 6,200 to 6,500 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, needlegrass, Indian ricegrass, black sagebrush

Typical Profile

Depth: 0 to 6 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 13 inches

Texture: Gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 13 to 60 inches

Texture: Stratified extremely gravelly sandy loam to very gravelly loamy sand

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 3.0 to 5.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Bluegrass, Wyoming big sagebrush

Inclusion 2

Classification: Haploxerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: Summits on the upper part of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage

Inclusion 3

Classification: Durixerollic Haplargids, fine-loamy, mixed mesic

Positions on landscape: Adjacent fan aprons

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Tenabo Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Ricert Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Desatoya Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Tenabo Soil

Range seeding: Poor—droughty, excess sodium

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones, too sandy

Daily cover for landfill: Poor—cemented pan, seepage, too sandy

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—seepage, cemented pan

Embankments, dikes, and levees: Severe—seepage, excess sodium, excess salt

Sand: Probable source

Gravel: Probable source

Ricert Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Probable source

Gravel: Probable source

Desatoya Soil*Range seeding:* Poor—rooting depth*Roadfill:* Fair—large stones*Topsoil:* Poor—small stones, area reclaim*Daily cover for landfill:* Poor—small stones*Shallow excavations:* Moderate—large stones, slope*Local roads and streets:* Moderate—slope, frost action, large stones*Pond reservoir areas:* Severe—slope*Embankments, dikes, and levees:* Severe—seepage*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Interpretive Groups***Land capability classification:* Tenabo soil—IVe, irrigated, and VIIs, nonirrigated; Ricert soil—IVs, irrigated, and VIIs, nonirrigated; Desatoya soil—VIIs, nonirrigated*Range site:* Tenabo and Ricert soils—024X002N; Desatoya soil—024X030N; Inclusion 1—024X005N; Inclusion 2—024X020N; Inclusion 3—024X005N**1092—Tulase-Bubus-McConnel association***Positions on landscape:* Basin floors, fan skirts**Composition***Major components:*

Tulase silt loam, 2 to 8 percent slopes—40 percent

Bubus very fine sandy loam, slightly saline, 2 to 4 percent slopes—30 percent

McConnel loam, 0 to 4 percent slopes—15 percent

Contrasting inclusions:

Duric Camborthids, coarse-silty, mixed, mesic, 0 to 2 percent slopes—5 percent

Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—5 percent

Characteristics of the Tulase Soil*Classification:* Durorthidic Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic*Positions on landscape:* The higher fan skirts and lagoons*Parent material:* Mixed silty alluvium that includes loess and volcanic ash*Slope:* 2 to 8 percent*Elevation:* 5,600 to 5,800 feet*Average annual precipitation:* About 8 inches*Average annual air temperature:* About 49 degrees F*Frost-free season:* About 110 days*Dominant present vegetation:* Bottlebrush squirreltail, Indian ricegrass, bluegrass, Wyoming big sagebrush**Typical Profile***Depth:* 0 to 6 inches*Texture:* Silt loam*Structure:* Platy*Consistence:* Soft, very friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 6 to 60 inches*Texture:* Very fine sandy loam, silt loam*Structure:* Massive*Consistence:* Slightly hard, very friable*Reaction:* Strongly alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderate*Available water capacity:* 9 to 12 inches*Water-supplying capacity:* 8 inches*Runoff:* Medium*Hydrologic group:* B*Erosion factors (upper layer):* K value—0.55; T value—5; wind erodibility group—4L*Hazard of erosion:* By water—slight; by wind—severe*Shrink-swell potential:* Low*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Moderate**Characteristics of the Bubus Soil***Classification:* Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic*Positions on landscape:* Alluvial flats*Parent material:* Mixed alluvium that is high in content of pyroclastic material*Slope:* 2 to 4 percent*Elevation:* 5,600 to 5,800 feet*Average annual precipitation:* About 8 inches*Average annual air temperature:* About 49 degrees F*Frost-free season:* About 120 days*Dominant present vegetation:* Shadscale, bud sagebrush, bottlebrush squirreltail**Typical Profile***Depth:* 0 to 6 inches*Texture:* Very fine sandy loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Moderately alkaline*Salinity:* 4 to 8 millimhos per centimeter*Sodicity (SAR):* 5 to 13

Depth: 6 to 60 inches
Texture: Stratified sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 16 to 25 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 9 to 10 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the McConnel Soil

Classification: Xerollic Camborthids, sandy-skeletal, mixed, mesic
Positions on landscape: Offshore bars
Parent material: Alluvium that includes some loess and ash over lacustrine sediment
Slope: 0 to 4 percent
Elevation: 5,600 to 5,800 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles
Depth: 0 to 6 inches
Texture: Loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 6 to 12 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 12 to 60 inches
Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid over very rapid
Available water capacity: 3.0 to 6.4 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.37; T value—2; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—moderate
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Duric Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Inset fan remnants
Distinctive present vegetation: Black greasewood, shadscale

Inclusion 2

Classification: Xeric Torriorthents, coarse-silty, mixed (calcareous), mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Offshore bars
Distinctive present vegetation: Wyoming big sagebrush

Major Uses

Current uses: Livestock grazing, wildlife habitat
Potential foreseeable use: Irrigated cropland

Suitability for Wildlife Habitat Elements

Tulase Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Bubus Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

McConnel Soil*Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair**Suitability and Limitations for Selected Uses****Tulase Soil***Range seeding:* Fair—too arid*Roadfill:* Good*Topsoil:* Good*Daily cover for landfill:* Good*Shallow excavations:* Slight*Local roads and streets:* Moderate—frost action*Pond reservoir areas:* Moderate—seepage, slope*Embankments, dikes, and levees:* Severe—piping*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Bubus Soil***Range seeding:* Poor—excess salt, excess sodium*Roadfill:* Good*Topsoil:* Poor—excess salt*Daily cover for landfill:* Good*Shallow excavations:* Slight*Local roads and streets:* Slight*Pond reservoir areas:* Moderate—seepage, slope*Embankments, dikes, and levees:* Severe—piping, excess salt*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**McConnel Soil***Range seeding:* Fair—too arid, droughty*Roadfill:* Good*Topsoil:* Poor—too sandy, small stones, area reclaim*Daily cover for landfill:* Poor—seepage, too sandy, small stones*Shallow excavations:* Severe—cutbanks cave*Local roads and streets:* Slight*Pond reservoir areas:* Severe—seepage*Embankments, dikes, and levees:* Severe—seepage, excess salt*Sand:* Probable source*Gravel:* Probable source**Restrictive Features for Selected Practices****Tulase Soil***Drainage:* Deep to water*Irrigation:* Erodes easily, slope*Terraces and diversions:* Erodes easily**Bubus Soil***Drainage:* Deep to water*Irrigation:* Slope, erodes easily, excess salt*Terraces and diversions:* Erodes easily**McConnel Soil***Drainage:* Deep to water*Irrigation:* Droughty*Terraces and diversions:* Erodes easily, too sandy**Interpretive Groups***Land capability classification:* Tulase soil—IIIe, irrigated, and VIc, nonirrigated; Bubus soil—IIc, irrigated, and VIIc, nonirrigated; McConnel soil—IVe, irrigated, and VIIs, nonirrigated*Range site:* Tulase and McConnel soils—024X005N; Bubus soil—024X002N; Inclusion 1—024X003N; Inclusions 2 and 3—024X005N**1131—Fortank gravelly loam, 4 to 8 percent slopes***Positions on landscape:* Foothills**Composition***Major component:*

Fortank gravelly loam, 4 to 8 percent slopes, extremely stony—85 percent

Contrasting inclusions:

Abruptic Xerollic Durargids, fine, montmorillonitic, mesic, 4 to 15 percent slopes—8 percent

Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic, 2 to 8 percent slopes—5 percent

Haploxerollic Durorthids, fine-loamy, mixed, mesic, 4 to 8 percent slopes—2 percent

Characteristics of the Fortank Soil*Classification:* Xerollic Haplargids, fine, montmorillonitic, frigid*Positions on landscape:* Side slopes of foothills*Parent material:* Residuum derived from rhyolite, andesite, and quartzite*Slope:* 4 to 8 percent*Elevation:* 6,200 to 6,800 feet*Average annual precipitation:* About 9 inches*Average annual air temperature:* About 44 degrees F*Frost-free season:* About 100 days*Dominant present vegetation:* Bluegrass, Indian ricegrass, Wyoming big sagebrush**Typical Profile***Rock fragments on surface:* 10 percent stones and boulders, 15 percent cobbles, 40 percent pebbles*Depth:* 0 to 6 inches*Texture:* Gravelly loam*Structure:* Platy*Consistence:* Soft, very friable*Reaction:* Mildly alkaline*Depth:* 6 to 30 inches*Texture:* Gravelly clay, gravelly clay loam*Structure:* Angular blocky

Consistence: Hard, friable
Reaction: Moderately alkaline
Depth: 30 inches
Texture: Weathered bedrock

Soil and Water Features

Depth to bedrock: 30 to 40 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 3 to 4 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: C
Erosion factors (upper layer): K value—0.15; T value—2; wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Abruptic Xerollic Durargids, fine, montmorillonitic, mesic
Positions on landscape: Concave fan piedmont remnants
Distinctive present vegetation: Indian ricegrass, black sagebrush

Inclusion 2

Classification: Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic
Positions on landscape: Inset fans between foothills
Distinctive present vegetation: Indian ricegrass, Wyoming big sagebrush

Inclusion 3

Classification: Haploxerollic Durorthids, fine-loamy, mixed, mesic
Positions on landscape: Convex fan piedmont remnants
Distinctive present vegetation: Indian ricegrass, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Range seeding: Poor—rooting depth
Roadfill: Poor—depth to rock, low strength, shrink-swell
Topsoil: Poor—small stones

Daily cover for landfill: Poor—depth to rock, small stones
Shallow excavations: Moderate—depth to rock, too clayey
Local roads and streets: Severe—low strength, shrink-swell
Pond reservoir areas: Moderate—depth to rock, slope
Embankments, dikes, and levees: Moderate—thin layer, large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Fortank soil—VIIIs, nonirrigated
Range site: Fortank soil—028B010N; Inclusion 1—028B011N; Inclusions 2 and 3—028B010N

1140—Wendane silt loam, frequently flooded

Positions on landscape: Alluvial flats

Composition

Major component:

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—85 percent

Contrasting inclusions:

Aquic Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Wendane silt loam, occasionally flooded, 0 to 2 percent slopes—5 percent

Typic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Characteristics of the Wendane Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats

Parent material: Silty alluvium derived from volcanic rock, tuff, loess, and volcanic ash

Slope: 0 to 2 percent

Elevation: 5,200 to 6,000 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Black greasewood, basin wildrye

Typical Profile

Depth: 0 to 7 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline
Salinity: 30 to 50 millimhos per centimeter
Sodicity (SAR): 13 to 25

Depth: 7 to 18 inches

Texture: Silt loam, very fine sandy loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 18 to 60 inches

Texture: Stratified silt loam to clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 25 to 35

Soil and Water Features

Depth to a seasonal high water table: 30 to 48 inches

Frequency of flooding: Frequent for brief to long periods in February through June

Permeability: Moderately slow

Available water capacity: 11.0 to 12.6 inches

Water-supplying capacity: 7 inches

Runoff: Very slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Aquic Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flat remnants near fan skirts

Distinctive present vegetation: Bottlebrush squirreltail, black greasewood, shadscale

Inclusion 2

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: The higher parts of alluvial flats

Distinctive present vegetation: Saltbush, black greasewood, inland saltgrass

Inclusion 3

Classification: Typic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flat remnants

Distinctive present vegetation: Basin wildrye, basin big sagebrush, black greasewood

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wetland plants: Fair

Shallow water areas: Poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Wendane soil—VIIw, nonirrigated

Range site: Wendane soil—024X007N; Inclusion 1—024X003N; Inclusion 2—024X011N; Inclusion 3—024X006N

1141—Wendane-Umberland association

Positions on landscape: Alluvial flats, lake plains

Composition

Major components:

Wendane silt loam, strongly sodic, 0 to 2 percent slopes—45 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—25 percent

Umberland silt loam, rarely flooded, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Aquic Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Wendane silt loam, occasionally flooded, 0 to 2 percent slopes—4 percent

Playas—1 percent

**Characteristics of the Wendane Soil,
Strongly Sodic**

Classification: Aerlic Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: Convex alluvial flats
Parent material: Silty alluvium derived from volcanic rock, tuff, loess, and volcanic ash
Slope: 0 to 2 percent
Elevation: 5,500 to 5,700 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Basin wildrye, silver buffaloberry, black greasewood

Typical Profile

Depth: 0 to 7 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Very strongly alkaline
Salinity: 30 to 60 millimhos per centimeter
Sodicity (SAR): 60 to 80

Depth: 7 to 18 inches
Texture: Silt loam, very fine sandy loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 40 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 18 to 60 inches
Texture: Stratified silt loam to clay loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 35

Soil and Water Features

Depth to a seasonal high water table: 30 to 48 inches
Frequency of flooding: Occasional for brief to long periods in February through June
Permeability: Moderately slow
Available water capacity: 11 to 13 inches
Water-supplying capacity: 7 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

**Characteristics of the Wendane Soil,
Frequently Flooded**

Classification: Aerlic Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: Concave alluvial flats
Parent material: Silty alluvium derived from volcanic rock, tuff, loess, and volcanic ash
Slope: 0 to 2 percent
Elevation: 5,500 to 5,700 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, basin wildrye

Typical Profile

Depth: 0 to 7 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 30 to 50 millimhos per centimeter
Sodicity (SAR): 13 to 25

Depth: 7 to 18 inches
Texture: Silt loam, very fine sandy loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 18 to 60 inches
Texture: Stratified silt loam to clay loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 35

Soil and Water Features

Depth to a seasonal high water table: 30 to 48 inches
Frequency of flooding: Frequent for brief to long periods in February through June
Permeability: Moderately slow
Available water capacity: 11 to 13 inches
Water-supplying capacity: 7 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the UMBERLAND SOIL

Classification: Aeric Halaquepts, fine, montmorillonitic (calcareous), mesic

Positions on landscape: Lake plain terrace remnants

Parent material: Silty lacustrine sediment derived from various kinds of rock

Slope: 0 to 2 percent

Elevation: 5,500 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 130 days

Dominant present vegetation: Iodinebush, rubber rabbitbrush, alkali sacaton, sickle saltbush

Typical Profile

Depth: 0 to 7 inches

Texture: Silt loam

Structure: Granular

Consistence: Slightly hard, friable

Reaction: Very strongly alkaline

Salinity: 25 to 40 millimhos per centimeter

Sodicity (SAR): 60 to 80

Depth: 7 to 60 inches

Texture: Clay, silty clay, silty clay loam

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Very strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: 30 to 60 inches

Frequency of flooding: Rare

Permeability: Very slow

Available water capacity: 9 to 12 inches

Water-supplying capacity: 7 inches

Runoff: Very slow

Hydrologic group: D

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Aquic Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Narrow, linear inset fans and channels

Distinctive present vegetation: Basin wildrye, basin big sagebrush, black greasewood

Inclusion 2

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats adjacent to areas of Playas

Distinctive present vegetation: Black greasewood, inland saltgrass

Inclusion 3

Positions on landscape: Small, shallow depressions and sink areas

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wendane Soil, Strongly Sodic

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wendane Soil, Frequently Flooded

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wetland plants: Fair

Shallow water areas: Poor

UMBERLAND SOIL

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wetland plants: Poor

Shallow water areas: Poor

Suitability and Limitations for Selected Uses

Wendane Soil, Strongly Sodic

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Fair—wetness, shrink-swell

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wendane Soil, Frequently Flooded

Range seeding: Poor—excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—flooding, frost action

Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Umberland Soil

Range seeding: Poor—excess salt, excess sodium, too crusty
Roadfill: Poor—low strength, shrink-swell
Topsoil: Poor—excess salt, excess sodium, too clayey
Daily cover for landfill: Poor—too clayey, hard to pack, excess salt
Shallow excavations: Moderate—too clayey, wetness
Local roads and streets: Severe—low strength, frost action, shrink-swell
Pond reservoir areas: Slight
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Umberland Soil

Drainage: Percs slowly, frost action, excess salt
Irrigation: Wetness, percs slowly
Terraces and diversions: Erodes easily, wetness, percs slowly

Interpretive Groups

Land capability classification: Wendane and Umberland soils—VIIw, nonirrigated
Range site: Wendane soil, strongly sodic—028B057N; Wendane soil, frequently flooded—024X007N; Umberland soil—024X010N; Inclusion 1—024X006N; Inclusion 2—024X011N; Inclusion 3—none

1142—Wendane-Gund association

Positions on landscape: Alluvial flats, lake plains

Composition

Major components:
 Wendane silt loam, frequently flooded, 0 to 2 percent slopes—45 percent
 Gund silt loam, 0 to 2 percent slopes—30 percent
 Gund silt loam, drained, 0 to 2 percent slopes—15 percent
Contrasting inclusions:
 Wendane silt loam, occasionally flooded, 0 to 2 percent slopes—6 percent
 Umberland silt loam, 0 to 2 percent slopes—4 percent

Characteristics of the Wendane Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: Alluvial flats
Parent material: Silty alluvium derived from volcanic rock, tuff, loess, and volcanic ash
Slope: 0 to 2 percent
Elevation: 5,600 to 5,800 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, basin wildrye

Typical Profile

Depth: 0 to 7 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 30 to 50 millimhos per centimeter
Sodicity (SAR): 13 to 25

Depth: 7 to 18 inches
Texture: Silt loam, very fine sandy loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 18 to 60 inches
Texture: Stratified silt loam to clay loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 35

Soil and Water Features

Depth to a seasonal high water table: 30 to 48 inches
Frequency of flooding: Frequent for brief to long periods in February through June
Permeability: Moderately slow
Available water capacity: 11 to 13 inches
Water-supplying capacity: 8 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.55; T value—5 wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Gund Soil

Classification: Aquic Durorthidic Torriorthents, fine-silty over clayey, mixed, nonacid, mesic

Positions on landscape: Lake plain terraces

Parent material: Silty alluvium derived from loess and volcanic ash over lake sediment

Slope: 0 to 2 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Basin wildrye, basin big sagebrush, black greasewood

Typical Profile

Depth: 0 to 4 inches

Texture: Silt loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 10 to 25

Depth: 4 to 23 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 23 to 60 inches

Texture: Silty clay, clay

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: 36 to 42 inches

Frequency of flooding: Rare

Permeability: Slow

Available water capacity: 9 to 11 inches

Water-supplying capacity: 8 inches

Runoff: Very slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: High

Characteristics of the Gund Soil, Drained

Classification: Aquic Durorthidic Torriorthents, fine-silty

over clayey, mixed, nonacid, mesic

Positions on landscape: Lake plain terrace remnants

Parent material: Silty alluvium derived from loess and volcanic ash over lake sediment

Slope: 0 to 2 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Black greasewood, basin wildrye

Typical Profile

Depth: 0 to 4 inches

Texture: Silt loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 75 to 10 millimhos per centimeter

Sodicity (SAR): 10 to 25

Depth: 4 to 23 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 50 to 80

Depth: 23 to 60 inches

Texture: Silty clay, clay

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: 60 to 72 inches

Frequency of flooding: Rare

Permeability: Slow

Available water capacity: 9 to 11 inches

Water-supplying capacity: 8 inches

Runoff: Very slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: High

Contrasting Inclusions**Inclusion 1**

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flat margins
Distinctive present vegetation: Black greasewood, inland saltgrass

Inclusion 2

Classification: Aeric Halaquepts, fine, montmorillonitic (calcareous), mesic
Positions on landscape: The lower margins of lake plain terrace remnants
Distinctive present vegetation: Iodinebush, alkali sacaton

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wendane Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Gund Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor
Wetland plants: Very poor
Shallow water areas: Fair

Gund Soil, Drained

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Wendane Soil

Range seeding: Poor—excess salt, excess sodium
Roadfill: Poor—low strength
Topsoil: Poor—excess salt, excess sodium
Daily cover for landfill: Poor—excess salt, excess sodium
Shallow excavations: Moderate—wetness, flooding
Local roads and streets: Severe—flooding, frost action
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Gund Soil

Range seeding: Poor—excess salt, excess sodium
Roadfill: Poor—low strength, shrink-swell
Topsoil: Poor—excess salt, excess sodium
Daily cover for landfill: Poor—too clayey, hard to pack, excess salt
Shallow excavations: Moderate—too clayey, wetness
Local roads and streets: Severe—low strength, frost action, shrink-swell
Pond reservoir areas: Slight
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Gund Soil, Drained

Range seeding: Poor—excess salt, excess sodium
Roadfill: Poor—low strength, shrink-swell
Topsoil: Poor—excess salt, excess sodium
Daily cover for landfill: Poor—too clayey, hard to pack, excess sodium
Shallow excavations: Moderate—too clayey, wetness
Local roads and streets: Severe—low strength, frost action, shrink-swell
Pond reservoir areas: Slight
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Wendane and Gund soils—VIIw, nonirrigated
Range site: Wendane soil—024X007N; Gund soil—024X006N; Gund soil, drained—024X008N; Inclusion 1—024X011N; Inclusion 2—024X010N

1143—Wendane silt loam, occasionally flooded

Positions on landscape: Basin floors

Composition

Major component:

Wendane silt loam, occasionally flooded, 0 to 2 percent slopes—85 percent

Contrasting inclusions:

Aquic Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Sonoma silt loam, frequently flooded, strongly saline, 0 to 2 percent slopes—5 percent

Aeric Halaquepts, fine, montmorillonitic, mesic, 0 to 2 percent slopes—5 percent

Characteristics of the Wendane Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats

Parent material: Silty alluvium derived from volcanic rock, tuff, loess, volcanic ash

Slope: 0 to 2 percent

Elevation: 5,100 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Black greasewood, basin wildrye

Typical Profile*Depth:* 0 to 7 inches*Texture:* Silt loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Very strongly alkaline*Salinity:* 30 to 50 millimhos per centimeter*Sodicity (SAR):* 13 to 25*Depth:* 7 to 18 inches*Texture:* Silt loam, very fine sandy loam*Structure:* Subangular blocky*Consistence:* Soft, very friable*Reaction:* Strongly alkaline*Salinity:* 16 to 30 millimhos per centimeter*Sodicity (SAR):* 46 to 60*Depth:* 18 to 60 inches*Texture:* Stratified silt loam to clay loam*Structure:* Massive*Consistence:* Slightly hard, friable*Reaction:* Strongly alkaline*Salinity:* 16 to 30 millimhos per centimeter*Sodicity (SAR):* 25 to 35**Soil and Water Features***Depth to a seasonal high water table:* 30 to 48 inches*Frequency of flooding:* Occasional for brief to long periods in February through June*Permeability:* Moderately slow*Available water capacity:* 11 to 12 inches*Water-supplying capacity:* 7 inches*Runoff:* Very slow*Hydrologic group:* C*Erosion factors (upper layer):* K value—0.55; T value—5; wind erodibility group—4L*Hazard of erosion:* By water—slight; by wind—severe*Shrink-swell potential:* Moderate*Corrosivity:* To steel—high; to concrete—high*Potential for frost action:* High**Contrasting Inclusions****Inclusion 1***Classification:* Aquic Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic*Positions on landscape:* Lake plain remnants*Distinctive present vegetation:* Rubber rabbitbrush, black greasewood**Inclusion 2***Classification:* Aeris Fluvaquents, fine-silty, mixed (calcareous), mesic*Positions on landscape:* Flood plains*Distinctive present vegetation:* Basin wildrye, black greasewood**Inclusion 3***Classification:* Aeris Halaquepts, fine, montmorillonitic, mesic*Positions on landscape:* Alluvial flat remnants*Distinctive present vegetation:* Black greasewood, basin wildrye**Major Current Uses**

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements*Wild herbaceous plants (nonirrigated):* Very poor*Shrubs (nonirrigated):* Very poor*Wetland plants:* Poor*Shallow water areas:* Fair**Suitability and Limitations for Selected Uses***Range seeding:* Poor—excess salt, excess sodium*Roadfill:* Poor—low strength*Topsoil:* Poor—excess salt, excess sodium*Daily cover for landfill:* Poor—excess salt, excess sodium*Shallow excavations:* Moderate—wetness, flooding*Local roads and streets:* Severe—flooding, frost action*Pond reservoir areas:* Moderate—seepage*Embankments, dikes, and levees:* Severe—excess salt, excess sodium*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Interpretive Groups***Land capability classification:* Wendane soil—VIIw, nonirrigated*Range site:* Wendane soil—024X011N; Inclusions 1, 2, and 3—024X007N**1145—Wendane-Playas association***Positions on landscape:* Basin floors**Composition***Major components:*

Wendane silt loam, occasionally flooded, 0 to 2 percent slopes—70 percent

Playas—15 percent

Contrasting inclusions:

Aquic Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—5 percent

Isolde fine sand, 4 to 30 percent slopes—5 percent

Characteristics of the Wendane Soil*Classification:* Aeris Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats
Parent material: Silty alluvium derived from volcanic rock, tuff, loess, and volcanic ash
Slope: 0 to 2 percent
Elevation: 5,100 to 6,100 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, basin wildrye

Typical Profile

Depth: 0 to 7 inches.
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Very strongly alkaline
Salinity: 30 to 50 millimhos per centimeter
Sodicity (SAR): 13 to 25

Depth: 7 to 18 inches
Texture: Silt loam, very fine sandy loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 18 to 60 inches
Texture: Stratified silt loam to clay loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 25 to 35

Soil and Water Features

Depth to a seasonal high water table: 30 to 48 inches
Frequency of flooding: Occasional for brief to long periods in February through June
Permeability: Moderately slow
Available water capacity: 11 to 12 inches
Water-supplying capacity: 8 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Playas

Positions on landscape: Small, irregularly shaped sink areas

Parent material: Fine-textured sediment

Contrasting Inclusions

Inclusion 1

Classification: Aquic Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Inset fans on alluvial flats
Distinctive present vegetation: Iodinebush, alkali sacaton, inland saltgrass

Inclusion 2

Classification: Aerice Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: The lower parts of alluvial flats
Distinctive present vegetation: Alkali rabbitbrush, black greasewood, basin wildrye

Inclusion 3

Classification: Typic Torripsamments, mixed, mesic
Positions on landscape: Sand dunes
Distinctive present vegetation: Spiny hopsage, black greasewood, needlegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wendane Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor
Wetland plants: Poor
Shallow water areas: Fair

Suitability and Limitations for Selected Uses

Wendane Soil

Range seeding: Poor—excess salt, excess sodium
Roadfill: Poor—low strength
Topsoil: Poor—excess salt, excess sodium
Daily cover for landfill: Poor—excess salt, excess sodium
Shallow excavations: Moderate—wetness, flooding
Local roads and streets: Severe—flooding, frost action
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Wendane soil—VIIw, nonirrigated; Playas—VIIIw, nonirrigated
Range site: Wendane soil—024X011N; Playas—none; Inclusion 1—024X010N; Inclusion 2—024X007N; Inclusion 3—027X016N

1146—Wendane-Sonoma-Valmy association*Positions on landscape:* Alluvial flats, stream flood plains**Composition***Major components:*

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—35 percent

Sonoma silt loam, drained, occasionally flooded, 0 to 2 percent slopes—30 percent

Valmy very fine sandy loam, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Paranat silt loam, 0 to 2 percent slopes—6 percent

Aeric Halaquepts, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—6 percent

Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic, 2 to 8 percent slopes—3 percent

Characteristics of the Wendane Soil*Classification:* Aeric Halaquepts, fine-silty, mixed (calcareous), mesic*Positions on landscape:* Alluvial flats*Parent material:* Silty alluvium derived from volcanic rock, tuff, loess, and volcanic ash*Slope:* 0 to 2 percent*Elevation:* 5,200 to 5,400 feet*Average annual precipitation:* About 7 inches*Average annual air temperature:* About 49 degrees F*Frost-free season:* About 120 days*Dominant present vegetation:* Black greasewood, basin wildrye**Typical Profile***Depth:* 0 to 7 inches*Texture:* Silt loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Strongly alkaline*Salinity:* 30 to 50 millimhos per centimeter*Sodicity (SAR):* 13 to 25*Depth:* 7 to 18 inches*Texture:* Silt loam, very fine sandy loam*Structure:* Subangular blocky*Consistence:* Soft, very friable*Reaction:* Strongly alkaline*Salinity:* 16 to 30 millimhos per centimeter*Sodicity (SAR):* 46 to 60*Depth:* 18 to 60 inches*Texture:* Stratified silt loam to clay loam*Structure:* Massive*Consistence:* Slightly hard, friable*Reaction:* Strongly alkaline*Salinity:* 16 to 30 millimhos per centimeter*Sodicity (SAR):* 25 to 35**Soil and Water Features***Depth to a seasonal high water table:* 30 to 48 inches*Frequency of flooding:* Frequent for brief to long periods in February through June*Permeability:* Moderately slow*Available water capacity:* 11 to 13 inches*Water-supplying capacity:* 8 inches*Runoff:* Very slow*Hydrologic group:* C*Erosion factors (upper layer):* K value—0.55; T value—5; wind erodibility group—4L*Hazard of erosion:* By water—slight; by wind—severe*Shrink-swell potential:* Moderate*Corrosivity:* To steel—high; to concrete—high*Potential for frost action:* High**Characteristics of the Sonoma Soil***Classification:* Aeric Fluvaquents, fine-silty, mixed (calcareous), mesic*Positions on landscape:* Flood plains*Parent material:* Mixed silty alluvium that includes volcanic ash*Slope:* 0 to 2 percent*Elevation:* 5,200 to 5,400 feet*Average annual precipitation:* About 7 inches*Average annual air temperature:* About 50 degrees F*Frost-free season:* About 110 days*Dominant present vegetation:* Black greasewood, basin wildrye, basin big sagebrush**Typical Profile***Depth:* 0 to 10 inches*Texture:* Silt loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Moderately alkaline*Salinity:* 4 to 8 millimhos per centimeter*Sodicity (SAR):* 2 to 10*Depth:* 10 to 60 inches*Texture:* Silt loam, silty clay loam*Structure:* Subangular blocky*Consistence:* Slightly hard, very friable*Reaction:* Strongly alkaline*Salinity:* 2 to 8 millimhos per centimeter*Sodicity (SAR):* 2 to 10**Soil and Water Features***Depth to a seasonal high water table:* 42 to 60 inches*Frequency of flooding:* Occasional for brief to long periods in March through June*Permeability:* Moderately slow*Available water capacity:* 11 to 12 inches*Water-supplying capacity:* 9 inches

Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.43; T value—5;
 wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: High

Characteristics of the Valmy Soil

Classification: Durorthidic Torriorthents, coarse-loamy,
 mixed (calcareous), mesic
Positions on landscape: Fan skirts, inset fans
Parent material: Loess cap that is high in content of
 volcanic ash over mixed alluvium
Slope: 0 to 2 percent
Elevation: 5,200 to 5,400 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 50 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Basin wildrye, black
 greasewood, basin big sagebrush

Typical Profile

Depth: 0 to 6 inches
Texture: Very fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 6 to 42 inches
Texture: Fine sandy loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 42 to 60 inches
Texture: Gravelly sand, very gravelly sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60
 inches
Frequency of flooding: None
Permeability: Moderately rapid
Available water capacity: 4.7 to 6.8 inches
Water-supplying capacity: 8 inches
Runoff: Slow

Hydrologic group: B
Erosion factors (upper layer): K value—0.43; T value—4;
 wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Fluvaquentic Haplaquolls, fine-silty, mixed
 (calcareous), mesic
Positions on landscape: Flood plains adjacent to stream
 channels
Distinctive present vegetation: Creeping wildrye, sedge,
 rush, willow

Inclusion 2

Classification: Aeric Halaquepts, fine-silty, mixed
 (calcareous), mesic
Positions on landscape: Flood plain remnants
Distinctive present vegetation: Torrey quailbush, black
 greasewood

Inclusion 3

Classification: Durorthidic Torriorthents, coarse-loamy,
 mixed (calcareous), mesic
Positions on landscape: Fanlettes over alluvial flats
Distinctive present vegetation: Black greasewood,
 shadscale

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wendane Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor
Wetland plants: Poor
Shallow water areas: Fair

Sonoma Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor
Wetland plants: Fair
Shallow water areas: Fair

Valmy Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Wendane Soil

Range seeding: Poor—excess salt, excess sodium
Roadfill: Poor—low strength
Topsoil: Poor—excess salt, excess sodium
Daily cover for landfill: Poor—excess salt, excess
 sodium

Shallow excavations: Moderate—wetness, flooding
Local roads and streets: Severe—flooding, frost action
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Sonoma Soil

Range seeding: Poor—excess salt
Roadfill: Poor—low strength
Topsoil: Fair—excess salt
Daily cover for landfill: Fair—too clayey
Shallow excavations: Moderate—wetness, flooding
Local roads and streets: Severe—low strength, frost action, flooding
Pond reservoir areas: Slight
Embankments, dikes, and levees: Moderate—wetness, piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Valmy Soil

Range seeding: Poor—excess salt
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Fair—small stones, thin layer
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Moderate—thin layer, seepage, piping
Sand: Probable source
Gravel: Probable source

Interpretive Groups

Land capability classification: Wendane soil—VIIw, nonirrigated; Sonoma soil—IIIw, irrigated, and VIw, nonirrigated; Valmy soil—IIc, irrigated, and VIIc, nonirrigated
Range site: Wendane soil—024X007N; Sonoma soil—024X006N; Valmy soil—024X022N; Inclusion 1—025X001N; Inclusion 2—024X015N; Inclusion 3—024X003N

1148—Wendane-Bubus association

Positions on landscape: Alluvial flats

Composition

Major components:
 Wendane silt loam, frequently flooded, 0 to 2 percent slopes—60 percent
 Bubus very fine sandy loam, 0 to 2 percent slopes—25 percent

Contrasting inclusions:

Needle Peak silt loam, 0 to 2 percent slopes—8 percent
 Batan silt loam, 0 to 2 percent slopes—4 percent
 Beoska silt loam, 0 to 4 percent slopes—3 percent

Characteristics of the Wendane Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic

Positions on landscape: Alluvial flats

Parent material: Silty alluvium derived from volcanic rock, tuff, loess, and volcanic ash

Slope: 0 to 2 percent

Elevation: 5,600 to 5,900 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Black greasewood, basin wildrye

Typical Profile

Depth: 0 to 7 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 30 to 50 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 7 to 18 inches

Texture: Silt loam, very fine sandy loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Depth: 18 to 60 inches

Texture: Stratified silt loam to clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 25 to 35

Soil and Water Features

Depth to a seasonal high water table: 30 to 48 inches

Frequency of flooding: Frequent for brief to long periods in February through June

Permeability: Moderately slow

Available water capacity: 11 to 13 inches

Water-supplying capacity: 7 inches

Runoff: Very slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Characteristics of the Bubus Soil

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic
Positions on landscape: Alluvial flat remnants
Parent material: Mixed alluvium that is high in content of pyroclastic material
Slope: 0 to 2 percent
Elevation: 5,600 to 5,900 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Typical Profile

Depth: 0 to 6 inches
Texture: Very fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 5 to 13

Depth: 6 to 60 inches
Texture: Stratified sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 9 to 10 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Aquic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Remnant banks of intermittent channels

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 2

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Basin floor remnants

Distinctive present vegetation: Black greasewood, shadscale

Inclusion 3

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants along the outer margins of alluvial flats

Distinctive present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wendane Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wetland plants: Poor

Shallow water areas: Fair

Bubus Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Wendane Soil

Range seeding: Poor—excess salt, excess sodium, too arid

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Poor—excess salt, excess sodium

Shallow excavations: Moderate—wetness, flooding

Local roads and streets: Severe—flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Bubus Soil

Range seeding: Poor—excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Wendane soil—VIIw, nonirrigated; Bubus soil—VIIs, nonirrigated

Range site: Wendane soil—024X007N; Bubus soil—024X003N; Inclusion 1—024X006N; Inclusion 2—024X003N; Inclusion 3—024X002N

1169—Whirlo-Broyles association

Positions on landscape: Fan skirts, inset fans

Composition

Major components:

Whirlo gravelly very fine sandy loam, 4 to 8 percent slopes—60 percent

Broyles very fine sandy loam, 2 to 4 percent slopes—25 percent

Contrasting inclusions:

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—9 percent

Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 2 to 8 percent slopes—6 percent

Characteristics of the Whirlo Soil

Classification: Typic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: The upper fan skirts

Parent material: Mixed alluvium that includes a large amount of loess

Slope: 4 to 8 percent

Elevation: 5,200 to 5,500 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Depth: 0 to 12 inches

Texture: Gravelly very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 12 to 24 inches

Texture: Very gravelly fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 24 to 60 inches

Texture: Very gravelly coarse sandy loam

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 4.7 to 6.0 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Broyles Soil

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The lower fan skirts and inset fans

Parent material: Thin loess mantle over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,200 to 5,500 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 11 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 11 to 60 inches

Texture: Stratified loam to gravelly loamy sand

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid
Available water capacity: 6.2 to 7.5 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: The upper inset fans, areas adjacent to fan skirts
Distinctive present vegetation: Needlegrass, Wyoming big sagebrush

Inclusion 2

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Margins of shallow channels
Distinctive present vegetation: Spiny hopsage, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Whirlo Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Broyles Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Whirlo Soil

Range seeding: Poor—too arid
Roadfill: Good
Topsoil: Poor—small stones, area reclaim, excess salt
Daily cover for landfill: Poor—seepage, small stones
Shallow excavations: Slight
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Broyles Soil

Range seeding: Poor—too arid, excess salt, excess sodium
Roadfill: Good
Topsoil: Poor—small stones
Daily cover for landfill: Fair—too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Whirlo soil—IIIe, irrigated, and VIIc, nonirrigated; Broyles soil—IIe, irrigated, and VIIc, nonirrigated
Range site: Whirlo and Broyles soils—024X002N; Inclusion 1—028B010N; Inclusion 2—024X020N

1173—Wholan silt loam, alkaline

Positions on landscape: Fan skirts

Composition

Major component:

Wholan silt loam, alkaline, 0 to 2 percent slopes—90 percent

Contrasting inclusions:

Broyles very fine sandy loam, 0 to 2 percent slopes—7 percent

Rasille silt loam, 0 to 2 percent slopes—3 percent

Characteristics of the Wholan Soil

Classification: Typic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Loess mantle over silty alluvium

Slope: 0 to 2 percent

Elevation: 5,100 to 5,800 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, bluegrass, sickle saltbush

Typical Profile

Depth: 0 to 6 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 60 inches

Texture: Silt loam, very fine sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Very strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 10 to 11 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirt remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Bottlebrush squirreltail, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—too arid, excess salts

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Drainage: Deep to water

Irrigation: Erodes easily

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Wholan soil—IIc, irrigated, and VIIc, nonirrigated

Range site: Wholan soil—024X012N; Inclusion 1—024X002N; Inclusion 2—028B010N

1177—Wholan-Rasille association, alkaline

Positions on landscape: Fan skirts, inset fans

Composition

Major components:

Wholan very fine sandy loam, alkaline, 0 to 2 percent slopes—65 percent

Rasille silt loam, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Kelk silt loam, occasionally flooded, 0 to 2 percent slopes—5 percent

Xerollic Camborthids, coarse-loamy, mixed, mesic, 0 to 2 percent slopes—5 percent

Creemon very fine sandy loam, 0 to 2 percent slopes—5 percent

Characteristics of the Wholan Soil

Classification: Typic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Broad fan skirts

Parent material: Loess mantle over silty alluvium

Slope: 0 to 2 percent

Elevation: 5,400 to 5,800 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, bluegrass, sickle saltbush

Typical Profile

Depth: 0 to 5 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 5 to 60 inches

Texture: Silt loam, very fine sandy loam

Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Very strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderate
Available water capacity: 10 to 11 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Rasille Soil

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Inset fans, fan drainageways
Parent material: Silty alluvium derived from loess and various kinds of rock
Slope: 0 to 2 percent
Elevation: 5,400 to 5,800 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 6 to 15 inches
Texture: Silt loam
Structure: Prismatic
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 15 to 60 inches
Texture: Silt loam, very fine sandy loam

Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderate
Available water capacity: 11 to 12 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, fine-silty, mixed, mesic
Positions on landscape: Inset fans on the lower margins of fan skirts
Distinctive present vegetation: Basin big sagebrush, black greasewood

Inclusion 2

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: The higher areas on inset fans
Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage

Inclusion 3

Classification: Duric Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Fan skirt remnants
Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wholan Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Rasille Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses**Wholan Soil***Range seeding:* Poor—too arid, excess salt*Roadfill:* Good*Topsoil:* Poor—excess salt*Daily cover for landfill:* Good*Shallow excavations:* Slight*Local roads and streets:* Moderate—flooding*Pond reservoir areas:* Moderate—seepage*Embankments, dikes, and levees:* Severe—piping*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Rasille Soil***Range seeding:* Fair—too arid*Roadfill:* Good*Topsoil:* Fair—excess salt*Daily cover for landfill:* Good*Shallow excavations:* Slight*Local roads and streets:* Moderate—flooding, frost action*Pond reservoir areas:* Moderate—seepage*Embankments, dikes, and levees:* Severe—piping*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Restrictive Features for Selected Practices****Wholan Soil***Drainage:* Deep to water*Irrigation:* Erodes easily*Terraces and diversions:* Erodes easily**Rasille Soil***Drainage:* Deep to water*Irrigation:* Erodes easily, excess salt*Terraces and diversions:* Erodes easily**Interpretive Groups***Land capability classification:* Wholan soil—IIc, irrigated, and VIIc, nonirrigated; Rasille soil—IIc, irrigated, and VIc, nonirrigated*Range site:* Wholan soil—024X012N; Rasille soil—024X005N; Inclusion 1—024X006N; Inclusion 2—024X020N; Inclusion 3—024X002N**1178—Wholan-Rasille association, nonalkaline***Positions on landscape:* Fan skirts**Composition***Major components:*

Wholan silt loam, 0 to 2 percent slopes—60 percent

Rasille silt loam, gravelly substratum, 0 to 2 percent slopes—25 percent

Contrasting inclusions:

Wholan silt loam, alkaline, 0 to 2 percent slopes—5 percent

Broyles very fine sandy loam, 0 to 4 percent slopes—5 percent

Orovada fine sandy loam, 0 to 2 percent slopes—5 percent

Characteristics of the Wholan Soil*Classification:* Typic Camborthids, coarse-silty, mixed, mesic*Positions on landscape:* Smooth fan skirts*Parent material:* Loess mantle over silty alluvium*Slope:* 0 to 2 percent*Elevation:* 5,000 to 5,400 feet*Average annual precipitation:* About 8 inches*Average annual air temperature:* About 49 degrees F*Frost-free season:* About 120 days*Dominant present vegetation:* Indian ricegrass, bottlebrush squirreltail, bluegrass, winterfat**Typical Profile***Depth:* 0 to 5 inches*Texture:* Silt loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Moderately alkaline*Salinity:* 2 to 4 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 5 to 60 inches*Texture:* Silt loam, very fine sandy loam*Structure:* Massive*Consistence:* Slightly hard, very friable*Reaction:* Moderately alkaline*Salinity:* 4 to 8 millimhos per centimeter*Sodicity (SAR):* 0 to 5**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* Rare*Permeability:* Moderate*Available water capacity:* 10 to 12 inches*Water-supplying capacity:* 8 inches*Runoff:* Slow*Hydrologic group:* B*Erosion factors (upper layer):* K value—0.55; T value—5; wind erodibility group—5*Hazard of erosion:* By water—slight; by wind—slight*Shrink-swell potential:* Low*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Low

Characteristics of the Rasille Soil

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Fan drainageways
Parent material: Silty alluvium derived from loess and various kinds of rock
Slope: 0 to 2 percent
Elevation: 5,000 to 5,400 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 6 to 15 inches
Texture: Silt loam
Structure: Prismatic
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 15 to 41 inches
Texture: Silt loam, very fine sandy loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 2 to 10
Depth: 41 to 60 inches
Texture: Stratified fine sandy loam to very gravelly coarse sand
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderate
Available water capacity: 7.6 to 9.3 inches
Water-supplying capacity: 8 inches
Runoff: Slow

Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5
 wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Typic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Convex areas of fan skirts

Distinctive present vegetation: Sickie saltbush

Inclusion 2

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The higher fan skirt remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Adjacent to channels and fanettes

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wholan Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Rasille Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Wholan Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Rasille Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—area reclaim, excess salt

Daily cover for landfill: Fair—thin layer
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—flooding, frost action
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Restrictive Features for Selected Practices

Wholan Soil

Drainage: Deep to water
Irrigation: Erodes easily
Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Wholan soil—IIc, irrigated, and VIIc, nonirrigated; Rasille soil—IIc, irrigated, and VIc, nonirrigated
Range site: Wholan soil—024X004N; Rasille soil—028B010N; Inclusion 1—024X012N; Inclusion 2—024X002N; Inclusion 3—028B010N

1281—Ricert-Whirlo-Pineval association

Positions on landscape: Piedmont slopes

Composition

Major components:
 Ricert gravelly silt loam, 4 to 8 percent slopes—45 percent
 Whirlo fine sandy loam, 4 to 8 percent slopes—25 percent
 Pineval gravelly fine sandy loam, 4 to 8 percent slopes—15 percent
Contrasting inclusions:
 Duric Natrargids, fine, montmorillonitic, mesic, 4 to 15 percent slopes—9 percent
 Xeric Torriorthents, loamy-skeletal, mixed, mesic, 15 to 30 percent slopes—4 percent
 Typic Nadurargids, fine-loamy, mixed, mesic, 4 to 15 percent slopes—2 percent

Characteristics of the Ricert Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic
Positions on landscape: Fan piedmont remnants
Parent material: Thin loess deposits over mixed alluvium
Slope: 4 to 8 percent
Elevation: 5,300 to 6,000 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 6 inches
Texture: Gravelly silt loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 6 to 18 inches
Texture: Loam, clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Strongly alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 25 to 46
Depth: 18 to 60 inches
Texture: Very gravelly sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 4 to 6 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Whirlo Soil

Classification: Typic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Inset fans, fan skirts
Parent material: Mixed alluvium that includes a large amount of loess
Slope: 4 to 8 percent
Elevation: 5,300 to 6,000 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile*Depth:* 0 to 12 inches*Texture:* Fine sandy loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Moderately alkaline*Salinity:* 2 to 4 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 12 to 24 inches*Texture:* Very gravelly fine sandy loam*Structure:* Massive*Consistence:* Soft, very friable*Reaction:* Moderately alkaline*Salinity:* 2 to 4 millimhos per centimeter*Sodicity (SAR):* 5 to 13*Depth:* 24 to 60 inches*Texture:* Very gravelly coarse sandy loam*Structure:* Single grain*Consistence:* Loose*Reaction:* Moderately alkaline*Salinity:* 4 to 16 millimhos per centimeter*Sodicity (SAR):* 13 to 25**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderately rapid*Available water capacity:* 4.2 to 5.4 inches*Water-supplying capacity:* 7 inches*Runoff:* Slow*Hydrologic group:* B*Erosion factors (upper layer):* K value—0.43; T value—5; wind erodibility group—3*Hazard of erosion:* By water—slight; by wind—severe*Shrink-swell potential:* Low*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Low**Characteristics of the Pineval Soil***Classification:* Durixerollic Haplargids, loamy-skeletal, mixed, mesic*Positions on landscape:* Fan aprons*Parent material:* Mixed alluvium*Slope:* 4 to 8 percent*Elevation:* 5,300 to 6,000 feet*Average annual precipitation:* About 8 inches*Average annual air temperature:* About 49 degrees F*Frost-free season:* About 120 days*Dominant present vegetation:* Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush**Typical Profile***Rock fragments on surface:* 10 percent pebbles*Depth:* 0 to 5 inches*Texture:* Gravelly fine sandy loam*Structure:* Platy*Consistence:* Slightly hard, friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 5 to 11 inches*Texture:* Very gravelly loam, very gravelly clay loam*Structure:* Subangular blocky*Consistence:* Slightly hard, friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 11 to 60 inches*Texture:* Extremely gravelly sandy loam, extremely gravelly loamy sand*Structure:* Single grain*Consistence:* Loose*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderately slow*Available water capacity:* 3.0 to 4.2 inches*Water-supplying capacity:* 8 inches*Runoff:* Medium*Hydrologic group:* B*Erosion factors (upper layer):* K value—0.24; T value—5; wind erodibility group—4*Hazard of erosion:* By water—slight; by wind—slight*Shrink-swell potential:* Moderate*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Moderate**Contrasting Inclusions****Inclusion 1***Classification:* Duric Natrargids, fine, montmorillonitic, mesic*Positions on landscape:* The higher areas on fan piedmont remnants*Distinctive present vegetation:* Shadscale, bud sagebrush**Inclusion 2***Classification:* Xeric Torriorthents, loamy-skeletal, mixed mesic*Positions on landscape:* Side slopes of fan piedmont remnants*Distinctive present vegetation:* Wyoming big sagebrush, shadscale

Inclusion 3

Classification: Typic Nadurargids, fine-loamy, mixed, mesic

Positions on landscape: Shoulder slopes of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Ricert Soil**

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Whirlo Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Pineval Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Ricert Soil**

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Probable source

Gravel: Probable source

Whirlo Soil

Range seeding: Poor—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess salt

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Pineval Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Ricert soil—IVe, irrigated, and VIIs, nonirrigated; Whirlo soil—IIIe, irrigated, and VIIc, nonirrigated; Pineval soil—IVe, irrigated, and VIIs, nonirrigated

Range site: Ricert and Whirlo soils—024X002N; Pineval soil—028B010N; Inclusion 1—024X002N; Inclusion 2—024X026N; Inclusion 3—024X002N

1282—Ricert-Broyles association

Positions on landscape: Fan piedmonts

Composition

Major components:

Ricert very fine sandy loam, 2 to 8 percent slopes—60 percent

Broyles very fine sandy loam, 2 to 8 percent slopes—25 percent

Contrasting inclusions:

Typic Camborthids, loamy-skeletal, mixed, mesic, 4 to 8 percent slopes—8 percent

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—4 percent

Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—3 percent

Characteristics of the Ricert Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants

Parent material: Thin loess deposits over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,200 to 5,600 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 6 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Soft, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 6 to 18 inches
Texture: Loam, clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 18 to 60 inches

Texture: Very gravelly sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4 to 6 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Broyles Soil

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan aprons

Parent material: Thin loess mantle over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,200 to 5,600 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 13 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 13 to 60 inches

Texture: Stratified loam to gravelly loamy sand

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 6.0 to 7.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Typic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Fan skirts

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Ricert Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Broyles Soil*Wild herbaceous plants (nonirrigated):* Very poor*Shrubs (nonirrigated):* Very poor**Suitability and Limitations for Selected Uses****Ricert Soil***Range seeding:* Poor—too arid, excess salt, excess sodium*Roadfill:* Good*Topsoil:* Poor—small stones, area reclaim, excess sodium*Daily cover for landfill:* Poor—seepage, small stones*Shallow excavations:* Severe—cutbanks cave*Local roads and streets:* Slight*Pond reservoir areas:* Severe—seepage*Embankments, dikes, and levees:* Severe—seepage, excess sodium*Sand:* Probable source*Gravel:* Probable source**Broyles Soil***Range seeding:* Poor—too arid, excess salt*Roadfill:* Good*Topsoil:* Poor—small stones*Daily cover for landfill:* Fair—too sandy, small stones*Shallow excavations:* Severe—cutbanks cave*Local roads and streets:* Slight*Pond reservoir areas:* Severe—seepage*Embankments, dikes, and levees:* Severe—seepage*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Interpretive Groups***Land capability classification:* Ricert soil—IVe, irrigated, and VIIc, nonirrigated; Broyles soil—IIIe, irrigated, and VIIc, nonirrigated*Range site:* Ricert and Broyles soils—024X002N; Inclusion 1—024X002N; Inclusion 2—024X020N; Inclusion 3—024X002N**1284—Ricert-Zineb-Pineval association***Positions on landscape:* Fan piedmonts**Composition***Major components:*

Ricert very gravelly very fine sandy loam, 2 to 4 percent slopes—40 percent

Zineb very gravelly sandy loam, 4 to 8 percent slopes—25 percent

Pineval gravelly fine sandy loam, 2 to 4 percent slopes—20 percent

Contrasting inclusions:

Durorthidic Torriorthents, loamy-skeletal, mixed

(calcareous), mesic, 2 to 8 percent slopes—7 percent

Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 0 to 4 percent slopes—5 percent

Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 0 to 4 percent slopes—3 percent

Characteristics of the Ricert Soil*Classification:* Duric Natrargids, fine-loamy, mixed, mesic*Positions on landscape:* The lower summits of fan piedmont remnants*Parent material:* Thin loess deposits over mixed alluvium*Slope:* 2 to 4 percent*Elevation:* 6,200 to 6,500 feet*Average annual precipitation:* About 8 inches*Average annual air temperature:* About 48 degrees F*Frost-free season:* About 120 days*Dominant present vegetation:* Shadscale, bud sagebrush, Indian ricegrass, bluegrass**Typical Profile***Depth:* 0 to 6 inches*Texture:* Very gravelly very fine sandy loam*Structure:* Platy*Consistence:* Soft, very friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 5*Depth:* 6 to 18 inches*Texture:* Loam, clay loam*Structure:* Prismatic*Consistence:* Hard, firm*Reaction:* Strongly alkaline*Salinity:* 2 to 8 millimhos per centimeter*Sodicity (SAR):* 25 to 46*Depth:* 18 to 60 inches*Texture:* Very gravelly sandy loam*Structure:* Massive*Consistence:* Soft, very friable*Reaction:* Strongly alkaline*Salinity:* 2 to 8 millimhos per centimeter*Sodicity (SAR):* 46 to 60**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderately slow*Available water capacity:* 4 to 6 inches*Water-supplying capacity:* 7 inches*Runoff:* Medium*Hydrologic group:* B

Erosion factors (upper layer): K value—0.10; T value—5;
wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Zineb Soil

Classification: Durixerollic Camborthids, loamy-skeletal,
mixed, mesic

Positions on landscape: Inset fans

Parent material: Mixed alluvium that includes volcanic
ash

Slope: 4 to 8 percent

Elevation: 6,200 to 6,500 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Indian
ricegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 6 inches

Texture: Very gravelly sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 13 inches

Texture: Gravelly loam, gravelly very fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 13 to 19 inches

Texture: Very gravelly sandy loam, very gravelly loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 19 to 27 inches

Texture: Extremely cobbly sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 27 to 60 inches

Texture: Extremely cobbly coarse sand, extremely
cobbly loamy coarse sand

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60
inches

Frequency of flooding: None

Permeability: Moderate over rapid

Available water capacity: 3.0 to 4.2 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—5;
wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Pineval Soil

Classification: Durixerollic Haplargids, loamy-skeletal,
mixed, mesic

Positions on landscape: The higher summits of fan
pedmont remnants

Parent material: Mixed alluvium

Slope: 2 to 4 percent

Elevation: 6,200 to 6,600 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass,
bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 5 to 11 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 11 to 60 inches
Texture: Extremely gravelly sandy loam, extremely gravelly loamy sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate slow
Available water capacity: 3.0 to 4.2 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Side slopes of fan piedmont remnants
Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Fan skirts near seeps
Distinctive present vegetation: Wyoming big sagebrush, black greasewood

Inclusion 3

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Fan drainageways
Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Ricert Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Zineb Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Pineval Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Ricert Soil

Range seeding: Poor—too arid, excess salt, excess sodium
Roadfill: Good
Topsoil: Poor—small stones, area reclaim, excess sodium
Daily cover for landfill: Poor—seepage, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage, excess sodium
Sand: Probable source
Gravel: Probable source

Zineb Soil

Range seeding: Poor—small stones, droughty
Roadfill: Fair—large stones
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—frost action, large stones
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—large stones
Sand: Improbable source—large stones
Gravel: Improbable source—large stones

Pineval Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—frost action
Pond reservoir areas: Moderate—seepage, slope
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Interpretive Groups

Land capability classification: Ricert soil—IVs, irrigated, and VIIs, nonirrigated; Zineb soil—VIIs, nonirrigated; Pineval soil—IVe, irrigated, and VI, nonirrigated
Range site: Ricert soil—024X002N; Zineb and Pineval soils—028B010N; Inclusion 1—028B017N; Inclusion 2—024X022N; Inclusion 3—028B010N

1285—Ricert-Bubus-Broyles association

Positions on landscape: Piedmont slopes

Composition

Major components:

Ricert gravelly silt loam, 0 to 2 percent slopes—45 percent

Bubus very fine sandy loam, 0 to 2 percent slopes—25 percent

Broyles silt loam, 2 to 4 percent slopes—15 percent

Contrasting inclusions:

Orovada fine sandy loam, 0 to 4 percent slopes—9 percent

Valmy very fine sandy loam, 0 to 2 percent slopes—6 percent

Characteristics of the Ricert Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Summits of fan piedmont remnants

Parent material: Thin loess deposits over mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,200 to 5,500 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 6 inches

Texture: Gravelly silt loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 6 to 18 inches

Texture: Loam, clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 18 to 60 inches

Texture: Very gravelly sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4 to 6 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5 wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Bubus Soil

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: The lower fan skirt margins and inset fans

Parent material: Mixed alluvium that is high in content of pyroclastic material

Slope: 0 to 2 percent

Elevation: 5,200 to 5,500 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Typical Profile

Depth: 0 to 6 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 6 to 60 inches

Texture: Stratified sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 16 to 30 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 9 to 10 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.49; T value—5;
wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Broyles Soil

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The higher parts of fan skirts

Parent material: Thin loess mantle over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,200 to 5,500 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud
sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 13 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 13 to 60 inches

Texture: Stratified loam to gravelly loamy sand

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60
inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 6.2 to 7.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5;
wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Bottlebrush squirreltail, needlegrass, Wyoming big sagebrush

Inclusion 2

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Fan skirt margins adjacent to stream terraces

Distinctive present vegetation: Shadscale, Wyoming big sagebrush, black greasewood

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Ricert Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Bubus Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Broyles Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Ricert Soil

Range seeding: Poor—too arid, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Probable source

Gravel: Probable source

Bubus Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Broyles Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones

Daily cover for landfill: Fair—too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Ricert soil—IVs, irrigated, and VIIs, nonirrigated; Bubus soil—IIIs, irrigated, and VIIs, nonirrigated; Broyles soil—Ile, irrigated, and VIIc, nonirrigated

Range site: Ricert and Broyles soils—024X002N; Bubus soil—024X003N; Inclusion 1—028B010N; Inclusion 2—024X022N

1286—Ricert-Tenabo-Broyles association

Positions on landscape: Fan piedmonts

Composition

Major components:

Ricert gravelly fine sandy loam, 4 to 8 percent slopes—45 percent

Tenabo gravelly very fine sandy loam, 2 to 4 percent slopes—25 percent

Broyles very fine sandy loam, 2 to 4 percent slopes—15 percent

Contrasting inclusions:

Orovada fine sandy loam, 2 to 4 percent slopes—7 percent

Chiara gravelly loam, 2 to 8 percent slopes—5 percent

Typic Torriorthents, loamy, mixed (calcareous), mesic, shallow, 15 to 30 percent slopes—3 percent

Characteristics of the Ricert Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Shoulder slopes of fan piedmont remnants

Parent material: Thin loess deposits over mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,400 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 6 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 6 to 18 inches

Texture: Loam, clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 18 to 60 inches

Texture: Very gravelly sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4 to 6 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—5 wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Tenabo Soil

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow

Positions on landscape: Summits of fan piedmont remnants

Parent material: Thin loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,400 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 4 to 15 inches

Texture: Clay loam, gravelly clay loam, silty clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 15 to 28 inches

Material: Indurated hardpan

Structure: Platy

Consistence: Extremely hard, extremely firm

Depth: 28 to 60 inches

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to the hardpan: 9 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.5 to 2.9 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Broyles Soil

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Thin loess mantle over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,400 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 13 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 13 to 60 inches

Texture: Stratified loam to gravelly loamy sand

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 6.0 to 7.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Narrow inset fans, the lower side slopes of fan piedmonts

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage

Inclusion 2

Classification: Xerollic Durorthids, loamy, mixed, mesic, shallow

Positions on landscape: Shoulder slopes of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush, downy rabbitbrush

Inclusion 3

Classification: Typic Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Convex rock pediment remnants

Distinctive present vegetation: Shadscale, bud sagebrush, downy rabbitbrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Ricert Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Tenabo Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Broyles Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Ricert Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Probable source

Gravel: Probable source

Tenabo Soil

Range seeding: Poor—too arid, droughty, excess sodium

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones, too sandy

Daily cover for landfill: Poor—cemented pan, seepage, too sandy

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—seepage, cemented pan

Embankments, dikes, and levees: Severe—seepage, excess sodium, excess salt

Sand: Probable source

Gravel: Probable source

Broyles Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, excess salt

Daily cover for landfill: Fair—too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Ricert and Tenabo soils—IVe, irrigated, and VIIs, nonirrigated; Broyles soil—IIe, irrigated, and VIIc, nonirrigated

Range site: Ricert, Tenabo, and Broyles soils—024X002N; Inclusions 1 and 2—028B010N; Inclusion 3—024X002N

1287—Ricert-Orovada-Broyles association

Positions on landscape: Piedmont slopes

Composition

Major components:

Ricert very gravelly very fine sandy loam, 2 to 4 percent slopes—50 percent

Orovada gravelly very fine sandy loam, 2 to 4 percent slopes—20 percent

Broyles gravelly very fine sandy loam, 2 to 8 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Haplargids, fine-loamy, mixed, mesic, 2 to 8 percent slopes—5 percent

Zineb gravelly loam, 2 to 8 percent slopes—5 percent

Haplic Durargids, loamy, mixed, mesic, shallow, 2 to 8 percent slopes—5 percent

Characteristics of the Ricert Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants

Parent material: Thin loess deposits over mixed alluvium

Slope: 2 to 4 percent

Elevation: 6,000 to 6,500 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile*Depth:* 0 to 7 inches*Texture:* Very gravelly very fine sandy loam*Structure:* Platy*Consistence:* Soft, very friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 5*Depth:* 7 to 20 inches*Texture:* Loam, clay loam*Structure:* Prismatic*Consistence:* Hard, firm*Reaction:* Strongly alkaline*Salinity:* 2 to 8 millimhos per centimeter*Sodicity (SAR):* 25 to 46*Depth:* 20 to 60 inches*Texture:* Very gravelly sandy loam*Structure:* Massive*Consistence:* Soft, very friable*Reaction:* Strongly alkaline*Salinity:* 2 to 8 millimhos per centimeter*Sodicity (SAR):* 46 to 60**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderately slow*Available water capacity:* 4 to 6 inches*Water-supplying capacity:* 7 inches*Runoff:* Medium*Hydrologic group:* B*Erosion factors (upper layer):* K value—0.10; T value—5; wind erodibility group—5*Hazard of erosion:* By water—slight; by wind—slight*Shrink-swell potential:* Moderate*Corrosivity:* To steel—high; to concrete—high*Potential for frost action:* Low**Characteristics of the Orovada Soil***Classification:* Durixerollic Camborthids, coarse-loamy, mixed, mesic*Positions on landscape:* Inset fans*Parent material:* Loess mantle that is high in content of volcanic ash over mixed alluvium*Slope:* 2 to 4 percent*Elevation:* 6,000 to 6,500 feet*Average annual precipitation:* About 8 inches*Average annual air temperature:* About 48 degrees F*Frost-free season:* About 110 days*Dominant present vegetation:* Wyoming big sagebrush, bluegrass, Indian ricegrass**Typical Profile***Depth:* 0 to 8 inches*Texture:* Gravelly very fine sandy loam*Structure:* Subangular blocky*Consistence:* Slightly hard, very friable*Reaction:* Neutral*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 7*Depth:* 8 to 20 inches*Texture:* Fine sandy loam, loam*Structure:* Subangular blocky*Consistence:* Slightly hard, very friable*Reaction:* Mildly alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 20 to 65 inches*Texture:* Stratified fine sandy loam to silt loam*Structure:* Massive*Consistence:* Slightly hard, friable*Reaction:* Moderately alkaline*Salinity:* 4 to 8 millimhos per centimeter*Sodicity (SAR):* 0 to 5**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderate*Available water capacity:* 8 to 10 inches*Water-supplying capacity:* 8 inches*Runoff:* Slow*Hydrologic group:* B*Erosion factors (upper layer):* K value—0.37; T value—5; wind erodibility group—4*Hazard of erosion:* By water—slight; by wind—slight*Shrink-swell potential:* Low*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Moderate**Characteristics of the Broyles Soil***Classification:* Duric Camborthids, coarse-loamy, mixed, mesic*Positions on landscape:* Fan skirts, inset fan remnants*Parent material:* Thin loess mantle over mixed alluvium*Slope:* 2 to 8 percent*Elevation:* 6,000 to 6,400 feet*Average annual precipitation:* About 7 inches*Average annual air temperature:* About 49 degrees F*Frost-free season:* About 120 days*Dominant present vegetation:* Shadscale, bud sagebrush, Indian ricegrass, bluegrass**Typical Profile***Depth:* 0 to 13 inches

Texture: Gravelly very fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 5 to 13
Depth: 13 to 60 inches
Texture: Stratified loam to gravelly loamy sand
Structure: Massive
Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid
Available water capacity: 6.2 to 7.4 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.32; T value—5; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic
Positions on landscape: Fan aprons
Distinctive present vegetation: Bottlebrush squirreltail, black sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: The highest part of fan aprons and inset fans near channels
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Haplic Durargids, loamy, mixed, mesic, shallow
Positions on landscape: Convex, highest part of fan piedmont remnants
Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Ricert Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Broyles Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Ricert Soil

Range seeding: Poor—too arid, excess salt, excess sodium
Roadfill: Good
Topsoil: Poor—small stones, area reclaim, excess sodium
Daily cover for landfill: Poor—seepage, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage, excess sodium
Sand: Probable source
Gravel: Probable source

Orovada Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Poor—small stones
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—frost action
Pond reservoir areas: Moderate—seepage, slope
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Broyles Soil

Range seeding: Poor—too arid, excess salt, excess sodium
Roadfill: Good
Topsoil: Poor—small stones
Daily cover for landfill: Fair—too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—piping, excess salt
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Ricert soil—IVs, irrigated,

and VIIc, nonirrigated; Orovada soil—IIc, irrigated, and VIc, nonirrigated; Broyles soil—IIIc, irrigated, and VIIc, nonirrigated

Range site: Ricert and Broyles soils—024X002N; Orovada soil—028B010N; Inclusion 1—024X030N; Inclusion 2—028B010N; Inclusion 3—024X002N

1288—Ricert-Orovada-Tenabo association

Positions on landscape: Fan piedmonts

Composition

Major components:

Ricert gravelly fine sandy loam, 2 to 8 percent slopes—40 percent

Orovada fine sandy loam, 2 to 8 percent slopes—30 percent

Tenabo very fine sandy loam, 2 to 4 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Haplargids, fine-loamy, mixed, mesic, 2 to 8 percent slopes—6 percent

Duric Camborthids, loamy-skeletal, mixed, mesic, 8 to 15 percent slopes—6 percent

Duric Natrargids, fine, montmorillonitic, mesic, 2 to 4 percent slopes—3 percent

Characteristics of the Ricert Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: The lower summits of fan piedmont remnants

Parent material: Thin loess deposits over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,700 to 6,100 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 6 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 6 to 18 inches

Texture: Loam, clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 18 to 60 inches

Texture: Very gravelly sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4 to 6 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,700 to 6,100 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 20 to 65 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 8.0 to 9.6 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Tenabo Soil

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow

Positions on landscape: The higher summits of fan piedmont remnants

Parent material: Thin loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,700 to 6,100 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 5 to 10

Depth: 4 to 15 inches

Texture: Clay loam, gravelly clay loam, silty clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 15 to 28 inches

Material: Indurated hardpan

Structure: Platy

Consistence: Extremely hard, extremely firm

Depth: 28 to 60 inches

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to the hardpan: 9 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.8 to 3.2 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: D

Erosion factors (upper layer): K value—0.55; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage

Inclusion 2

Classification: Duric Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Duric Natrargids, fine, montmorillonitic, mesic

Positions on landscape: The upper part of shoulder slopes of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Ricert Soil**

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Tenabo Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses**Ricert Soil**

Range seeding: Poor—too arid, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Probable source

Gravel: Probable source

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Tenabo Soil

Range seeding: Poor—too arid, excess sodium

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones, too sandy

Daily cover for landfill: Poor—cemented pan, seepage, too sandy

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—seepage, cemented pan

Embankments, dikes, and levees: Severe—seepage, excess sodium, excess salt

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Ricert and Tenabo soils—IVe, irrigated, and VIIs, nonirrigated; Orovada soil—IIIe, irrigated, and VIc, nonirrigated

Range site: Ricert and Tenabo soils—024X002N; Orovada soil—028B010N; Inclusion 1—024X020N; Inclusions 2 and 3—024X002N

1289—Ricert-Blackhawk-Orovada association

Positions on landscape: Fan piedmonts

Composition

Major components:

Ricert gravelly fine sandy loam, 4 to 15 percent slopes—40 percent

Blackhawk very fine sandy loam, 2 to 4 percent slopes—25 percent

Orovada fine sandy loam, 2 to 8 percent slopes—20 percent

Contrasting inclusions:

Duric Camborthids, loamy-skeletal, mixed, mesic, 8 to 30 percent slopes—9 percent

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 4 percent slopes—3 percent

Duric Camborthids, fine-loamy, mixed, mesic, 8 to 30 percent slopes—2 percent

Aquic Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 0 to 2 percent slopes—1 percent

Characteristics of the Ricert Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Shoulder slopes and side slopes of fan piedmont remnants

Parent material: Thin loess deposits over mixed alluvium

Slope: 0 to 8 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Depth: 0 to 6 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 6 to 18 inches

Texture: Loam, clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Strongly alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 25 to 46

Depth: 18 to 60 inches
Texture: Very gravelly sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 4 to 6 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Blackhawk Soil

Classification: Entic Durorthids, loamy, mixed, mesic, shallow
Positions on landscape: Summits of fan piedmont remnants
Parent material: Loess over mixed alluvium
Slope: 2 to 4 percent
Elevation: 5,800 to 6,200 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 47 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Typical Profile

Depth: 0 to 3 inches
Texture: Very fine sandy loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 3 to 14 inches
Texture: Loam, very fine sandy loam

Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 14 to 30 inches
Material: Cemented hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm

Depth: 30 to 48 inches
Texture: Loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Very strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 5 to 13

Depth: 48 to 60
Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to the hardpan: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 2.2 to 2.7 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.43; T value—1; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans, fan drainageways
Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium
Slope: 2 to 8 percent
Elevation: 5,800 to 6,200 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 20 to 65 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 8.4 to 9.6 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Duric Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: South-facing, eroded side slopes of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: The lower inset fans

Distinctive present vegetation: Needlegrass, Wyoming big sagebrush

Inclusion 3

Classification: Duric Camborthids, fine-loamy, mixed, mesic

Positions on landscape: Eroded scarps along the southeastern edge of fan piedmont remnants

Distinctive present vegetation: Shadscale, black greasewood

Inclusion 4

Classification: Aquic Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Fan skirts

Distinctive present vegetation: Basin big sagebrush, basin wildrye, black greasewood

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Ricert Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Blackhawk Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Ricert Soil

Range seeding: Poor—too arid, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Probable source

Gravel: Probable source

Blackhawk Soil

Range seeding: Poor—too arid, droughty

Roadfill: Good

Topsoil: Poor—cemented pan, area reclaim

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Moderate—cemented pan

Pond reservoir areas: Severe—seepage, cemented pan

Embankments, dikes, and levees: Severe—seepage, excess salt

Sand: Probable source

Gravel: Probable source

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Ricert soil—VII_s, nonirrigated; Blackhawk soil—IV_e, irrigated, and VII_s, nonirrigated; Orovada soil—III_e, irrigated, and VI_c, nonirrigated

Range site: Ricert and Blackhawk soils—024X002N; Orovada soil—028B010N; Inclusion 1—024X002N; Inclusion 2—028B010N; Inclusion 3—024X003N; Inclusion 4—024X006N

1371—Chad-Gando-Softscrabble association

Positions on landscape: Mountains

Composition

Major components:

Chad cobbly loam, 15 to 50 percent slopes—45 percent

Gando very gravelly loam, 15 to 30 percent slopes—20 percent

Softscrabble fine sandy loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Walti loam, 8 to 30 percent slopes—5 percent

Rock outcrop—5 percent

Welch loam, drained, 4 to 8 percent slopes—3 percent

Welch loam, 4 to 8 percent slopes—2 percent

Characteristics of the Chad Soil

Classification: Aridic Argixerolls, fine, mixed, frigid

Positions on landscape: Convex side slopes of mountains

Parent material: Residuum derived from chert and shale

Slope: 15 to 50 percent

Elevation: 6,200 to 7,800 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, Thurber needlegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 20 percent cobbles, 10 percent pebbles

Depth: 0 to 17 inches

Texture: Cobbly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Neutral

Depth: 17 to 42 inches

Texture: Gravelly clay, clay

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 42 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 40 to 60 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 4.6 to 5.9 inches

Water-supplying capacity: 13 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.28; T value—3; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Gando Soil

Classification: Lithic Haploxerolls, loamy-skeletal, mixed frigid

Positions on landscape: Mountain crests

Parent material: Residuum derived from mixed sedimentary rock

Slope: 15 to 30 percent

Elevation: 6,800 to 7,800 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluegrass, Idaho fescue, low sagebrush, black sagebrush

Typical Profile

Rock fragments on surface: 2 percent stones and boulders, 10 percent cobbles, 20 percent pebbles

Depth: 0 to 4 inches

Texture: Very gravelly loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Mildly alkaline

Depth: 4 to 10 inches

Texture: Very gravelly loam, extremely gravelly loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Mildly alkaline

Depth: 10 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.2 to 1.4 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave mountain side slopes

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 15 to 30 percent

Elevation: 6,200 to 7,800 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 2 percent stones and boulders, 10 percent pebbles

Depth: 0 to 14 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 14 to 27 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 27 to 60 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6.2 to 7.4 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—3

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Mountain shoulder slopes

Distinctive present vegetation: Idaho fescue, low sagebrush

Inclusion 2

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 3

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Adjacent to entrenched narrow mountain drainageways

Distinctive present vegetation: Basin big sagebrush, basin wildrye, bluegrass

Inclusion 4

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Adjacent to narrow mountain drainageways

Distinctive present vegetation: Tufted hairgrass, iris, sedge, willow

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Chad Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Gando Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Chad Soil

Range seeding: Fair—large stones, erodes easily

Roadfill: Poor—slope, shrink-swell

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—too clayey, hard to pack, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—hard to pack

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Gando Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Good

Roadfill: Fair—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones, seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Chad soil—VIIe, nonirrigated; Gando soil—VIIs, nonirrigated; Softscrabble soil—VIe, nonirrigated

Range site: Chad soil—024X029N; Gando soil—028B034N; Softscrabble soil—028B030N; Inclusion 1—028B037N; Inclusion 2—none; Inclusion 3—028B034N; Inclusion 4—025X005N

1450—Atlow-Stingdorn association

Positions on landscape: Foothills

Composition

Major components:

Atlow very gravelly loam, 15 to 50 percent slopes—45 percent

Atlow very gravelly loam, 8 to 15 percent slopes—20 percent

Stingdorn cobbly loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Colbar gravelly loam, 15 to 30 percent slopes—5 percent

Xerollic Durorthids, loamy-skeletal, mixed, mesic, 15 to 30 percent slopes—5 percent

Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 4 to 15 percent slopes—5 percent

Characteristics of the Atlow Soil, Steep

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Convex, north- and east-facing side slopes of foothills

Parent material: Residuum derived from chert, argillite, shale, and altered tuff

Slope: 15 to 50 percent

Elevation: 5,200 to 6,100 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 46 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Black sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 14 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 14 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.1 to 1.3 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Atlow Soil, Strongly Sloping

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Crests and shoulder slopes of foothills

Parent material: Residuum derived from chert, argillite, shale, and altered tuff

Slope: 8 to 15 percent

Elevation: 5,500 to 6,100 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 46 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Black sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 14 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 14 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.1 to 1.3 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Stingdorn Soil

Classification: Typic Durargids, loamy-skeletal, mixed, mesic, shallow

Positions on landscape: The lower, south-facing side slopes of foothills

Parent material: Residuum derived from rhyolite, tuff, and andesite

Slope: 15 to 30 percent

Elevation: 5,200 to 6,100 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 20 percent cobbles, 10 percent pebbles

Depth: 0 to 7 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 15 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 15 to 20 inches

Material: Indurated hardpan

Depth: 20 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 8 to 20 inches

Depth to bedrock: 8 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.7 to 2.2 inches

Water-supplying capacity: 7 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Concave, north-facing side slopes of foothills

Distinctive present vegetation: Thurber needlegrass, Wyoming big sagebrush

Inclusion 2

Classification: Xerollic Durorthids, loamy-skeletal, mixed, mesic

Positions on landscape: The higher, south-facing side slopes of foothills

Distinctive present vegetation: Black sagebrush

Inclusion 3

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Spiny hopsage, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Atlow Soil, Steep

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Atlow Soil, Strongly Sloping

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Stingdorn Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Atlow Soil, Steep

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope
Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Atlow Soil, Strongly Sloping

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Stingdorn Soil

Range seeding: Poor—droughty, too arid

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, cemented pan, large stones

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, cemented pan, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, cemented pan, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Atlow and Stingdorn soils—VII, nonirrigated

Range site: Atlow soils—024X030N; Stingdorn soil—024X002N; Inclusion 1—024X005N; Inclusion 2—024X030N; Inclusion 3—024X020N

1600—Dumps and pits

Characteristics of the Dumps and Pits

Positions on landscape: Side slopes of hills and adjacent fan piedmonts

Description of areas: Pits and spoil from mining operations

Kind of material: Mixed fill material, residuum

Elevation: 5,200 to 7,900 feet

Depth to a seasonal high water table: More than 60 inches

Interpretive Groups

Land capability classification: VIII_s, nonirrigated
Range site: None

1670—Wieland-Allor association

Positions on landscape: Fan piedmonts

Composition

Major components:

Wieland loam, 2 to 8 percent slopes—70 percent
Allor very cobbly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Orovada fine sandy loam, 2 to 4 percent slopes—7 percent
Xerollic Haplargids, fine-loamy, mixed, mesic, 2 to 8 percent slopes—5 percent
Durixerollic Camborthids, coarse-loamy, mixed, mesic, 2 to 8 percent slopes—3 percent

Characteristics of the Wieland Soil

Classification: Durixerollic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: Summits of slightly dissected fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 8 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 8 inches

Texture: Loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Mildly alkaline

Depth: 8 to 20 inches

Texture: Gravelly clay

Structure: Prismatic

Consistence: Hard, firm

Reaction: Moderately alkaline

Depth: 20 to 60 inches

Texture: Gravelly loam, gravelly sandy loam

Structure: Massive

Consistence: Hard, firm

Reaction: Moderately alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6 to 8 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Allor Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 15 to 30 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 12 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 34 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 34 to 60 inches

Texture: Gravelly loamy sand, very gravelly loamy sand

Structure: Massive

Consistence: Very hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 4.7 to 6.0 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: B
Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic
Positions on landscape: Narrow inset fans near the base of adjacent hills
Distinctive present vegetation: Basin big sagebrush, bluegrass

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Shoulder slopes of fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Wieland Soil**

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Allor Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Wieland Soil**

Range seeding: Poor—rooting depth
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey
Local roads and streets: Severe—low strength, shrink-swell
Pond reservoir areas: Moderate—seepage, slope
Embankments, dikes, and levees: Moderate—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Allor Soil

Range seeding: Poor—large stones
Roadfill: Fair—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—cutbanks cave, slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Severe—seepage
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Wieland soil—IIIe, irrigated, and VIs, nonirrigated; Allor soil—VIIs, nonirrigated
Range site: Wieland and Allor soils—024X005N; Inclusion 1—024X005N; Inclusion 2—025X003N; Inclusion 3—024X020N

1680—Zineb gravelly loam, 2 to 8 percent slopes

Positions on landscape: Fan skirts

Composition

Major component:
 Zineb gravelly loam, 2 to 8 percent slopes—85 percent
Contrasting inclusions:
 Whirlo gravelly very fine sandy loam, 2 to 8 percent slopes—10 percent
 Xerollic Camborthids, loamy-skeletal, mixed, mesic, 0 to 4 percent slopes—5 percent

Characteristics of the Zineb Soil

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Fan skirts
Parent material: Mixed alluvium that includes volcanic ash
Slope: 2 to 8 percent
Elevation: 5,200 to 5,800 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 47 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Indian ricegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 13 inches

Texture: Gravelly loam, gravelly very fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 13 to 19 inches

Texture: Very gravelly sandy loam, very gravelly loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 19 to 27 inches

Texture: Extremely cobbly sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 27 to 60

Texture: Extremely cobbly coarse sand, extremely cobbly loamy coarse sand

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate over rapid

Available water capacity: 2.0 to 3.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.32; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Typic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: The lower areas of fan skirts

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Range seeding: Poor—droughty

Roadfill: Fair—large stones

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action, large stones

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—large stones

Gravel: Improbable source—large stones

Interpretive Groups

Land capability classification: Zineb soil—IVe, irrigated, and VIIs, nonirrigated

Range site: Zineb soil—024X005N; Inclusion 1—024X002N; Inclusion 2—024X005N

1681—Zineb-Chiara-Wieland association

Positions on landscape: Fan piedmonts, fan skirts

Composition

Major components:

Zineb gravelly loam, 2 to 4 percent slopes—35 percent

Chiara gravelly loam, 2 to 8 percent slopes—35 percent

Wieland gravelly loam, 2 to 4 percent slopes—20 percent

Contrasting inclusions:

Cumulic Haploxerolls, fine-loamy, mixed, mesic, 0 to 2 percent slopes—5 percent

Xerollic Camborthids, coarse-loamy, mixed, mesic, 2 to 4 percent slopes—5 percent

Characteristics of the Zineb Soil

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Mixed alluvium that includes volcanic ash

Slope: 2 to 4 percent

Elevation: 5,500 to 6,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Indian ricegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 13 inches

Texture: Gravelly loam, gravelly very fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 13 to 19 inches

Texture: Very gravelly sandy loam, very gravelly loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 19 to 27 inches

Texture: Extremely cobbly sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 27 to 60

Texture: Extremely cobbly coarse sand, extremely cobbly loamy coarse sand

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate over rapid

Available water capacity: 2.0 to 3.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.32; T value—5 wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Chiara Soil

Classification: Xerollic Durorthids, loamy, mixed, mesic, shallow

Positions on landscape: The higher summits of fan piedmont remnants

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,500 to 6,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 4 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 4 to 13 inches

Texture: Silt loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 13 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Soil and Water Features

Depth to the hardpan: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 2.3 to 2.7 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Wieland Soil

Classification: Durixerollic Haplargids, fine, montmorillonitic, mesic
Positions on landscape: The lower summits of fan piedmont remnants
Parent material: Mixed alluvium that includes loess and volcanic ash
Slope: 2 to 4 percent
Elevation: 5,500 to 6,500 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles
Depth: 0 to 5 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 5 to 26 inches
Texture: Gravelly clay, clay
Structure: Prismatic
Consistence: Hard, firm
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 26 to 52 inches
Texture: Gravelly clay loam, gravelly sandy clay loam
Structure: Massive
Consistence: Hard, firm
Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 52 to 60 inches
Texture: Gravelly loam, gravelly sandy loam
Structure: Massive
Consistence: Hard, firm
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 5.5 to 9.0 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: C
Erosion factors (upper layer): K value—0.32; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Cumulic Haploxerolls, fine-loamy, mixed, mesic
Positions on landscape: The upper inset fans
Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 2

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: The lower inset fans
Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Zineb Soil**

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Chiara Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Wieland Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Zineb Soil

Range seeding: Poor—droughty

Roadfill: Fair—large stones

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action, large stones

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—large stones

Gravel: Improbable source—large stones

Chiara Soil

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wieland Soil

Range seeding: Poor—rooting depth

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Moderate—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Zineb and Chiara soils—
Ive, irrigated, and VIIs, nonirrigated; Wieland soil—
Ile, irrigated, and VIs, nonirrigated

Range site: Zineb, Chiara, and Wieland soils—
024X005N; Inclusion 1—025X003N; Inclusion 2—
024X020N

1682—Zineb-Orovada association

Positions on landscape: Piedmont slopes

Composition

Major components:

Zineb very gravelly sandy loam, 2 to 4 percent slopes—
55 percent

Orovada gravelly fine sandy loam, 2 to 4 percent
slopes—30 percent

Contrasting inclusions:

Durixerollic Camborthids, coarse-loamy, mixed, mesic, 0
to 2 percent slopes—8 percent

Pineval gravelly loam, 0 to 2 percent slopes—4 percent

Orovada very gravelly sandy loam, 4 to 8 percent
slopes—3 percent

Characteristics of the Zineb Soil

Classification: Durixerollic Camborthids, loamy-skeletal,
mixed, mesic

Positions on landscape: Inset fans and fan skirts near
fan drainageways

Parent material: Mixed alluvium that includes volcanic
ash

Slope: 2 to 4 percent

Elevation: 5,700 to 5,900 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Indian
ricegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 6 inches

Texture: Very gravelly sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 13 inches

Texture: Gravelly loam, gravelly very fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 13 to 19 inches

Texture: Very gravelly sandy loam, very gravelly loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 19 to 27 inches

Texture: Extremely cobbly sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 27 to 60 inches

Texture: Extremely cobbly coarse sand, extremely cobbly loamy coarse sand

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate over rapid

Available water capacity: 2.0 to 3.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Summits of fan skirts

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,700 to 5,900 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Gravelly fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 20 to 65 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 8.2 to 9.4 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Narrow inset fans near the front of mountains

Distinctive present vegetation: Basin big sagebrush, rubber rabbitbrush, basin wildrye

Inclusion 2

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Nonburied fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan aprons closest to the front of mountains

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Zineb Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil*Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair***Suitability and Limitations for Selected Uses*****Zineb Soil***Range seeding:* Poor—small stones, droughty*Roadfill:* Fair—large stones*Topsoil:* Poor—small stones, area reclaim*Daily cover for landfill:* Poor—too sandy, small stones*Shallow excavations:* Severe—cutbanks cave*Local roads and streets:* Moderate—frost action, large stones*Pond reservoir areas:* Severe—seepage*Embankments, dikes, and levees:* Severe—large stones*Sand:* Improbable source—large stones*Gravel:* Improbable source—large stones**Orovada Soil***Range seeding:* Fair—too arid*Roadfill:* Good*Topsoil:* Poor—small stones*Daily cover for landfill:* Good*Shallow excavations:* Slight*Local roads and streets:* Moderate—frost action*Pond reservoir areas:* Moderate—seepage, slope*Embankments, dikes, and levees:* Severe—piping*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines***Interpretive Groups****Land capability classification:* Zineb soil—VII_s, nonirrigated; Orovada soil—II_e, irrigated, and VI_c, nonirrigated*Range site:* Zineb and Orovada soils—028B010N; Inclusion 1—028B003N; Inclusions 2 and 3—028B010N**2003—Unius-Orovada association***Positions on landscape:* Fan piedmonts***Composition****Major components:*

Unius gravelly silt loam, 2 to 8 percent slopes—70 percent

Orovada fine sandy loam, 2 to 8 percent slopes—15 percent

Contrasting inclusions:

Xerollic Haplargids, fine-loamy, mixed, mesic, 2 to 4 percent slopes—9 percent

Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic, flooded, 0 to 4 percent slopes—3 percent

Haploxerollic Nadurargids, fine, montmorillonitic, mesic, 2 to 8 percent slopes—3 percent

Characteristics of the Unius Soil*Classification:* Haploxerollic Durorthids, loamy, mixed, mesic, shallow*Positions on landscape:* Summits of fan piedmont remnants*Parent material:* Mixed alluvium that includes loess and volcanic ash*Slope:* 2 to 8 percent*Elevation:* 6,700 to 7,100 feet*Average annual precipitation:* About 10 inches*Average annual air temperature:* About 45 degrees F*Frost-free season:* About 100 days*Dominant present vegetation:* Indian ricegrass, needlegrass, black sagebrush**Typical Profile***Rock fragments on surface:* 50 percent pebbles*Depth:* 0 to 4 inches*Texture:* Gravelly silt loam*Structure:* Platy*Consistence:* Slightly hard, friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 4 to 12 inches*Texture:* Silt loam, loam, gravelly loam*Structure:* Subangular blocky*Consistence:* Slightly hard, friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 12 to 44 inches*Material:* Cemented hardpan*Structure:* Massive*Consistence:* Very hard, very firm*Depth:* 44 to 60 inches*Texture:* Gravelly loamy sand*Structure:* Single grain*Consistence:* Loose*Reaction:* Moderately alkaline*Salinity:* 2 to 4 millimhos per centimeter*Sodicity (SAR):* 2 to 10**Soil and Water Features***Depth to the hardpan:* 10 to 20 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderate*Available water capacity:* 1.8 to 2.4 inches*Water-supplying capacity:* 8 inches*Runoff:* Medium*Hydrologic group:* D

Erosion factors (upper layer): K value—0.28; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 8 percent

Elevation: 6,700 to 7,100 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 26 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 26 to 61 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 9 to 11 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Active inset fans, adjacent to channels

Distinctive present vegetation: Basin big sagebrush

Inclusion 3

Classification: Haploxerollic Nadurargids, fine, montmorillonitic, mesic

Positions on landscape: Nonburied fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Unius Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Unius Soil

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan, seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil*Range seeding:* Fair—too arid*Roadfill:* Good*Topsoil:* Fair—small stones, thin layer*Daily cover for landfill:* Good*Shallow excavations:* Slight*Local roads and streets:* Moderate—frost action, flooding*Pond reservoir areas:* Moderate—seepage, slope*Embankments, dikes, and levees:* Severe—piping*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Interpretive Groups***Land capability classification:* Unius soil—VIIIs, nonirrigated; Orovada soil—IIIe, irrigated, and VIc, nonirrigated*Range site:* Unius soil—028B011N; Orovada soil—028B010N; Inclusion 1—028B010N; Inclusion 2—028B009N; Inclusion 3—028B017N**2010—Glyphs-Silverado association***Positions on landscape:* Fan piedmonts**Composition***Major components:*

Glyphs fine sandy loam, 2 to 4 percent slopes—55 percent

Silverado gravelly sandy loam, 2 to 8 percent slopes—30 percent

Contrasting inclusions:

Xerollic Camborthids, fine-loamy, mixed, frigid, 2 to 4 percent slopes—7 percent

Muni fine sandy loam, 2 to 4 percent slopes—6 percent

Jesse Camp silt loam, occasionally flooded, 0 to 2 percent slopes—2 percent

Characteristics of the Glyphs Soil*Classification:* Durixerollic Haplargids, fine-loamy, mixed, mesic*Positions on landscape:* Broad, slightly dissected fan piedmont remnants*Parent material:* Mixed alluvium that includes loess and volcanic ash*Slope:* 2 to 4 percent*Elevation:* 6,200 to 6,500 feet*Average annual precipitation:* About 9 inches*Average annual air temperature:* About 47 degrees F*Frost-free season:* About 100 days*Dominant present vegetation:* Indian ricegrass, needleandthread, bluegrass, Wyoming big sagebrush**Typical Profile***Depth:* 0 to 7 inches*Texture:* Fine sandy loam*Structure:* Platy*Consistence:* Slightly hard, friable*Reaction:* Mildly alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 7 to 17 inches*Texture:* Gravelly clay loam, gravelly sandy clay loam*Structure:* Angular blocky*Consistence:* Slightly hard, friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 17 to 37 inches*Texture:* Gravelly sandy loam*Structure:* Massive*Consistence:* Hard, firm*Reaction:* Strongly alkaline*Salinity:* 2 to 4 millimhos per centimeter*Sodicity (SAR):* 2 to 10*Depth:* 37 to 60 inches*Texture:* Very gravelly coarse sand*Structure:* Single grain*Consistence:* Loose*Reaction:* Moderately alkaline*Salinity:* 0 to 4 millimhos per centimeter*Sodicity (SAR):* 2 to 10**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderately slow over very rapid*Available water capacity:* 4.8 to 6.7 inches*Water-supplying capacity:* 9 inches*Runoff:* Slow*Hydrologic group:* B*Erosion factors (upper layer):* K value—0.28; T value—3 wind erodibility group—3*Hazard of erosion:* By water—slight; by wind—severe*Shrink-swell potential:* Moderate*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Moderate**Characteristics of the Silverado Soil***Classification:* Durixerollic Camborthids, coarse-loamy, mixed, frigid*Positions on landscape:* Inset fan remnants*Parent material:* Mixed alluvium that includes volcanic ash*Slope:* 2 to 8 percent*Elevation:* 6,200 to 6,500 feet*Average annual precipitation:* About 9 inches*Average annual air temperature:* About 44 degrees F*Frost-free season:* About 100 days

Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 25 percent pebbles

Depth: 0 to 2 inches

Texture: Gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 2 to 19 inches

Texture: Sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 19 to 38 inches

Texture: Sandy loam, gravelly sandy loam

Structure: Massive

Consistence: Hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 38 to 60 inches

Texture: Very gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 4.4 to 5.6 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.15; T value—3; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Camborthids, fine-loamy, mixed, frigid

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Haploxerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: The highest part of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Xerollic Camborthids, fine-silty, mixed, frigid

Positions on landscape: Adjacent to intermittent stream channels

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Glyphs Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Silverado Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Glyphs Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Silverado Soil

Range seeding: Fair—too arid, small stones

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Glyphs soil—IIIe, irrigated, and VIc, nonirrigated; Silverado soil—IVe, irrigated, and VIIc, nonirrigated

Range site: Glyphs and Silverado soils—028B010N; Inclusions 1 and 2—028B010N; Inclusion 3—028B009N

2011—Glyphs-Muni association

Positions on landscape: Fan piedmonts

Composition

Major components:

Glyphs fine sandy loam, 2 to 8 percent slopes—50 percent

Muni fine sandy loam, 2 to 4 percent slopes—35 percent

Contrasting inclusions:

Durixerollic Camborthids, fine-loamy, mixed, mesic, 0 to 4 percent slopes—8 percent

Aquic Argixerolls, fine-loamy, mixed, mesic, 0 to 2 percent slopes—3 percent

Grassval gravelly fine sandy loam, 2 to 4 percent slopes—3 percent

Fluvaquentic Haplaquolls, fine-loamy, mixed, mesic, 0 to 2 percent slopes—1 percent

Characteristics of the Glyphs Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Convex side slopes of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 8 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, needleandthread, bluegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 7 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 17 inches

Texture: Gravelly clay loam, gravelly sandy clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 17 to 37 inches

Texture: Gravelly sandy loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 37 to 60 inches

Texture: Very gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow over moderately rapid

Available water capacity: 4.8 to 6.7 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—3; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Muni Soil

Classification: Haploxerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: Dissected, convex summits and shoulder slopes of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 4 percent

Elevation: 6,300 to 7,300 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Needlegrass, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 3 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 3 to 18 inches

Texture: Sandy clay loam, clay loam, loam

Structure: Prismatic

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 18 to 49 inches

Material: Cemented hardpan

Depth: 49 to 60 inches

Texture: Very gravelly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.7 to 3.5 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, fine-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Thurber needlegrass, Wyoming big sagebrush

Inclusion 2

Classification: Aquic Argixerolls, fine-loamy, mixed, mesic

Positions on landscape: Adjacent to intermittent stream channels

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Inclusion 3

Classification: Xerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: The highest part of fan piedmont remnants

Distinctive present vegetation: Indian ricegrass, black sagebrush

Inclusion 4

Classification: Fluvaquentic Haplaquolls, fine-loamy, mixed, mesic

Positions on landscape: Near springs and intermittent stream channels

Distinctive present vegetation: Rush, sedge, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Glyphs Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Muni Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Glyphs Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Muni Soil

Range seeding: Fair—too arid, droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, area reclaim

Daily cover for landfill: Poor—cemented pan, small stones

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Glyphs soil—IIIe, irrigated, and VIc, nonirrigated; Muni soil—IIIe, irrigated, and VIIs, nonirrigated

Range site: Glyphs and Muni soils—028B010N; Inclusion 1—028B010N; Inclusion 2—028B003N; Inclusion 3—028B011N; Inclusion 4—028B001N

2012—Glyphs-Muni-Orovada association

Positions on landscape: Fan piedmonts

Composition

Major components:

Glyphs fine sandy loam, 2 to 8 percent slopes—40 percent

Muni fine sandy loam, 2 to 4 percent slopes—30 percent

Orovada fine sandy loam, gravelly substratum, 0 to 2 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Camborthids, coarse-loamy, mixed, mesic, 4 to 15 percent slopes—9 percent

Durorthidic Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic, 2 to 8 percent slopes—6 percent

Characteristics of the Glyphs Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The lower part of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 8 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, needleandthread, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 7 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 17 inches

Texture: Gravelly clay loam, gravelly sandy clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 17 to 37 inches

Texture: Gravelly sandy loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 37 to 60 inches

Texture: Very gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Sodicity (SAR): 2 to 10 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow over very rapid

Available water capacity: 4.8 to 6.7 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—3 wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Muni Soil

Classification: Haploxerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: The upper part of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 4 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Needlegrass, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 3 inches

Texture: Fine sandy loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Depth: 3 to 18 inches
Texture: Sandy clay loam, clay loam, loam
Structure: Prismatic
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 18 to 49 inches
Material: Cemented hardpan
Depth: 49 to 60 inches
Texture: Very gravelly loamy sand
Structure: Single grain
Consistence: Loose
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter

Soil and Water Features

Depth to the hardpan: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 2.7 to 3.5 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans
Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium
Slope: 0 to 2 percent
Elevation: 6,300 to 7,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 5 inches
Texture: Fine sandy loam

Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Depth: 5 to 15 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 15 to 40 inches
Texture: Fine sandy loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 40 to 60 inches
Texture: Stratified gravelly sandy loam to very gravelly sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 7 to 9 inches
Water-supplying capacity: 9 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.37; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: 28 Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Fan aprons
Distinctive present vegetation: Small rabbitbrush, horsebrush

Inclusion 2

Classification: Durorthidic Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic
Positions on landscape: Adjacent to channels
Distinctive present vegetation: Basin big sagebrush, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Glyphs Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Muni Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Glyphs Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Muni Soil

Range seeding: Fair—too arid, droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, area reclaim

Daily cover for landfill: Poor—cemented pan, small stones

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—area reclaim

Daily cover for landfill: Fair—thin layer

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Probable source

Gravel: Improbable source—too sandy

Interpretive Groups

Land capability classification: Glyphs soil—IIIe, irrigated, and VIc, nonirrigated; Muni soil—IVe, irrigated, and VIIs, nonirrigated; Orovada soil—IIIc, irrigated, and VIc, nonirrigated

Range site: Glyphs, Muni, and Orovada soils—028B010N; Inclusion 1—025X025N; Inclusion 2—028B003N

2015—Glyphs-Enko association

Positions on landscape: Fan piedmonts

Composition

Major components:

Glyphs fine sandy loam, 2 to 4 percent slopes—40 percent

Glyphs fine sandy loam, 15 to 30 percent slopes—25 percent

Enko gravelly loamy sand, 2 to 4 percent slopes—20 percent

Contrasting inclusions:

Orovada fine sandy loam, 2 to 8 percent slopes—6 percent

Durixerollic Haplargids, fine, montmorillonitic, mesic, 0 to 2 percent slopes—5 percent

Xerollic Camborthids, coarse-loamy, mixed, mesic, 15 to 30 percent slopes—4 percent

Characteristics of the Glyphs Soil, Gently Sloping

Classification: Durixerollic Haplargids, fine-loamy, mixed mesic

Positions on landscape: Summits of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 4 percent

Elevation: 6,000 to 6,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, needleandthread, bluegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 7 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 17 inches

Texture: Gravelly clay loam, gravelly sandy clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 17 to 37 inches

Texture: Gravelly sandy loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 37 to 60 inches

Texture: Very gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow over very rapid

Available water capacity: 4.8 to 6.7 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—3; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Glyphs Soil, Moderately Steep

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The upper side slopes of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 15 to 30 percent

Elevation: 6,000 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, needleandthread, bluegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 7 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 17 inches

Texture: Gravelly clay loam, gravelly sandy clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 17 to 37 inches

Texture: Gravelly sandy loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 37 to 60 inches

Texture: Very gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow over very rapid

Available water capacity: 4 to 6 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—3; wind erodibility group—3

Hazard of erosion: By water—moderate; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Enko Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan aprons, the higher inset fans

Parent material: Mixed alluvium that includes some loess and volcanic ash
Slope: 2 to 4 percent
Elevation: 5,600 to 6,200 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly loamy sand

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 4 to 18 inches

Texture: Loam, sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 18 to 60 inches

Texture: Sandy loam, loam, fine sandy loam

Structure: Massive

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6.1 to 8.2 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The lower inset fans
Distinctive present vegetation: Bluegrass, Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: The upper summits of fan piedmont remnants

Distinctive present vegetation: Bluegrass, Wyoming big sagebrush

Inclusion 3

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The lower side slopes of fan piedmont remnants

Distinctive present vegetation: Needleandthread, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Glyphs Soil, Gently Sloping

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Glyphs Soil, Moderately Steep

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Enko Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Glyphs Soil, Gently Sloping

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Glyphs Soil, Moderately Steep

Range seeding: Fair—too arid

Roadfill: Fair—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Enko Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Fair—small stones
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—frost action
Pond reservoir areas: Moderate—slope
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Glyphs soil, gently sloping—IIIe, irrigated, and VIc, nonirrigated; Glyphs soil, moderately steep—VIe, nonirrigated; Enko soil—IIe, irrigated, and VIs, nonirrigated
Range site: Glyphs soils—028B010N; Enko soil—024X017N; Inclusions 1 and 2—028B010N; Inclusion 3—028B005N

2021—Rotinom-Wholan association

Positions on landscape: Stream terraces, inset fans

Composition

Major components:
 Rotinom silt loam, 0 to 2 percent slopes—50 percent
 Wholan very fine sandy loam, 0 to 2 percent slopes—20 percent
 Wholan very fine sandy loam, alkaline, 0 to 2 percent slopes—15 percent
Contrasting inclusions:
 Durixerollic Camborthids, fine-loamy, mixed, mesic, gullied, 0 to 4 percent slopes—5 percent
 Xerollic Camborthids, coarse-loamy, mixed, mesic, gullied, 0 to 4 percent slopes—5 percent
 Orovada very fine sandy loam, 0 to 4 percent slopes—5 percent

Characteristics of the Rotinom Soil

Classification: Durorthidic Torrifuvents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Stream terraces
Parent material: Loess and mixed alluvium that includes volcanic ash
Slope: 0 to 2 percent
Elevation: 6,400 to 6,700 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days
Dominant present vegetation: Indian ricegrass, shadscale, bud sagebrush

Typical Profile

Depth: 0 to 9 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 9 to 60 inches
Texture: Silt loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 5 to 20

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Occasional for brief periods in November through April
Permeability: Moderately slow
Available water capacity: 10 to 11 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Wholan Soil

Classification: Typic Camborthids, coarse-silty, mixed, mesic
Positions on landscape: The lower parts of inset fans adjacent to stream terraces
Parent material: Loess mantle over silty alluvium
Slope: 0 to 2 percent
Elevation: 6,400 to 6,700 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, bluegrass, winterfat

Typical Profile

Depth: 0 to 6 inches
Texture: Very fine sandy loam
Structure: Platy

Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 6 to 60 inches
Texture: Silt loam, very fine sandy loam
Structure: Massive

Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Occasional for very brief periods in December through April
Permeability: Moderate
Available water capacity: 9 to 11 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Wholan Soil, Alkaline

Classification: Typic Camborthids, coarse-silty, mixed, mesic
Positions on landscape: The higher parts of inset fans adjacent to stream terraces
Parent material: Loess mantle over silty alluvium
Slope: 0 to 2 percent
Elevation: 6,400 to 6,700 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, sickle saltbush

Typical Profile

Depth: 0 to 6 inches
Texture: Very fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 6 to 60 inches
Texture: Silt loam, very fine sandy loam
Structure: Massive

Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Occasional for very brief periods in December through April
Permeability: Moderate
Available water capacity: 9 to 11 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, fine-loamy, mixed, mesic
Positions on landscape: Slightly convex stream terraces
Distinctive present vegetation: Wyoming big sagebrush, basin wildrye

Inclusion 2

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Linear channel banks
Distinctive present vegetation: Basin wildrye, basin big sagebrush

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Fan aprons
Distinctive present vegetation: Needleandthread, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Rotinom Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Wholan Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Wholan Soil, Alkaline

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Rotinom Soil

Range seeding: Poor—too arid

Roadfill: Fair—low strength, shrink-swell

Topsoil: Good

Daily cover for landfill: Good

Shallow excavations: Moderate—flooding

Local roads and streets: Severe—flooding

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wholan Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Moderate—flooding

Local roads and streets: Severe—flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wholan Soil, Alkaline

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—excess salt

Daily cover for landfill: Good

Shallow excavations: Moderate—flooding

Local roads and streets: Severe—flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Rotinom soil—IIIw, irrigated, and VIIw, nonirrigated; Wholan and Wholan, alkaline, soils—IIw, irrigated, and VIIw, nonirrigated

Range site: Rotinom soil—028B017N; Wholan soil—028B013N; Wholan soil, alkaline—024X012N; Inclusion 1—028B003N; Inclusion 2—028B009N; Inclusion 3—028B010N

2022—Rotinom-Orovada association

Positions on landscape: Stream terraces, fan skirts

Composition

Major components:

Rotinom silt loam, 0 to 2 percent slopes—50 percent

Orovada very fine sandy loam, rarely flooded, 0 to 2 percent slopes—35 percent

Contrasting inclusions:

Orovada gravelly fine sandy loam, gravelly substratum, 0 to 2 percent slopes—5 percent

Rotinom silt loam, frequently flooded, 0 to 4 percent slopes—5 percent

Enko sandy loam, 0 to 2 percent slopes—5 percent

Characteristics of the Rotinom Soil

Classification: Durorthidic Torrifuvents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Stream terraces

Parent material: Loess and mixed alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 6,200 to 6,700 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, shadscale, bud sagebrush

Typical Profile

Depth: 0 to 9 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 9 to 60 inches

Texture: Silt loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 5 to 20

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Occasional for brief periods in November through April

Permeability: Moderately slow

Available water capacity: 10 to 11 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts adjacent to stream terraces

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 0 to 2 percent

Elevation: 6,200 to 6,700 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Very fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 20 to 65 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 9 to 10 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts over gravel bars

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durorthidic Torrifluvents, fine-silty, mixed (calcareous), mesic

Positions on landscape: Channel bank margins

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts adjacent to fan piedmonts

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Rotinom Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Rotinom Soil

Range seeding: Poor—too arid

Roadfill: Fair—low strength, shrink-swell

Topsoil: Good

Daily cover for landfill: Good

Shallow excavations: Moderate—flooding

Local roads and streets: Severe—flooding

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action, flooding

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Rotinom soil—IIIw, irrigated, and VIIw, nonirrigated; Orovada soil—IIc, irrigated, and VIc, nonirrigated

Range site: Rotinom soil—028B017N; Orovada soil—028B010N; Inclusion 1—028B010N; Inclusion 2—028B009N; Inclusion 3—028B010N

2031—Muni-Orovada-Unius association

Positions on landscape: Fan piedmonts

Composition

Major components:

Muni fine sandy loam, 2 to 8 percent slopes—45 percent

Orovada fine sandy loam, gravelly substratum, 2 to 4 percent slopes—30 percent

Unius gravelly silt loam, 4 to 15 percent slopes—10 percent

Contrasting inclusions:

Defler fine sandy loam, 0 to 4 percent slopes—8 percent

Durixerollic Camborthids, sandy-skeletal, mixed, mesic, 4 to 15 percent slopes—5 percent

Durixerollic Camborthids, coarse-loamy, mixed, mesic, 0 to 4 percent slopes—2 percent

Characteristics of the Muni Soil

Classification: Haploxerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: Summits of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 8 percent

Elevation: 6,500 to 6,800 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Needlegrass, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 50 percent pebbles

Depth: 0 to 3 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 3 to 18 inches

Texture: Sandy clay loam, clay loam, loam

Structure: Prismatic

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 18 to 49 inches

Material: Cemented hardpan

Depth: 49 to 60 inches

Texture: Very gravelly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.3 to 4.0 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 6,500 to 6,800 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 5 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 15 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 15 to 40 inches
Texture: Fine sandy loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Depth: 40 to 60 inches
Texture: Stratified gravelly sandy loam to very gravelly sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 5.4 to 6.6 inches
Water-supplying capacity: 9 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.37; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Unius Soil

Classification: Haploxerollic Durorthids, loamy, mixed, mesic, shallow
Positions on landscape: Summits near scarp breaks and shoulder slopes of fan piedmont remnants
Parent material: Mixed alluvium that includes loess and volcanic ash
Slope: 4 to 15 percent
Elevation: 6,500 to 6,800 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Indian ricegrass, needlegrass, black sagebrush

Typical Profile

Rock fragments on surface: 50 percent pebbles
Depth: 0 to 4 inches
Texture: Gravelly silt loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 4 to 12 inches
Texture: Silt loam, loam, gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 12 to 44 inches
Material: Cemented hardpan
Structure: Massive
Consistence: Very hard, very firm

Depth: 44 to 60 inches
Texture: Gravelly loamy sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter

Soil and Water Features

Depth to the hardpan: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 1.9 to 2.4 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.28; T value—1; wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Adjacent to fan skirts and fan aprons
Distinctive present vegetation: Indian ricegrass, winterfat

Inclusion 2

Classification: Durixerollic Camborthids, sandy-skeletal, mixed, mesic
Positions on landscape: South-facing side slopes of fan piedmont remnants
Distinctive present vegetation: Galleta, shadscale

Inclusion 3

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Areas adjacent to channels

Distinctive present vegetation: Needleandthread,
Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Muni Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Unius Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Muni Soil

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, area reclaim

Daily cover for landfill: Poor—cemented pan, small stones

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan, seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—area reclaim

Daily cover for landfill: Fair—thin layer

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Probable source

Gravel: Improbable source—too sandy

Unius Soil

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan, slope, seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Muni soil—IVe, irrigated, and VIIs, nonirrigated; Orovada soil—VIc, nonirrigated; Unius soil—VIIs, nonirrigated

Range site: Muni and Orovada soils—028B010N; Unius soil—028B011N; Inclusion 1—028B013N; Inclusion 2—024X045N; Inclusion 3—028B005N

2060—Oxcorel-Beoska-Whirlo association

Positions on landscape: Fan piedmonts

Composition

Major components:

Oxcorel gravelly very fine sandy loam, 2 to 8 percent slopes—40 percent

Beoska silt loam, 0 to 4 percent slopes—30 percent

Whirlo gravelly loam, 2 to 8 percent slopes—15 percent

Contrasting inclusions:

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 15 to 30 percent slopes—5 percent

Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 2 to 8 percent slopes—5 percent

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—5 percent

Characteristics of the Oxcorel Soil

Classification: Duric Natrargids, fine, montmorillonitic, mesic

Positions on landscape: Convex, upper summits of fan piedmont remnants

Parent material: Mixed alluvium that includes loess

Slope: 2 to 8 percent

Elevation: 5,200 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 5 to 34 inches

Texture: Clay, clay loam

Structure: Prismatic
Consistence: Hard, firm
Reaction: Strongly alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 25 to 46
Depth: 34 to 60 inches
Texture: Very gravelly sandy loam, very gravelly loam
Structure: Massive
Consistence: Hard, firm
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Very slow
Available water capacity: 6.5 to 8.4 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Beoska Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic
Positions on landscape: Convex, lower summits of fan piedmont remnants
Parent material: Loess over loamy and gravelly mixed alluvium
Slope: 0 to 4 percent
Elevation: 5,200 to 5,800 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 9 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 9 to 18 inches
Texture: Silty clay loam, silt loam

Structure: Prismatic
Consistence: Hard, very friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 46
Depth: 18 to 60 inches
Texture: Stratified gravelly very fine sandy loam to gravelly sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 7.8 to 9.7 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Whirlo Soil

Classification: Typic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Concave, lower inset fans and fan aprons
Parent material: Mixed alluvium that includes a large amount of loess
Slope: 2 to 8 percent
Elevation: 5,200 to 5,800 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Depth: 0 to 12 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 12 to 24 inches

Texture: Very gravelly fine sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 24 to 60 inches

Texture: Very gravelly coarse sandy loam

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 4.2 to 6.0 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Spiny hopsage, bluegrass, Wyoming big sagebrush

Inclusion 2

Classification: Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Adjacent to fan skirts near alluvial flats

Distinctive present vegetation: Shadscale, black greasewood

Inclusion 3

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: The upper inset fans

Distinctive present vegetation: Wyoming big sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Oxcorel Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Beoska Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Whirlo Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Oxcorel Soil

Range seeding: Poor—too arid, rooting depth, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Beoska Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, excess salt, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Whirlo Soil

Range seeding: Poor—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess salt

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Oxcorel soil—IVe, irrigated, and VIIs, nonirrigated; Beoska soil—IIIe, irrigated, and VIIs, nonirrigated; Whirlo soil—IIIe, irrigated, and VIIc, nonirrigated

Range site: Oxcorel, Beoska, and Whirlo soils—024X002N; Inclusion 1—024X020N; Inclusion 2—024X003N; Inclusion 3—024X005N

2061—Oxcorel-Zaidy-Grassval association

Positions on landscape: Fan piedmonts

Composition

Major components:

Oxcorel gravelly sandy loam, 2 to 8 percent slopes—55 percent

Zaidy very gravelly sandy loam, 2 to 8 percent slopes—15 percent

Grassval very gravelly sandy loam, 2 to 8 percent slopes—15 percent

Contrasting inclusions:

Wieland gravelly sandy loam, 2 to 8 percent slopes—8 percent

Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 4 percent slopes—4 percent

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 4 percent slopes—3 percent

Characteristics of the Oxcorel Soil

Classification: Duric Natrargids, fine, montmorillonitic, mesic

Positions on landscape: The lower summits of fan piedmont remnants

Parent material: Mixed alluvium that includes loess

Slope: 2 to 8 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 8 inches

Texture: Gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 8 to 34 inches

Texture: Clay, clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 34 to 60 inches

Texture: Very gravelly sandy loam, very gravelly loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 6.5 to 8.5 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—5 wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Zaidy Soil

Classification: Haploxerollic Durargids, fine-loamy, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, bluegrass, black sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 50 percent pebbles

Depth: 0 to 5 inches

Texture: Very gravelly sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 5 to 25 inches

Texture: Loam, clay loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 25 to 60 inches

Material: Cemented hardpan

Soil and Water Features

Depth to the hardpan: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.8 to 3.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.05; T value—2; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—moderate

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Grassval Soil

Classification: Xerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: The upper summits of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 46 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 4 inches

Texture: Very gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 4 to 13 inches

Texture: Gravelly clay loam, gravelly loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 13 inches

Material: Indurated hardpan

Soil and Water Features

Depth to the hardpan: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1 to 2 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: The lower summits of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fan remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Oxcorel Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Zaidy Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Grassval Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Oxcorel Soil

Range seeding: Poor—too arid, rooting depth, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Zaidy Soil

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—small stones

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cemented pan

Local roads and streets: Moderate—cemented pan, shrink-swell

Pond reservoir areas: Moderate—cemented pan, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Grassval Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—cemented pan, small stones

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Oxcorel soil—IVe, irrigated, and VIIs, nonirrigated; Zaidy soil—IVs, irrigated, and VIIs, nonirrigated; Grassval soil—VIIs, nonirrigated

Range site: Oxcorel soil—028B017N; Zaidy and Grassval soils—028B011N; Inclusion 1—028B010N; Inclusion 2—028B052N; Inclusion 3—028B010N

2063—Oxcorel-Pineval association

Positions on landscape: Fan piedmonts

Composition

Major components:

Oxcorel gravelly very fine sandy loam, 2 to 8 percent slopes—40 percent

Pineval gravelly loam, 15 to 30 percent slopes—25 percent

Pineval gravelly loam, 8 to 15 percent slopes—20 percent

Contrasting inclusions:

Allor gravelly loam, 4 to 15 percent slopes—5 percent

Orovada fine sandy loam, 2 to 8 percent slopes—4 percent

Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 15 to 50 percent slopes—3 percent

Wieland gravelly loam, 2 to 8 percent slopes—3 percent

Characteristics of the Oxcorel Soil

Classification: Duric Natrargids, fine, montmorillonitic, mesic

Positions on landscape: Summits of fan piedmont remnants

Parent material: Mixed alluvium that includes loess

Slope: 2 to 8 percent

Elevation: 5,300 to 6,300 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 8 inches

Texture: Gravelly very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 8 to 34 inches

Texture: Clay, clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 34 to 60 inches

Texture: Very gravelly sandy loam, very gravelly loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 6.5 to 8.5 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Pineval Soil, Moderately Steep

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 15 to 30 percent

Elevation: 5,300 to 6,300 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 11 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 11 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.2 to 4.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Pineval Soil, Strongly Sloping

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Shoulder slopes and the upper side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 8 to 15 percent

Elevation: 5,300 to 6,300 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 11 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 11 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.2 to 4.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Fan aprons

Distinctive present vegetation: Bluegrass, needlegrass, Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Scarps on side slopes of fan piedmont remnants

Distinctive present vegetation: Shadscale, galleta, Wyoming big sagebrush

Inclusion 4

Classification: Durixerollic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: The upper summits of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Oxcorel Soil**

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Pineval Soil, Moderately Steep

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Pineval Soil, Strongly Sloping

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Oxcorel Soil**

Range seeding: Poor—too arid, rooting depth, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Pineval Soil, Moderately Steep

Range seeding: Fair—too arid, erodes easily

Roadfill: Fair—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Pineval Soil, Strongly Sloping

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—slope, frost action

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Oxcorel soil—IVe, irrigated, and VIIs, nonirrigated; Pineval soil, moderately steep—VIe, nonirrigated; Pineval soil, strongly sloping—IVe, irrigated, and VIIs, nonirrigated

Range site: Oxcorel soil—024X002N; Pineval soils—

028B010N; Inclusion 1—024X005N; Inclusion 2—
024X020N; Inclusion 3—024X045N; Inclusion 4—
024X005N

2069—Oxcorel-Wieland-Spasprey association

Positions on landscape: Fan piedmonts

Composition

Major components:

Oxcorel gravelly very fine sandy loam, 2 to 8 percent
slopes—40 percent

Wieland gravelly loam, 2 to 8 percent slopes—30
percent

Spasprey gravelly fine sandy loam, 2 to 4 percent
slopes—15 percent

Contrasting inclusions:

Orovada fine sandy loam, 2 to 8 percent slopes—7
percent

Duric Haplargids, loamy-skeletal, mixed, mesic, 8 to 15
percent slopes—5 percent

Duric Camborthids, coarse-loamy, mixed, mesic, 2 to 4
percent slopes—3 percent

Characteristics of the Oxcorel Soil

Classification: Duric Natrargids, fine, montmorillonitic,
mesic

Positions on landscape: The lower, concave summits of
fan piedmont remnants

Parent material: Mixed alluvium that includes loess

Slope: 2 to 8 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail,
Indian ricegrass, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 6 to 37 inches

Texture: Clay, clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 37 to 60 inches

Texture: Very gravelly sandy loam, very gravelly loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60
inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 6.5 to 8.4 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.28; T value—5;
wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Characteristics of the Wieland Soil

Classification: Durixerollic Haplargids, fine,
montmorillonitic, mesic

Positions on landscape: The lower and intermediate
areas on convex summits of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and
volcanic ash

Slope: 2 to 8 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass,
needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 8 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Gravelly clay

Structure: Prismatic

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 20 to 25 inches
Texture: Gravelly clay loam, gravelly sandy clay loam
Structure: Massive
Consistence: Hard, firm
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 25 to 60 inches
Texture: Gravelly loam, gravelly sandy loam
Structure: Massive
Consistence: Hard, firm
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 6 to 9 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: C
Erosion factors (upper layer): K value—0.32; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Spasprey Soil

Classification: Haploxerollic Durargids, fine-loamy, mixed, mesic
Positions on landscape: The higher summits of fan piedmont remnants adjacent to the front of mountains
Parent material: Mixed alluvium
Slope: 2 to 4 percent
Elevation: 5,800 to 6,200 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles
Depth: 0 to 5 inches
Texture: Gravelly fine sandy loam
Structure: Platy

Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 5 to 26 inches
Texture: Clay loam, sandy clay loam
Structure: Prismatic
Consistence: Hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 26 to 33 inches
Material: Cemented hardpan
Depth: 33 to 60 inches
Texture: Fine sandy loam
Structure: Massive
Consistence: Hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to the hardpan: 20 to 30 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 4 to 5 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.32; T value—3; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Bluegrass, spiny hopsage, Wyoming big sagebrush

Inclusion 2

Classification: Duric Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: Side slopes of fan piedmont remnants
Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Oxcorel Soil**

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Wieland Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Spasprey Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Oxcorel Soil**

Range seeding: Poor—too arid, rooting depth, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wieland Soil

Range seeding: Poor—rooting depth

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Moderate—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Spasprey Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—cemented pan, area reclaim, too clayey

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—shrink-swell, low strength, frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Oxcorel soil—IVe,

irrigated, and VIIs, nonirrigated; Wieland soil—IIIe, irrigated, and VI, nonirrigated; Spasprey soil—IIIs, irrigated, and VI, nonirrigated

Range site: Oxcorel soil—024X002N; Wieland and

Spasprey soils—024X005N; Inclusion 1—

024X020N; Inclusions 2 and 3—024X002N

2081—Fenster-Jesse Camp association

Positions on landscape: Semibolson floors

Composition

Major components:

Fenster silt loam—50 percent

Jesse Camp silt loam, occasionally flooded—40 percent

Contrasting inclusions:

Kobeh gravelly loam, 0 to 4 percent slopes—4 percent

Bubus loam, 0 to 4 percent slopes—3 percent

Aeric Halaquepts, fine-loamy, mixed (calcareous), mesic, 0 to 2 percent slopes—3 percent

Characteristics of the Fenster Soil

Classification: Typic Torriorthents, fine-silty, mixed (calcareous), frigid

Positions on landscape: Dissected areas of stream terraces

Parent material: Loess and silty, calcareous alluvium

Slope: 0 to 2 percent

Elevation: 6,100 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, needlegrass, shadscale, bud sagebrush

Typical Profile

Depth: 0 to 5 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 5 to 10 inches

Texture: Silt loam

Structure: Subangular blocky

Consistence: Hard, firm

Reaction: Very strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 10 to 60 inches

Texture: Silt loam, silty clay loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 11 to 13 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—4L

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Moderate

Characteristics of the Jesse Camp Soil

Classification: Xerollic Camborthids, fine-silty, mixed, frigid

Positions on landscape: Stream terraces

Parent material: Silty alluvium that includes volcanic ash

Slope: 0 to 2 percent

Elevation: 6,100 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Basin wildrye, big sagebrush

Typical Profile

Depth: 0 to 4 inches

Texture: Silt loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 4 to 12 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 12 to 60 inches

Texture: Silt loam

Structure: Platy

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Occasional for brief periods in March through June

Permeability: Moderately slow

Available water capacity: 10 to 11 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, frigid

Positions on landscape: Nonburied fan skirt remnants

Distinctive present vegetation: Indian ricegrass, spiny hopsage, Wyoming big sagebrush

Inclusion 2

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Isolated alluvial flat remnants

Distinctive present vegetation: Shadscale, black greasewood, bud sagebrush

Inclusion 3

Classification: Aeric Halaquepts, fine-loamy, mixed (calcareous), mesic

Positions on landscape: Alluvial flats along stream channels

Distinctive present vegetation: Alkali sacaton, black greasewood, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Fenster Soil***Wild herbaceous plants (nonirrigated):* Very poor*Shrubs (nonirrigated):* Very poor**Jesse Camp Soil***Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair**Suitability and Limitations for Selected Uses****Fenster Soil***Range seeding:* Poor—too arid, excess salt*Roadfill:* Poor—low strength*Topsoil:* Poor—excess salt, excess sodium*Daily cover for landfill:* Poor—excess sodium*Shallow excavations:* Slight*Local roads and streets:* Severe—low strength*Pond reservoir areas:* Moderate—seepage*Embankments, dikes, and levees:* Severe—piping, excess salt, excess sodium*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Jesse Camp Soil***Range seeding:* Fair—too arid*Roadfill:* Fair—low strength, shrink-swell*Topsoil:* Good*Daily cover for landfill:* Good*Shallow excavations:* Moderate—flooding*Local roads and streets:* Severe—flooding*Pond reservoir areas:* Slight*Embankments, dikes, and levees:* Severe—piping*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Interpretive Groups***Land capability classification:* Fenster soil—VII_s, nonirrigated; Jesse Camp soil—II_w, irrigated, and VI_w, nonirrigated*Range site:* Fenster soil—028B017N; Jesse Camp soil—028B009N; Inclusion 1—028B010N; Inclusion 2—024X003N; Inclusion 3—028B004N**2088—Punchbowl-Jung-Teguro association***Positions on landscape:* Foothills**Composition***Major components:*

Punchbowl very gravelly loam, 15 to 50 percent slopes—40 percent

Jung very gravelly loam, 15 to 30 percent slopes—30 percent

Teguro very gravelly loam, 30 to 50 percent slopes, extremely stony—15 percent

Contrasting inclusions:

Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic, 8 to 15 percent slopes—5 percent

Lithic Natrargids, loamy, mixed, mesic, 15 to 50 percent slopes—4 percent

Punchbowl very gravelly loam, 8 to 15 percent slopes—3 percent

Rock outcrop—3 percent

Characteristics of the Punchbowl Soil*Classification:* Lithic Xerollic Haplargids, loamy, mixed, frigid*Positions on landscape:* The lower, convex, north-facing shoulder slopes and side slopes of foothills*Parent material:* Residuum derived from andesite, dacite, rhyolite, and tuff*Slope:* 15 to 50 percent*Elevation:* 6,300 to 7,000 feet*Average annual precipitation:* About 9 inches*Average annual air temperature:* About 45 degrees F*Frost-free season:* About 90 days*Dominant present vegetation:* Black sagebrush, bluegrass, bottlebrush squirreltail**Typical Profile***Rock fragments on surface:* 55 percent pebbles*Depth:* 0 to 3 inches*Texture:* Very gravelly loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Mildly alkaline*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 3 to 7 inches*Texture:* Gravelly loam*Structure:* Subangular blocky*Consistence:* Slightly hard, friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 7 to 11 inches*Texture:* Gravelly clay loam*Structure:* Angular blocky*Consistence:* Hard, friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 11 inches*Material:* Unweathered bedrock**Soil and Water Features***Depth to bedrock:* 8 to 14 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderately slow

Available water capacity: 1.1 to 1.4 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.15; T value—1;
 wind erodibility group—7
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Jung Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic
Positions on landscape: Convex, south-facing shoulder slopes and back slopes of foothills
Parent material: Residuum derived from volcanic and metavolcanic rock
Slope: 15 to 30 percent
Elevation: 6,300 to 7,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Depth: 0 to 8 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral

Depth: 8 to 19 inches
Texture: Very cobbly clay
Structure: Prismatic
Consistence: Very hard, firm
Reaction: Moderately alkaline

Depth: 19 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.9 to 2.5 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.17; T value—1;
 wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Teguro Soil

Classification: Lithic Argixerolls, loamy, mixed, frigid
Positions on landscape: The higher, north-facing side slopes of foothills
Parent material: Residuum derived from tuff
Slope: 30 to 50 percent
Elevation: 6,500 to 7,000 feet
Average annual precipitation: About 12 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Bluegrass, needlegrass, mountain big sagebrush, singleleaf pinyon, Utah juniper
Site index for common trees: Singleleaf pinyon—30; Utah juniper—30

Typical Profile

Rock fragments on surface: 15 percent stones, 55 percent pebbles

Depth: 0 to 6 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral

Depth: 6 to 16 inches
Texture: Gravelly loam, gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Neutral

Depth: 16 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.9 to 2.4 inches
Water-supplying capacity: 10 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—1
 wind erodibility group—7
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Toe slopes of foothills

Distinctive present vegetation: Bluegrass, black sagebrush

Inclusion 2

Classification: Lithic Natrargids, loamy, mixed, mesic

Positions on landscape: Convex, south-facing shoulder slopes of foothills

Distinctive present vegetation: Shadscale, bud sagebrush, small rabbitbrush

Inclusion 3

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid

Positions on landscape: Crests of foothills

Distinctive present vegetation: Black sagebrush

Inclusion 4

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Minor Inclusion

Kind of material: Rock stripes

Positions on landscape: Below areas of Rock outcrop

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Punchbowl Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Jung Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Teguro Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Poor

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Punchbowl Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Jung Soil

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Teguro Soil

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Punchbowl, Jung, and Teguro soils—VIIIs, nonirrigated

Range site: Punchbowl and Jung soils—028B016N; Teguro soil—025X062N; Inclusion 1—024X030N; Inclusion 2—024X002N; Inclusion 3—024X016N; Inclusion 4—none

2089—Punchbowl-Jung-Locane association

Positions on landscape: Foothills

Composition

Major components:

Punchbowl very gravelly loam, 15 to 50 percent slopes—35 percent

Jung very gravelly loam, 8 to 30 percent slopes—30 percent

Locane very gravelly loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Rock outcrop—6 percent

Durixerollic Camborthids, coarse-loamy, mixed, mesic, 4 to 15 percent slopes—5 percent

Lithic Natrargids, clayey-skeletal, montmorillonitic, mesic, 15 to 50 percent slopes—4 percent

Characteristics of the Punchbowl Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid
Positions on landscape: The higher, convex side slopes and lower, north-facing side slopes of foothills
Parent material: Residuum derived from andesite, dacite, rhyolite, and tuff
Slope: 15 to 50 percent
Elevation: 6,300 to 7,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 90 days
Dominant present vegetation: Black sagebrush, bluegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 3 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 3 to 7 inches
Texture: Gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 7 to 11 inches
Texture: Gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 11 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.1 to 1.4 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—7
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Jung Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic
Positions on landscape: The lower, convex side slopes and higher, south-facing side slopes of foothills
Parent material: Residuum derived from volcanic and metavolcanic rock
Slope: 8 to 30 percent
Elevation: 6,300 to 7,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 40 percent pebbles
Depth: 0 to 8 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral
Depth: 8 to 19 inches
Texture: Very cobbly clay
Structure: Prismatic
Consistence: Very hard, firm
Reaction: Moderately alkaline
Depth: 19 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.9 to 2.5 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Locane Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: The higher, concave, north-facing side slopes of foothills
Parent material: Residuum derived from shale and conglomerate

Slope: 15 to 30 percent
Elevation: 6,300 to 7,000 feet
Average annual precipitation: About 12 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral

Depth: 6 to 14 inches
Texture: Very gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral

Depth: 14 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.5 to 2.1 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Positions on landscape: Scattered peaks, eroded side slopes

Distinctive present vegetation: None

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Concave toe slopes of foothills

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Lithic Natrargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: The lower, convex, south-facing side slopes of foothills

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Punchbowl Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Jung Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Locane Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Punchbowl Soil**

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Jung Soil

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Locane Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Punchbowl, Jung, and Locane soils—VIIIs, nonirrigated
Range site: Punchbowl and Jung soils—028B016N; Locane soil—028B010N; Inclusion 1—none; Inclusion 2—028B010N; Inclusion 3—028B017N

2090—Punchbowl gravelly loam, 4 to 15 percent slopes

Positions on landscape: Foothills

Composition

Major component:

Punchbowl gravelly loam, 4 to 15 percent slopes—85 percent

Contrasting inclusions:

Aridic Argixerolls, loamy-skeletal, mixed, frigid, 8 to 15 percent slopes—7 percent

Robson very cobbly loam, 8 to 15 percent slopes—5 percent

Rock outcrop—3 percent

Characteristics of the Punchbowl Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid

Positions on landscape: Crests and the upper side slopes of foothills

Parent material: Residuum derived from andesite, dacite, rhyolite, and tuff

Slope: 4 to 15 percent

Elevation: 6,800 to 7,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush, bluegrass, bottlebrush squirreltail

Typical Profile

Rock fragments on surface: 5 percent cobbles, 25 percent pebbles

Depth: 0 to 3 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 7 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 11 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.3 to 1.7 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, north-facing side slopes and toe slopes of foothills

Distinctive present vegetation: Mountain big sagebrush

Inclusion 2

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Convex, stable, north-facing side slopes of foothills

Distinctive present vegetation: Bluegrass, low sagebrush

Inclusion 3

Positions on landscape: Rims and eroded side slopes of foothills

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Punchbowl soil—VII_s, nonirrigated

Range site: Punchbowl soil—028B016N; Inclusion 1—028B030N; Inclusion 2—028B045N; Inclusion 3—none

2091—Punchbowl-Teguro-Sumine association

Positions on landscape: Mountains

Composition

Major components:

Punchbowl very gravelly loam, 15 to 30 percent slopes—35 percent

Teguro very gravelly loam, 30 to 50 percent slopes—25 percent

Sumine very gravelly loam, 30 to 50 percent slopes—25 percent

Contrasting inclusions:

Rock outcrop—5 percent

Aridic Argixerolls, loamy-skeletal, mixed, frigid, 50 to 75 percent slopes—5 percent

Cumulic Haploxerolls, loamy-skeletal, mixed, frigid, 2 to 8 percent slopes—5 percent

Characteristics of the Punchbowl Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid

Positions on landscape: Convex, south- and west-facing side slopes of mountains

Parent material: Residuum derived from andesite, dacite, rhyolite, and tuff

Slope: 15 to 30 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush, bluegrass, bottlebrush squirreltail

Typical Profile

Rock fragments on surface: 55 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 7 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 11 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.1 to 1.4 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Teguro Soil

Classification: Lithic Argixerolls, loamy, mixed, frigid

Positions on landscape: Concave, south- and east-facing side slopes of mountains

Parent material: Residuum derived from tuff

Slope: 30 to 50 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluegrass, needlegrass, mountain big sagebrush, singleleaf pinyon, Utah juniper

Site index for common trees: Singleleaf pinyon—45; Utah juniper—45

Typical Profile

Rock fragments on surface: 55 percent pebbles

Depth: 0 to 4 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral

Depth: 4 to 16 inches
Texture: Gravelly loam, gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Neutral

Depth: 16 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 2.0 to 2.6 inches
Water-supplying capacity: 10 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—7
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Sumine Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: North- and east-facing side slopes of mountains
Parent material: Colluvium and residuum derived from quartzite and sandstone
Slope: 30 to 50 percent
Elevation: 6,300 to 7,000 feet
Average annual precipitation: About 12 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 90 days
Dominant present vegetation: Bluebunch wheatgrass, mountain big sagebrush

Typical Profile

Depth: 0 to 10 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral
Depth: 10 to 30 inches
Texture: Very cobbly clay loam, very gravelly clay loam, very gravelly loam

Structure: Angular blocky
Consistence: Hard, firm
Reaction: Mildly alkaline
Depth: 30 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 2.5 to 3.6 inches
Water-supplying capacity: 12 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.17; T value—2; wind erodibility group—7
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Positions on landscape: Rims, escarpments
Distinctive present vegetation: None

Inclusion 2

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: Slightly concave, north-facing side slopes of mountains
Distinctive present vegetation: Idaho fescue, Utah juniper

Inclusion 3

Classification: Cumulic Haploxerolls, loamy-skeletal, mixed, frigid
Positions on landscape: Below springs, along canyon bottoms
Distinctive present vegetation: Basin wildrye, bluegrass, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Punchbowl Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Teguro Soil

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Poor
Shrubs (nonirrigated): Fair

Sumine Soil*Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair**Suitability and Limitations for Selected Uses****Punchbowl Soil***Range seeding:* Poor—droughty, small stones*Roadfill:* Poor—depth to rock*Topsoil:* Poor—depth to rock, small stones, slope*Daily cover for landfill:* Poor—depth to rock, small stones, slope*Shallow excavations:* Severe—depth to rock, slope*Local roads and streets:* Severe—depth to rock, slope*Pond reservoir areas:* Severe—depth to rock, slope*Embankments, dikes, and levees:* Severe—thin layer*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Teguro Soil***Range seeding:* Poor—small stones, droughty*Roadfill:* Poor—depth to rock, slope*Topsoil:* Poor—depth to rock, small stones, slope*Daily cover for landfill:* Poor—depth to rock, small stones, slope*Shallow excavations:* Severe—depth to rock, slope*Local roads and streets:* Severe—depth to rock, slope*Pond reservoir areas:* Severe—depth to rock, slope*Embankments, dikes, and levees:* Severe—thin layer*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Sumine Soil***Range seeding:* Poor—small stones*Roadfill:* Poor—depth to rock, slope*Topsoil:* Poor—small stones, slope*Daily cover for landfill:* Poor—depth to rock, small stones, slope*Shallow excavations:* Severe—depth to rock, slope*Local roads and streets:* Severe—slope*Pond reservoir areas:* Severe—slope*Embankments, dikes, and levees:* Severe—thin layer*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Interpretive Groups***Land capability classification:* Punchbowl, Teguro, and Sumine soils—VII_s, nonirrigated*Range site:* Punchbowl soil—024X030N; Teguro soil—024X049N; Sumine soil—024X029N; Inclusion 1—none; Inclusion 2—024X023N; Inclusion 3—028B003N**2092—Punchbowl-Belate-Reluctan association***Positions on landscape:* Mountains**Composition***Major components:*

Punchbowl gravelly loam, 30 to 50 percent slopes—50 percent

Belate very gravelly loam, 30 to 50 percent slopes—20 percent

Reluctan very gravelly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Rock outcrop—6 percent

Xerollic Haplargids, loamy-skeletal, mixed, frigid, 15 to 50 percent slopes—4 percent

Durixerollic Camborthids, loamy-skeletal, mixed, frigid, 8 to 15 percent slopes—3 percent

Rubble land—2 percent

Characteristics of the Punchbowl Soil*Classification:* Lithic Xerollic Haplargids, loamy, mixed, frigid*Positions on landscape:* Convex crests, shoulder slopes, and upper side slopes of mountains*Parent material:* Residuum derived from andesite, dacite, rhyolite, and tuff*Slope:* 30 to 50 percent*Elevation:* 6,400 to 7,700 feet*Average annual precipitation:* About 10 inches*Average annual air temperature:* About 45 degrees F*Frost-free season:* About 90 days*Dominant present vegetation:* Black sagebrush, bluegrass, bottlebrush squirreltail**Typical Profile***Rock fragments on surface:* 20 percent pebbles*Depth:* 0 to 3 inches*Texture:* Gravelly loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Mildly alkaline*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 3 to 7 inches*Texture:* Gravelly loam*Structure:* Subangular blocky*Consistence:* Slightly hard, friable*Reaction:* Mildly alkaline*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 7 to 11 inches*Texture:* Gravelly clay loam*Structure:* Angular blocky*Consistence:* Hard, friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 11 inches*Material:* Unweathered bedrock

Average annual air temperature: About 45 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush, bluegrass, bottlebrush squirreltail

Typical Profile

Rock fragments on surface: 2 percent cobbles, 10 percent pebbles

Depth: 0 to 3 inches

Texture: Loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 7 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 11 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.3 to 1.8 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.49; T value—1; wind erodibility group—5

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Rock Outcrop

Positions on landscape: Scattered peaks, escarpments

Dominant present vegetation: None

Contrasting Inclusions

Inclusion 1

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, north-facing side slopes of mountains

Distinctive present vegetation: Singleleaf pinyon, Utah juniper, Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, frigid

Positions on landscape: Toe slopes of mountains

Distinctive present vegetation: Black sagebrush

Inclusion 3

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Bluegrass, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Punchbowl Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Punchbowl Soil

Range seeding: Poor—droughty, erodes easily

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Punchbowl soil—VIIe, nonirrigated; Rock outcrop—VIIIs, nonirrigated

Range site: Punchbowl soil—028B016N; Rock outcrop—none; Inclusion 1—025X062N; Inclusion 2—028B016N; Inclusion 3—028B010N

2094—Punchbowl-Simpark-Akerue association

Positions on landscape: Mountains

Composition

Major components:

Punchbowl gravelly loam, 8 to 15 percent slopes—40 percent

Simpark very cobbly loam, 2 to 8 percent slopes—25 percent

Akerue very cobbly loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Durixerollic Camborthids, loamy-skeletal, mixed, frigid, 4 to 15 percent slopes—8 percent

Rock outcrop—4 percent

Typic Nadurargids, fine, montmorillonitic, mesic, 8 to 15 percent slopes—3 percent

Characteristics of the Punchbowl Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid

Positions on landscape: Convex shoulder slopes above escarpments on mountains

Parent material: Residuum derived from andesite, dacite, rhyolite, and tuff

Slope: 8 to 15 percent

Elevation: 6,300 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush, bluegrass, bottlebrush squirreltail

Typical Profile

Rock fragments on surface: 25 percent pebbles

Depth: 0 to 3 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 7 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 11 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.3 to 1.7 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Simpark Soil

Classification: Xerollic Durargids, loamy-skeletal, mixed, frigid, shallow

Positions on landscape: Convex, broad summits of mountains

Parent material: Residuum that is derived from andesite and rhyolite and includes volcanic ash

Slope: 2 to 8 percent

Elevation: 6,300 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Black sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Rock fragments on surface: 25 percent cobbles, 20 percent pebbles

Depth: 0 to 13 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 13 to 18 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 18 to 22 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Depth: 22 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None
Permeability: Moderate
Available water capacity: 1.5 to 1.8 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.15; T value—1;
 wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Akerue Soil

Classification: Xerollic Durargids, clayey-skeletal,
 montmorillonitic, frigid, shallow
Positions on landscape: Side slopes of mountains
Parent material: Residuum derived from andesite,
 rhyolite, and quartzite
Slope: 15 to 30 percent
Elevation: 6,300 to 6,800 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 90 days
Dominant present vegetation: Black sagebrush,
 needleandthread, Indian ricegrass, small
 rabbitbrush

Typical Profile

Rock fragments on surface: 35 percent cobbles and
 stones, 35 percent pebbles
Depth: 0 to 3 inches
Texture: Very cobbly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Depth: 3 to 15 inches
Texture: Very cobbly clay loam, very cobbly clay
Structure: Angular blocky
Consistence: Hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 15 to 21 inches
Material: Indurated hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm
Depth: 21 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 14 to 20 inches
Depth to bedrock: 15 to 26 inches

Depth to a seasonal high water table: More than 60
 inches

Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.6 to 2.0 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.15; T value—
 wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, loamy-skeletal
 mixed, frigid
Positions on landscape: Toe slopes of mountains,
 intermountain drainageways
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Positions on landscape: Rims, cliffs
Distinctive present vegetation: None

Inclusion 3

Classification: Typic Nadurargids, fine, montmorillonitic
 mesic
Positions on landscape: Slightly concave, south-facing
 side slopes below escarpments on mountains
Distinctive present vegetation: Shadscale, bud
 sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Punchbowl Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Simpark Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Akerue Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Punchbowl Soil

Range seeding: Poor—droughty
Roadfill: Poor—depth to rock
Topsoil: Poor—depth to rock, small stones
Daily cover for landfill: Poor—depth to rock, small
 stones

Shallow excavations: Severe—depth to rock
Local roads and streets: Severe—depth to rock
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Simpark Soil

Range seeding: Poor—droughty, large stones
Roadfill: Poor—depth to rock, large stones
Topsoil: Poor—cemented pan, small stones
Daily cover for landfill: Poor—depth to rock, small stones
Shallow excavations: Severe—depth to rock, cemented pan, large stones
Local roads and streets: Severe—cemented pan, large stones
Pond reservoir areas: Severe—cemented pan
Embankments, dikes, and levees: Severe—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Akerue Soil

Range seeding: Poor—droughty, large stones
Roadfill: Poor—depth to rock
Topsoil: Poor—depth to rock, cemented pan, too clayey
Daily cover for landfill: Poor—depth to rock, large stones, slope
Shallow excavations: Severe—depth to rock, cemented pan
Local roads and streets: Severe—depth to rock, slope
Pond reservoir areas: Severe—depth to rock, cemented pan, slope
Embankments, dikes, and levees: Severe—large stones
Sand: Improbable—excess fines, large stones
Gravel: Improbable—excess fines, large stones

Interpretive Groups

Land capability classification: Punchbowl, Simpark, and Akerue soils—VIIs, nonirrigated
Range site: Punchbowl, Simpark, and Akerue soils—028B016N; Inclusion 1—028B010N; Inclusion 2—none; Inclusion 3—024X002N

2095—Punchbowl-Robson-Rock outcrop association

Positions on landscape: Mountains

Composition

Major components:
 Punchbowl cobbly loam, 8 to 15 percent slopes—40 percent
 Robson cobbly loam, 8 to 15 percent slopes—30 percent
 Rock outcrop—15 percent

Contrasting inclusions:

Xerollic Haplargids, fine, montmorillonitic, frigid, 2 to 8 percent slopes—8 percent
 Lithic Xerollic Haplargids, clayey, montmorillonitic, frigid, 8 to 15 percent slopes—4 percent
 Aridic Argixerolls, fine, montmorillonitic, frigid, 8 to 15 percent slopes—3 percent

Characteristics of the Punchbowl Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid
Positions on landscape: Convex crests and side slopes of mountains
Parent material: Residuum derived from andesite, dacite, rhyolite, and tuff
Slope: 8 to 15 percent
Elevation: 6,500 to 7,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 90 days
Dominant present vegetation: Black sagebrush, bluegrass, bottlebrush squirreltail

Typical Profile

Rock fragments on surface: 20 percent cobbles, 10 percent pebbles
Depth: 0 to 3 inches
Texture: Cobbly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 3 to 7 inches
Texture: Gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 7 to 11 inches
Texture: Gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 11 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.1 to 1.8 inches

Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1;
 wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Robson Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: Convex, north-facing side slopes of mountains
Parent material: Residuum derived from siliceous tuff, rhyolite, and andesite
Slope: 8 to 15 percent
Elevation: 6,500 to 7,000 feet
Average annual precipitation: About 12 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 90 days
Dominant present vegetation: Low sagebrush, Sandberg bluegrass

Typical Profile

Rock fragments on surface: 20 percent cobbles, 10 percent pebbles
Depth: 0 to 7 inches
Texture: Cobbly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral
Salinity: 0 to 1 millimhos per centimeter
Depth: 7 to 19 inches
Texture: Very cobbly clay, extremely cobbly clay
Structure: Angular blocky
Consistence: Hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 1 millimho per centimeter
Depth: 19 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 12 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 0.6 to 1.2 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1
 wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Characteristics of the Rock Outcrop

Positions on landscape: Scattered peaks, eroded side slopes
Dominant present vegetation: None

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Haplargids, fine, montmorillonitic, frigid
Positions on landscape: Intermountain drainageways
Distinctive present vegetation: Basin wildrye, basin big sagebrush

Inclusion 2

Classification: Lithic Xerollic Haplargids, clayey, montmorillonitic, frigid
Positions on landscape: Concave, upper, north-facing side slopes of mountains
Distinctive present vegetation: Mountain big sagebrush, Wyoming big sagebrush

Inclusion 3

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid
Positions on landscape: High summits of mountains
Distinctive present vegetation: Low sagebrush, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Punchbowl Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Robson Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Punchbowl Soil

Range seeding: Poor—droughty
Roadfill: Poor—depth to rock
Topsoil: Poor—depth to rock, small stones
Daily cover for landfill: Poor—depth to rock, small stones
Shallow excavations: Severe—depth to rock
Local roads and streets: Severe—depth to rock
Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Robson Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, large stones

Shallow excavations: Severe—depth to rock, large stones

Local roads and streets: Severe—depth to rock, large stones

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Interpretive Groups

Land capability classification: Punchbowl and Robson soils—VIIIs, nonirrigated; Rock outcrop—VIIIIs, nonirrigated

Range site: Punchbowl soil—028B016N; Robson soil—028B045N; Rock outcrop—none; Inclusion 1—028B003N; Inclusion 2—028B007N; Inclusion 3—028B037N

2096—Punchbowl-Locane-Nobuck association

Positions on landscape: Mountains

Composition

Major components:

Punchbowl cobbly loam, 8 to 15 percent slopes—40 percent

Locane cobbly loam, 8 to 15 percent slopes—25 percent

Nobuck very cobbly loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Xerollic Camborthids, loamy-skeletal, mixed, frigid, 15 to 50 percent slopes—8 percent

Xerollic Haplargids, loamy-skeletal, mixed, frigid, 8 to 15 percent slopes—4 percent

Rock outcrop—3 percent

Characteristics of the Punchbowl Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid

Positions on landscape: The upper, west- and south-facing side slopes of mountains

Parent material: Residuum derived from andesite, dacite, rhyolite, and tuff

Slope: 8 to 15 percent

Elevation: 6,500 to 7,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush, bluegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 3 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 7 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 11 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.1 to 1.8 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Locane Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: North-facing side slopes of mountains

Parent material: Residuum derived from shale and conglomerate

Slope: 8 to 15 percent

Elevation: 6,200 to 7,000 feet
Average annual precipitation: About 12 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Indian ricegrass,
 needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 5 inches
Texture: Cobbly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral

Depth: 5 to 19 inches
Texture: Very gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral

Depth: 19 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 2.0 to 2.6 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Characteristics of the Nobuck Soil

Classification: Xerollic Haplargids, loamy-skeletal, mixed, frigid
Positions on landscape: The lower side slopes of mountains
Parent material: Colluvium derived from volcanic rock
Slope: 15 to 30 percent
Elevation: 6,200 to 6,800 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 90 days
Dominant present vegetation: Indian ricegrass, bluegrass, black sagebrush

Typical Profile

Rock fragments on surface: 5 percent stones and boulders, 20 percent cobbles, 35 percent pebbles

Depth: 0 to 7 inches
Texture: Very cobbly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral
Depth: 7 to 42 inches
Texture: Very gravelly clay loam, very gravelly sandy clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Depth: 42 to 60 inches
Texture: Very gravelly loam
Structure: Massive
Consistence: Hard, firm
Reaction: Moderately alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 4.6 to 5.5 inches
Water-supplying capacity: 10 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.15; T value—5 wind erodibility group—8
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Camborthids, loamy-skeletal, mixed, frigid
Positions on landscape: Concave, colluvial side slopes of mountains
Distinctive present vegetation: Bluegrass, black sagebrush

Inclusion 2

Classification: Xerollic Haplargids, loamy-skeletal, mixed, frigid
Positions on landscape: Toe slopes of mountains
Distinctive present vegetation: Mountain big sagebrush, Wyoming big sagebrush

Inclusion 3

Positions on landscape: Scattered peaks and knobs
Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Punchbowl Soil***Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair**Locane Soil***Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair**Nobuck Soil***Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair**Suitability and Limitations for Selected Uses****Punchbowl Soil***Range seeding:* Poor—droughty*Roadfill:* Poor—depth to rock*Topsoil:* Poor—depth to rock, small stones, slope*Daily cover for landfill:* Poor—depth to rock, small stones, slope*Shallow excavations:* Severe—depth to rock, slope*Local roads and streets:* Severe—depth to rock, slope*Pond reservoir areas:* Severe—depth to rock, slope*Embankments, dikes, and levees:* Severe—thin layer*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Locane Soil***Range seeding:* Poor—droughty*Roadfill:* Poor—depth to rock*Topsoil:* Poor—depth to rock, small stones*Daily cover for landfill:* Poor—depth to rock, small stones*Shallow excavations:* Severe—depth to rock*Local roads and streets:* Severe—depth to rock*Pond reservoir areas:* Severe—depth to rock, slope*Embankments, dikes, and levees:* Severe—thin layer*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Nobuck Soil***Range seeding:* Poor—large stones*Roadfill:* Fair—large stones, slope*Topsoil:* Poor—small stones, area reclaim, slope*Daily cover for landfill:* Poor—small stones, slope*Shallow excavations:* Severe—slope*Local roads and streets:* Severe—slope*Pond reservoir areas:* Severe—slope*Embankments, dikes, and levees:* Moderate—large stones*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Interpretive Groups***Land capability classification:* Punchbowl soil—VIIe, nonirrigated; Locane and Nobuck soils—VII, nonirrigated*Range site:* Punchbowl and Nobuck soils—028B016N;

Locane soil—024X005N; Inclusion 1—028B016N;

Inclusion 2—028B007N; Inclusion 3—none

2097—Punchbowl-Itca association*Positions on landscape:* Mountains**Composition***Major components:*

Punchbowl gravelly loam, 15 to 30 percent slopes—55 percent

Itca cobbly loam, 15 to 30 percent slopes—30 percent

Contrasting inclusions:

Rock outcrop—8 percent

Lithic Xerollic Haplargids, loamy, mixed, frigid, 8 to 15 percent slopes—5 percent

Xerollic Haplargids, fine-loamy, mixed, frigid, 8 to 15 percent slopes—2 percent

Characteristics of the Punchbowl Soil*Classification:* Lithic Xerollic Haplargids, loamy, mixed, frigid*Positions on landscape:* Crests and east- and south-facing side slopes of mountains*Parent material:* Residuum derived from andesite, dacite, rhyolite, and tuff*Slope:* 15 to 30 percent*Elevation:* 6,300 to 7,100 feet*Average annual precipitation:* About 9 inches*Average annual air temperature:* About 45 degrees F*Frost-free season:* About 90 days*Dominant present vegetation:* Black sagebrush, bluegrass, bottlebrush squirreltail**Typical Profile***Rock fragments on surface:* 25 percent pebbles*Depth:* 0 to 3 inches*Texture:* Gravelly loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Mildly alkaline*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 3 to 7 inches*Texture:* Gravelly loam*Structure:* Subangular blocky*Consistence:* Slightly hard, friable*Reaction:* Moderately alkaline*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 7 to 11 inches*Texture:* Gravelly clay loam*Structure:* Angular blocky*Consistence:* Hard, friable*Reaction:* Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.3 to 1.7 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: North-facing side slopes of mountains

Parent material: Residuum derived from extrusive volcanic and pyroclastic rock

Slope: 15 to 30 percent

Elevation: 6,300 to 7,100 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush

Site index for singleleaf pinyon: 65

Typical Profile

Rock fragments on surface: 20 percent cobbles, 10 percent pebbles

Depth: 0 to 9 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 9 to 17 inches

Texture: Very gravelly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 17 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.8 to 2.3 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Positions on landscape: Escarpments, scattered peaks

Distinctive present vegetation: None

Inclusion 2

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid

Positions on landscape: The upper, south-facing side slopes of mountains

Distinctive present vegetation: Black sagebrush, singleleaf pinyon, Utah juniper

Inclusion 3

Classification: Xerollic Haplargids, fine-loamy, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Bluebunch wheatgrass, mountain big sagebrush

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Cordwood production

Suitability for Wildlife Habitat Elements

Punchbowl Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Itca Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Punchbowl Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Itca Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Punchbowl and Itca soils—Vllc, nonirrigated

Range site: Punchbowl soil—028B016N; Itca soil—025X061N; Inclusion 1—none; Inclusion 2—025X063N; Inclusion 3—028B007N

2099—Punchbowl-Roca-Rock outcrop association

Positions on landscape: Mountains

Composition

Major components:

Punchbowl very gravelly loam, 15 to 30 percent slopes—45 percent

Roca very cobbly loam, 15 to 30 percent slopes—25 percent

Rock outcrop—15 percent

Contrasting inclusions:

Lithic Xeric Torriorthents, loamy-skeletal, carbonatic, frigid, 30 to 50 percent slopes—6 percent

Xerollic Durargids, loamy, mixed, frigid (shallow), 15 to 30 percent slopes—6 percent

Typic Haploxerolls, loamy-skeletal, mixed, frigid, 30 to 50 percent slopes—3 percent

Characteristics of the Punchbowl Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid

Positions on landscape: Convex summits, shoulder slopes, east- and west-facing side slopes of mountains

Parent material: Residuum derived from andesite, dacite, rhyolite, and tuff

Slope: 15 to 30 percent

Elevation: 6,200 to 7,400 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush, bluegrass, bottlebrush squirreltail

Typical Profile

Rock fragments on surface: 55 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 7 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 11 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.1 to 1.4 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Roca Soil

Classification: Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: South-facing side slopes of mountains
Parent material: Residuum derived from shale and chert
Slope: 15 to 30 percent
Elevation: 6,200 to 7,400 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Bluegrass, bluebunch wheatgrass, big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 5 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 27 inches

Texture: Very gravelly clay loam, very gravelly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 27 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 2.6 to 3.4 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Rock Outcrop

Positions on landscape: Knobs and eroded side slopes of mountains

Dominant present vegetation: None

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xeric Torriorthents, loamy-skeletal, carbonatic, frigid

Positions on landscape: Convex side slopes of mountains

Distinctive present vegetation: Indian ricegrass, black sagebrush

Inclusion 2

Classification: Xerollic Durargids, loamy, mixed, frigid (shallow)

Positions on landscape: The lower side slopes and toe slopes of mountains

Distinctive present vegetation: Needlegrass, bluebunch wheatgrass, big sagebrush

Inclusion 3

Classification: Typic Haploxerolls, loamy-skeletal, mixed, frigid

Positions on landscape: North-facing side slopes of mountains

Distinctive present vegetation: Idaho fescue, mountain big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Punchbowl Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Roca Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Punchbowl Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Roca Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Punchbowl and Roca soils—VIIIs, nonirrigated; Rock outcrop—VIIIIs, nonirrigated

Range site: Punchbowl soil—028B016N; Roca soil—024X028N; Rock outcrop—none; Inclusion 1—028B016N; Inclusion 2—025X014N; Inclusion 3—024X021N

2100—Grassval-Grina-Unsel Variant association

Positions on landscape: Fan piedmonts, low rolling hills

Composition

Major components:

Grassval gravelly loam, 4 to 8 percent slopes—35 percent

Grina very gravelly loam, eroded, 15 to 50 percent slopes—30 percent

Unsel Variant very gravelly loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Duric Natrargids, fine, montmorillonitic, mixed, 2 to 8 percent slopes—5 percent

Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic, 2 to 8 percent slopes—4 percent

Xerollic Haplargids, loamy-skeletal, mixed, mesic, 15 to 50 percent slopes—3 percent

Puett fine sandy loam, 30 to 50 percent slopes—3 percent

Characteristics of the Grassval Soil

Classification: Xerollic Durargids, loamy, mixed, mesic (shallow)

Positions on landscape: Summits of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,300 to 5,600 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 46 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 4 to 13 inches

Texture: Gravelly clay loam, gravelly loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 13 inches

Material: Indurated hardpan

Soil and Water Features

Depth to the hardpan: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.6 to 1.9 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Grina Soil

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Foothills along the outer margin of fan piedmont remnants

Parent material: Residuum derived from sedimentary rock

Slope: 15 to 50 percent

Elevation: 5,300 to 5,600 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Wyoming big sagebrush, Utah juniper, black sagebrush

Site index for Utah juniper: 18

Typical Profile

Rock fragments on surface: 55 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 3 to 14 inches

Texture: Silt loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 14 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.7 to 2.5 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Unsel Variant Soil

Classification: Duric Haplargids, fine-loamy, mixed, mesic

Positions on landscape: South-facing side slopes of fan piedmont remnants

Parent material: Colluvium over residuum derived from tuffaceous sediment

Slope: 15 to 30 percent

Elevation: 5,300 to 5,600 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 15 percent cobbles, 45 percent pebbles

Depth: 0 to 2 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 2 to 15 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 15 to 22 inches

Texture: Gravelly loam

Structure: Massive

Consistence: Hard, firm

Reaction: Very strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 22 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.8 to 3.5 inches

Water-supplying capacity: 7 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—2; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Duric Natrargids, fine, montmorillonitic, mesic

Positions on landscape: Summits of hill remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush, bottlebrush squirreltail

Inclusion 3

Classification: Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: North-facing side slopes of fan piedmont remnants

Distinctive present vegetation: Black sagebrush

Inclusion 4

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Eroded side slopes of hill remnants

Distinctive present vegetation: Wyoming big sagebrush, black sagebrush

Minor Inclusion

Kind of material: Exposed rock

Positions on landscape: Crests and side slopes of hills

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Grassval Soil**

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Grina Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Poor

Shrubs (nonirrigated): Fair

Unsel Variant Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses**Grassval Soil**

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—cemented pan, small stones

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Grina Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock, low strength, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—low strength, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Unsel Variant Soil

Range seeding: Poor—too arid, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Grassval, Grina, and Unsel Variant soils—VII, nonirrigated

Range site: Grassval soil—024X030N; Grina soil—025X059N; Unsel Variant soil—024X002N; Inclusion 1—024X002N; Inclusion 2—024X020N; Inclusion 3—024X030N; Inclusion 4—025X025N

2101—Grassval-Oxcorel association

Positions on landscape: Fan piedmonts

Composition

Major components:

Grassval fine sandy loam, 8 to 15 percent slopes—50 percent

Oxcorel very gravelly clay loam, eroded, 8 to 15 percent slopes—20 percent

Oxcorel gravelly fine sandy loam, 2 to 4 percent slopes—15 percent

Contrasting inclusions:

Allor gravelly loam, 2 to 8 percent slopes—7 percent

Duric Natrargids, clayey-skeletal, montmorillonitic, mesic, 15 to 30 percent slopes—4 percent

Typic Durargids, fine, montmorillonitic, mesic, eroded, 30 to 50 percent slopes—4 percent

Characteristics of the Grassval Soil

Classification: Xerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: The upper summits of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 8 to 15 percent

Elevation: 5,800 to 6,800 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 46 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 4 inches

Texture: Fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 4 to 13 inches
Texture: Gravelly clay loam, gravelly loam
Structure: Subangular blocky
Consistence: Hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 13 inches
Material: Indurated hardpan

Soil and Water Features

Depth to the hardpan: 8 to 14 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.6 to 1.9 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Oxcorel Soil, Eroded

Classification: Duric Natrargids, fine, montmorillonitic, mesic
Positions on landscape: South-facing side slopes of fan piedmont remnants
Parent material: Mixed alluvium that includes loess
Slope: 8 to 15 percent
Elevation: 5,800 to 6,800 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail, shadscale, Wyoming big sagebrush, galleta

Typical Profile

Rock fragments on surface: 50 percent pebbles
Depth: 0 to 3 inches
Texture: Very gravelly clay loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 2 to 10
Depth: 3 to 30 inches
Texture: Clay, clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 25 to 46
Depth: 30 to 60 inches
Texture: Very gravelly sandy loam, very gravelly loam
Structure: Massive
Consistence: Hard, firm
Reaction: Strongly alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Very slow
Available water capacity: 6 to 8 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Oxcorel Soil

Classification: Duric Natrargids, fine, montmorillonitic, mesic
Positions on landscape: The lower summits of fan piedmont remnants
Parent material: Mixed alluvium that includes loess
Slope: 2 to 4 percent
Elevation: 5,800 to 6,800 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles
Depth: 0 to 8 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 8 to 34 inches

Texture: Clay, clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 40

Depth: 34 to 60 inches

Texture: Very gravelly sandy loam, very gravelly loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 6 to 8 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Fan aprons, inset fans

Distinctive present vegetation: Bluegrass, Wyoming big sagebrush

Inclusion 2

Classification: Duric Natrargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Steepest parts of side slopes of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Typic Durargids, fine, montmorillonitic, mesic, eroded

Positions on landscape: Scarps on fan piedmont remnants

Distinctive present vegetation: Shadscale, Wyoming big sagebrush, galleta

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Grassval Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Oxcorel Soil, Eroded

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Oxcorel Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Grassval Soil

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—cemented pan, small stones

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Oxcorel Soil, Eroded

Range seeding: Poor—too arid, small stones, rooting depth

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey, slope

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Oxcorel Soil

Range seeding: Poor—too arid, rooting depth, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Grassval and Oxcorel, eroded, soils—VII_s, nonirrigated; Oxcorel soil—IV_e, irrigated, and VII_s, nonirrigated

Range site: Grassval soil—028B011N; Oxcorel soil, eroded—024X045N; Oxcorel soil—028B017N; Inclusion 1—028B010N; Inclusion 2—024X025N; Inclusion 3—024X045N

2102—Grassval-Wieland association

Positions on landscape: Fan piedmonts

Composition

Major components:

Grassval gravelly loam, 2 to 8 percent slopes—55 percent

Wieland gravelly loam, 2 to 8 percent slopes—40 percent

Contrasting inclusions:

Duric Natrargids, clayey-skeletal, montmorillonitic, mesic, 15 to 30 percent slopes—3 percent

Duric Natrargids, fine, montmorillonitic, mesic, 2 to 8 percent slopes—2 percent

Characteristics of the Grassval Soil

Classification: Xerollic Durargids, loamy, mixed, mesic (shallow)

Positions on landscape: The upper summits of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 2 to 8 percent

Elevation: 6,400 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 46 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Depth: 4 to 13 inches

Texture: Gravelly clay loam, gravelly loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Depth: 13 inches

Material: Indurated hardpan

Soil and Water Features

Depth to the hardpan: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.6 to 1.9 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1 wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Wieland Soil

Classification: Durixerollic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: The lower summits of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 8 percent

Elevation: 6,400 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 8 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Mildly alkaline

Depth: 8 to 20 inches

Texture: Gravelly clay

Structure: Prismatic

Consistence: Hard, firm

Reaction: Moderately alkaline

Depth: 20 to 25 inches

Texture: Gravelly clay loam, gravelly sandy clay loam

Structure: Massive

Consistence: Hard, firm

Reaction: Moderately alkaline

Depth: 25 to 60 inches

Texture: Gravelly loam, gravelly sandy loam

Structure: Massive

Consistence: Hard, firm

Reaction: Moderately alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow.

Available water capacity: 6 to 9 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.32; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Duric Natrargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Shadscale, Wyoming big sagebrush

Inclusion 2

Classification: Duric Natrargids, fine, montmorillonitic, mesic

Positions on landscape: The lower summits of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Grassval Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Wieland Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Grassval Soil

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—cemented pan, small stones

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wieland Soil

Range seeding: Poor—rooting depth

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Moderate—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Grassval soil—VII_s, nonirrigated; Wieland soil—III_e, irrigated, and VI_s, nonirrigated

Range site: Grassval soil—028B011N; Wieland soil—028B010N; Inclusion 1—024X026N; Inclusion 2—028B017N

2104—Grassval-Punchbowl association

Positions on landscape: Foothills, fan piedmonts

Composition

Major components:

Grassval gravelly loam, 4 to 15 percent slopes—60 percent

Punchbowl gravelly fine sandy loam, 15 to 30 percent slopes—25 percent

Contrasting inclusions:

Haplic Nadurargids, loamy, mixed, mesic, shallow, 8 to 30 percent slopes—7 percent

Rock outcrop—4 percent

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—2 percent

Xerollic Camborthids, coarse-loamy, mixed, mesic, 2 to 8 percent slopes—2 percent

Characteristics of the Grassval Soil

Classification: Xerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: Fan piedmont remnants

Parent material: Mixed alluvium
Slope: 4 to 15 percent
Elevation: 6,200 to 6,800 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 46 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Indian ricegrass,
 bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles
Depth: 0 to 4 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Depth: 4 to 13 inches
Texture: Gravelly clay loam, gravelly loam
Structure: Subangular blocky
Consistence: Hard, friable
Reaction: Moderately alkaline
Depth: 13 inches
Material: Indurated hardpan

Soil and Water Features

Depth to the hardpan: 8 to 14 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.6 to 1.9 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Punchbowl Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid
Positions on landscape: Summits and side slopes of foothills
Parent material: Residuum derived from andesite, dacite, rhyolite, and tuff
Slope: 15 to 30 percent
Elevation: 6,200 to 7,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush, bluegrass, bottlebrush squirreltail

Typical Profile

Rock fragments on surface: 25 percent pebbles
Depth: 0 to 3 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 3 to 7 inches
Texture: Gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 7 to 11 inches
Texture: Gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 11 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.1 to 1.5 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.20; T value—wind erodibility group—4
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Haplic Nadurargids, loamy, mixed, mesic shallow
Positions on landscape: Side slopes of fan piedmont remnants
Distinctive present vegetation: Shadscale, bud sagebrush, small rabbitbrush, Wyoming big sagebrush

Inclusion 2

Positions on landscape: Scattered peaks and eroded side slopes of fan piedmont remnants

Distinctive present vegetation: None

Inclusion 3

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Bluegrass, basin big sagebrush

Inclusion 4

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The lower inset fans, narrow fan skirts

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Grassval Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Punchbowl Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Grassval Soil**

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—cemented pan, small stones

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Punchbowl Soil

Range seeding: Poor—droughty, depth to rock

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Grassval soil—VII_s, nonirrigated; Punchbowl soil—VII_e, nonirrigated

Range site: Grassval soil—028B011N; Punchbowl soil—028B016N; Inclusion 1—024X045N; Inclusion 2—none; Inclusion 3—028B003N; Inclusion 4—028B010N

2105—Grassval-Glyphs-Muni association

Positions on landscape: Fan piedmonts

Composition

Major components:

Grassval gravelly loam, 4 to 8 percent slopes—50 percent

Glyphs fine sandy loam, 2 to 8 percent slopes—20 percent

Muni fine sandy loam, 2 to 4 percent slopes—15 percent

Contrasting inclusions:

Orovada fine sandy loam, 2 to 4 percent slopes—7 percent

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 2 to 4 percent slopes—5 percent

Xerollic Camborthids, coarse-loamy, mixed, mesic, 2 to 4 percent slopes—3 percent

Characteristics of the Grassval Soil

Classification: Xerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: The upper summits of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 8 percent

Elevation: 6,300 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 46 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 4 to 13 inches

Texture: Gravelly clay loam, gravelly loam

Structure: Subangular blocky

Consistence: Hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Depth: 13 inches
Material: Indurated hardpan

Soil and Water Features

Depth to the hardpan: 8 to 14 inches
Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.6 to 1.9 inches
Water-supplying capacity: 8 inches
Runoff: Medium

Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Glyphs Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The lower part of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 8 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, needleandthread, bluegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 7 inches
Texture: Fine sandy loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 7 to 17 inches
Texture: Gravelly clay loam, gravelly sandy clay loam
Structure: Angular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 17 to 37 inches
Texture: Gravelly sandy loam
Structure: Massive
Consistence: Hard, firm
Reaction: Strongly alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 10

Depth: 37 to 60 inches
Texture: Very gravelly coarse sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None
Permeability: Moderately slow over very rapid
Available water capacity: 4.7 to 6.5 inches
Water-supplying capacity: 9 inches
Runoff: Slow

Hydrologic group: B
Erosion factors (upper layer): K value—0.28; T value—3; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Muni Soil

Classification: Haploxerollic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: The intermediate areas of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 4 percent

Elevation: 6,300 to 7,100 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Needlegrass, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 3 inches
Texture: Fine sandy loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 3 to 18 inches

Texture: Sandy clay loam, clay loam, loam

Structure: Prismatic

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 18 to 49 inches

Material: Cemented hardpan

Depth: 49 to 60 inches

Texture: Very gravelly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.5 to 3.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Basin big sagebrush, bluegrass

Inclusion 3

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Basin wildrye, bluegrass, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Grassval Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Glyphs Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Muni Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Grassval Soil

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—cemented pan, small stones

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Glyphs Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Muni Soil

Range seeding: Fair—droughty, too arid

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, area reclaim

Daily cover for landfill: Poor—cemented pan, small stones

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Grassval soil—VII_s, nonirrigated; Glyphs soil—III_e, irrigated, and VI_c,

nonirrigated; Muni soil—IVe, irrigated, and VIIs, nonirrigated

Range site: Grassval soil—028B011N; Glyphs and Muni soils—028B010N; Inclusion 1—028B010N; Inclusion 2—028B011N; Inclusion 3—028B003N

2110—Isolde-Davey association

Positions on landscape: Alluvial flats covered by eolian sand

Composition

Major components:

Isolde fine sand, 4 to 30 percent slopes—60 percent

Davey fine sandy loam, 0 to 4 percent slopes—25 percent

Contrasting inclusions:

Orovada fine sandy loam, 0 to 4 percent slopes—6 percent

Creemon silt loam, 0 to 2 percent slopes—5 percent

Xerollic Camborthids, sandy-skeletal, mixed, mesic, 0 to 4 percent slopes—4 percent

Characteristics of the Isolde Soil

Classification: Typic Torripsamments, mixed, mesic

Positions on landscape: Dunes overlying sand sheets

Parent material: Eolian sand derived from various kinds of rock

Slope: 4 to 30 percent

Elevation: 6,000 to 6,100 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 50 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, black greasewood, fourwing saltbush, hairy horsebrush

Typical Profile

Depth: 0 to 6 inches

Texture: Fine sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 6 to 60 inches

Texture: Fine sand, sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very rapid

Available water capacity: 3.6 to 5.4 inches

Water-supplying capacity: 6 inches

Runoff: Slow

Hydrologic group: A

Erosion factors (upper layer): K value—0.28; T value—5 wind erodibility group—1

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Davey Soil

Classification: Xerollic Camborthids, sandy, mixed, mesic

Positions on landscape: Sand sheets overlying alluvial flats

Parent material: Mixed alluvium

Slope: 0 to 4 percent

Elevation: 6,000 to 6,100 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, needleandthread, Wyoming big sagebrush

Typical Profile

Depth: 0 to 5 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 14 inches

Texture: Fine sandy loam, sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 14 to 67 inches

Texture: Fine sand, loamy fine sand

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 4.2 to 5.7 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5;
wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy,
mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Indian ricegrass,
Wyoming big sagebrush

Inclusion 2

Classification: Duric Camborthids, coarse-silty, mixed,
mesic

Positions on landscape: Fan skirts near areas of Playas

Distinctive present vegetation: Shadscale, bud
sagebrush

Inclusion 3

Classification: Xerollic Camborthids, sandy-skeletal,
mixed, mesic

Positions on landscape: Offshore bar remnants

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Isolde Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Davey Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Isolde Soil

Range seeding: Poor—soil blowing, too sandy, droughty

Roadfill: Fair—slope

Topsoil: Poor—too sandy, slope

Daily cover for landfill: Poor—seepage, too sandy, slope

Shallow excavations: Severe—cutbanks cave, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage,
piping

Sand: Probable source

Gravel: Improbable source—too sandy

Davey Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—thin layer

Daily cover for landfill: Poor—too sandy

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage,
piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Isolde soil—VIIIs,

nonirrigated; Davey soil—IIIE, irrigated, and VIc,
nonirrigated

Range site: Isolde soil—027X023N; Davey soil—

024X017N; Inclusion 1—028B010N; Inclusion 2—

024X002N; Inclusion 3—028B010N

2540—Buffaran-Wieland association

Positions on landscape: Fan piedmonts

Composition

Major components:

Buffaran cobbly loam, 2 to 8 percent slopes—50
percent

Wieland gravelly loam, 8 to 15 percent slopes—40
percent

Contrasting inclusions:

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 4 to
8 percent slopes—6 percent

Xerollic Haplargids, fine, montmorillonitic, mesic, 2 to 8
percent slopes—4 percent

Characteristics of the Buffaran Soil

Classification: Xerollic Durargids, clayey,
montmorillonitic, mesic, shallow

Positions on landscape: Summits and shoulder slopes of
fan piedmont remnants

Parent material: Mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,700 to 6,300 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Thurber needlegrass,
bottlebrush squirreltail, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 15 percent cobbles, 15
percent pebbles

Depth: 0 to 4 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 4 to 15 inches
Texture: Clay, gravelly clay, gravelly clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Mildly alkaline

Depth: 15 to 60 inches
Material: Indurated hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm

Soil and Water Features

Depth to the hardpan: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.8 to 2.2 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.28; T value—1; wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Wieland Soil

Classification: Durixerollic Haplargids, fine, montmorillonitic, mesic
Positions on landscape: Side slopes of fan piedmont remnants
Parent material: Mixed alluvium that includes loess and volcanic ash
Slope: 8 to 15 percent
Elevation: 5,700 to 6,300 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles
Depth: 0 to 8 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Mildly alkaline
Depth: 8 to 20 inches
Texture: Gravelly clay, clay
Structure: Prismatic
Consistence: Hard, firm
Reaction: Moderately alkaline

Depth: 20 to 60 inches
Texture: Gravelly loam, gravelly sandy loam
Structure: Massive
Consistence: Hard, firm
Reaction: Moderately alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 6 to 9 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: C
Erosion factors (upper layer): K value—0.32; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Xerollic Haplargids, fine, montmorillonitic mesic
Positions on landscape: Foot slopes of fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Buffaran Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Wieland Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Buffaran Soil

Range seeding: Poor—droughty, rooting depth
Roadfill: Poor—cemented pan, low strength
Topsoil: Poor—cemented pan, small stones
Daily cover for landfill: Poor—cemented pan, hard to pack
Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan, low strength

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wieland Soil

Range seeding: Poor—rooting depth

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey, slope

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Buffaran soil—VII_s, nonirrigated; Wieland soil—VI_s, nonirrigated

Range site: Buffaran and Wieland soils—024X005N; Inclusions 1 and 2—024X005N

2541—Buffaran-Zoesta association

Positions on landscape: Fan piedmonts

Composition

Major components:

Buffaran gravelly loam, 4 to 8 percent slopes, very stony—60 percent

Zoesta cobbly loam, 8 to 15 percent slopes—25 percent

Contrasting inclusions:

Xerollic Haplargids, fine-loamy, mixed, mesic, 30 to 50 percent slopes—7 percent

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 4 to 15 percent slopes—5 percent

Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid, 4 to 15 percent slopes—3 percent

Characteristics of the Buffaran Soil

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow

Positions on landscape: The lower summits and shoulder slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 8 percent

Elevation: 6,200 to 6,700 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Thurber needlegrass, bottlebrush squirreltail, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 2 percent stones and boulders, 15 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 4 to 15 inches

Texture: Clay, gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 15 to 60 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.8 to 2.2 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Zoesta Soil

Classification: Xerollic Paleargids, fine, montmorillonitic, frigid

Positions on landscape: The higher summits of fan piedmont remnants

Parent material: Alluvium and colluvium derived from various kinds of rock

Slope: 8 to 15 percent

Elevation: 6,200 to 6,800 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, low sagebrush

Typical Profile

Rock fragments on surface: 15 percent cobbles, 15 percent pebbles

Depth: 0 to 7 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 7 to 23 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Mildly alkaline

Depth: 23 to 31 inches

Texture: Gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Moderately alkaline

Depth: 31 to 60 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Massive

Consistence: Very hard, very firm

Reaction: Moderately alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 7 to 9 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Needlegrass, bluebunch wheatgrass, big sagebrush

Inclusion 2

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Bluegrass, basin wildrye, basin big sagebrush

Inclusion 3

Classification: Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Fan aprons

Distinctive present vegetation: Needlegrass, bluebunch wheatgrass, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Buffaran Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Zoesta Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Buffaran Soil

Range seeding: Poor—droughty, rooting depth

Roadfill: Poor—cemented pan, low strength

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—cemented pan, hard to pack

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan, low strength

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Zoesta Soil

Range seeding: Poor—rooting depth

Roadfill: Fair—shrink-swell

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey, slope

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Slight

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Buffaran soil—VIIIs, nonirrigated; Zoesta soil—IVs, irrigated, and VIs, nonirrigated

Range site: Buffaran soil—024X005N; Zoesta soil—024X018N; Inclusion 1—024X035N; Inclusion 2—025X003N; Inclusion 3—025X014N

2542—Buffaran-Chiara association

Positions on landscape: Partial ballenas

Composition*Major components:*

- Buffaran gravelly loam, 2 to 8 percent slopes—40 percent
 Buffaran very gravelly fine sandy loam, 8 to 15 percent slopes—30 percent
 Chiara very gravelly loam, 8 to 15 percent slopes—15 percent

Contrasting inclusions:

- Wieland gravelly loam, 4 to 8 percent slopes—8 percent
 Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—7 percent

Characteristics of the Buffaran Soil, Gravelly

- Classification:* Xerollic Durargids, clayey, montmorillonitic, mesic, shallow
Positions on landscape: Summits of partial ballenas
Parent material: Mixed alluvium
Slope: 2 to 8 percent
Elevation: 6,200 to 6,700 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Thurber needlegrass, Indian ricegrass, Wyoming big sagebrush

Typical Profile

- Rock fragments on surface:* 15 percent pebbles
Depth: 0 to 5 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Depth: 5 to 16 inches
Texture: Clay, gravelly clay, gravelly clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Mildly alkaline
Depth: 16 to 27 inches
Material: Indurated hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm
Depth: 27 to 60 inches
Material: Cemented hardpan
Structure: Platy
Consistence: Very hard, very firm

Soil and Water Features

- Depth to the hardpan:* 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.9 to 2.4 inches

- Water-supplying capacity:* 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Buffaran Soil, Very Gravelly

- Classification:* Xerollic Durargids, clayey, montmorillonitic, mesic, shallow
Positions on landscape: Shoulder slopes and north-facing side slopes of partial ballenas
Parent material: Mixed alluvium
Slope: 8 to 15 percent
Elevation: 6,200 to 6,700 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Thurber needlegrass, Indian ricegrass, Wyoming big sagebrush

Typical Profile

- Rock fragments on surface:* 15 percent pebbles
Depth: 0 to 5 inches
Texture: Very gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Depth: 5 to 16 inches
Texture: Clay, gravelly clay, gravelly clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Mildly alkaline
Depth: 16 to 27 inches
Material: Indurated hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm
Depth: 27 to 60 inches
Material: Cemented hardpan
Structure: Platy
Consistence: Very hard, very firm

Soil and Water Features

- Depth to the hardpan:* 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.2 to 2.0 inches
Water-supplying capacity: 8 inches

Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.15; T value—1;
 wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Chiara Soil

Classification: Xerollic Durorthids, loamy, mixed, mesic,
 shallow
Positions on landscape: South-facing side slopes of
 partial ballenas
Parent material: Loess mantle that is high in content of
 volcanic ash over mixed alluvium
Slope: 8 to 15 percent
Elevation: 6,200 to 6,700 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush,
 bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 5 percent cobbles, 40
 percent pebbles
Depth: 0 to 4 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 4 to 13 inches
Texture: Silt loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 13 to 60 inches
Material: Indurated hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm

Soil and Water Features

Depth to the hardpan: 10 to 20 inches
Depth to a seasonal high water table: More than 60
 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 2.0 to 2.4 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—
 wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, fine,
 montmorillonitic, mesic
Positions on landscape: Foot slopes of partial ballenas
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, loamy-skeletal
 mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Buffaran Soil, Gravelly

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Buffaran Soil, Very Gravelly

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Chiara Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Buffaran Soil, Gravelly

Range seeding: Poor—droughty, rooting depth
Roadfill: Poor—cemented pan, shrink-swell, low strength
Topsoil: Poor—cemented pan, too clayey, small stones
Daily cover for landfill: Poor—cemented pan, hard to
 pack
Shallow excavations: Severe—cemented pan
Local roads and streets: Severe—cemented pan, shrink
 swell, low strength

Pond reservoir areas: Severe—cemented pan, slope
Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Buffaran Soil, Very Gravelly

Range seeding: Poor—droughty, rooting depth, small
 stones
Roadfill: Poor—cemented pan, shrink-swell, low strength
Topsoil: Poor—cemented pan, too clayey, small stones
Daily cover for landfill: Poor—cemented pan, hard to
 pack

Shallow excavations: Severe—cemented pan
Local roads and streets: Severe—cemented pan, shrink-swell, low strength
Pond reservoir areas: Severe—cemented pan, slope
Embankments, dikes, and levees: Severe—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Chiara Soil

Range seeding: Poor—droughty, small stones
Roadfill: Poor—cemented pan
Topsoil: Poor—cemented pan
Daily cover for landfill: Poor—cemented pan
Shallow excavations: Severe—cemented pan
Local roads and streets: Severe—cemented pan
Pond reservoir areas: Severe—cemented pan, slope
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Buffaran and Chiara soils—VIIs, nonirrigated
Range site: Buffaran and Chiara soils—028B010N; Inclusions 1 and 2—028B010N

2543—Buffaran-Spasprey-Allor association

Positions on landscape: Fan piedmonts

Composition

Major components:
 Buffaran gravelly loam, 2 to 8 percent slopes—35 percent
 Spasprey gravelly fine sandy loam, 2 to 4 percent slopes—30 percent
 Allor gravelly loam, 2 to 8 percent slopes—20 percent
Contrasting inclusions:
 Orovada fine sandy loam, 0 to 2 percent slopes—7 percent
 Ricert very fine sandy loam, 0 to 2 percent slopes—4 percent
 Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 2 to 8 percent slopes—4 percent

Characteristics of the Buffaran Soil

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow
Positions on landscape: The upper summits of fan piedmont remnants
Parent material: Mixed alluvium
Slope: 2 to 8 percent
Elevation: 6,200 to 6,600 feet
Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Thurber needlegrass, Indian ricegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 15 percent pebbles
Depth: 0 to 5 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Depth: 5 to 16 inches
Texture: Clay, gravelly clay, gravelly clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Mildly alkaline
Depth: 16 to 27 inches
Material: Indurated hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm
Depth: 27 to 60 inches
Material: Cemented hardpan
Structure: Platy
Consistence: Very hard, very firm

Soil and Water Features

Depth to the hardpan: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.9 to 2.4 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Spasprey Soil

Classification: Haploxerollic Durargids, fine-loamy, mixed, mesic
Positions on landscape: The intermediate areas of fan piedmont remnants
Parent material: Mixed alluvium
Slope: 2 to 4 percent
Elevation: 6,200 to 6,500 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days
Dominant present vegetation: Indian ricegrass,
 bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 5 to 26 inches

Texture: Clay loam, sandy clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Mildly alkaline

Depth: 26 to 33 inches

Material: Cemented hardpan

Depth: 33 to 60 inches

Texture: Fine sandy loam

Structure: Massive

Consistence: Hard, friable

Reaction: Moderately alkaline

Soil and Water Features

Depth to the hardpan: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4 to 5 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.32; T value—3; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Allor Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The lower summits of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 2 to 8 percent

Elevation: 6,200 to 6,600 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 12 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 34 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 34 to 60 inches

Texture: Gravelly loamy sand, very gravelly loamy sand

Structure: Massive

Consistence: Very hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 5.0 to 6.4 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Duric Natrargids, fine-loamy, mixed, mesic

Positions on landscape: Convex areas on the lower fan piedmont remnants

Distinctive present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Inclusion 3

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Buffaran Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Spasprey Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Allor Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Buffaran Soil

Range seeding: Poor—droughty, rooting depth

Roadfill: Poor—cemented pan, shrink-swell, low strength

Topsoil: Poor—cemented pan, too clayey, small stones

Daily cover for landfill: Poor—cemented pan, hard to pack

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan, shrink-swell, low strength

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Spasprey Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—cemented pan, area reclaim, too clayey

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—shrink-swell, low strength, frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Allor Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action, shrink-swell

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Buffaran soil—VIIIs,

nonirrigated; Spasprey soil—IIIs, irrigated, and VIs, nonirrigated; Allor soil—IIIs, irrigated, and VIIs, nonirrigated

Range site: Buffaran, Spasprey, and Allor soils—

028B010N; Inclusion 1—028B010N; Inclusion 2—028B017N; Inclusion 3—028B010N

2545—Buffaran-Pineval association

Positions on landscape: Fan piedmonts

Composition

Major components:

Buffaran gravelly loam, 4 to 15 percent slopes—70 percent

Pineval gravelly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Xerollic Durargids, loamy-skeletal, mixed, mesic, 8 to 15 percent slopes—7 percent

Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 4 to 15 percent slopes—5 percent

Durorthidic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 4 to 15 percent slopes—3 percent

Characteristics of the Buffaran Soil

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow

Positions on landscape: Summits and shoulder slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 15 percent

Elevation: 6,200 to 6,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Thurber needlegrass, bottlebrush squirreltail, Indian ricegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 15 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 5 to 16 inches
Texture: Clay, gravelly clay, gravelly clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Mildly alkaline

Depth: 16 to 27 inches
Material: Indurated hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm

Depth: 27 to 60 inches
Material: Cemented hardpan
Structure: Platy
Consistence: Very hard, very firm

Soil and Water Features

Depth to the hardpan: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.9 to 2.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Pineval Soil

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 15 to 30 percent

Elevation: 6,200 to 6,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 11 inches
Texture: Very gravelly loam, very gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Depth: 11 to 60 inches
Texture: Extremely gravelly sandy loam, extremely gravelly loamy sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.2 to 4.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Durargids, loamy-skeletal, mixed, mesic

Positions on landscape: Summits on the upper part of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Durorthidic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Inset fans near the front of mountains

Distinctive present vegetation: Basin wildrye, bluegrass, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Buffaran Soil***Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair**Pineval Soil***Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair**Suitability and Limitations for Selected Uses****Buffaran Soil***Range seeding:* Poor—droughty, rooting depth*Roadfill:* Poor—cemented pan, shrink-swell, low strength*Topsoil:* Poor—cemented pan, too clayey, small stones*Daily cover for landfill:* Poor—cemented pan, hard to pack*Shallow excavations:* Severe—cemented pan*Local roads and streets:* Severe—cemented pan, shrink-swell, low strength*Pond reservoir areas:* Severe—cemented pan, slope*Embankments, dikes, and levees:* Severe—thin layer*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Pineval Soil***Range seeding:* Fair—too arid, erodes easily, small stones*Roadfill:* Fair—slope*Topsoil:* Poor—small stones, area reclaim, slope*Daily cover for landfill:* Poor—seepage, too sandy, small stones*Shallow excavations:* Severe—cutbanks cave, slope*Local roads and streets:* Severe—slope*Pond reservoir areas:* Severe—slope*Embankments, dikes, and levees:* Severe—seepage*Sand:* Probable source*Gravel:* Probable source**Interpretive Groups***Land capability classification:* Buffaran soil—VII_s, nonirrigated; Pineval soil—VI_e, nonirrigated*Range site:* Buffaran and Pineval soils—028B010N; Inclusions 1 and 2—028B010N; Inclusion 3—028B003N**2546—Buffaran-Spasprey-Locane association***Positions on landscape:* Foothills, fan piedmonts**Composition***Major components:*

Buffaran very gravelly fine sandy loam, 2 to 4 percent slopes—45 percent

Spasprey gravelly fine sandy loam, 4 to 8 percent slopes—25 percent

Locane gravelly loam, 8 to 15 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—10 percent

Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic, 2 to 4 percent slopes—5 percent

Characteristics of the Buffaran Soil*Classification:* Xerollic Durargids, clayey, montmorillonitic, mesic, shallow*Positions on landscape:* The lower summits of fan piedmont remnants*Parent material:* Mixed alluvium*Slope:* 2 to 4 percent*Elevation:* 6,400 to 6,700 feet*Average annual precipitation:* About 9 inches*Average annual air temperature:* About 49 degrees F*Frost-free season:* About 110 days*Dominant present vegetation:* Thurber needlegrass, bottlebrush squirreltail, Indian ricegrass, Wyoming big sagebrush**Typical Profile***Rock fragments on surface:* 10 percent cobbles, 45 percent pebbles*Depth:* 0 to 5 inches*Texture:* Very gravelly fine sandy loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Mildly alkaline*Depth:* 5 to 16 inches*Texture:* Clay, gravelly clay, gravelly clay loam*Structure:* Prismatic*Consistence:* Hard, firm*Reaction:* Mildly alkaline*Depth:* 16 to 27 inches*Material:* Indurated hardpan*Structure:* Massive*Consistence:* Extremely hard, extremely firm*Depth:* 27 to 60 inches*Material:* Cemented hardpan*Structure:* Platy*Consistence:* Very hard, very firm**Soil and Water Features***Depth to the hardpan:* 14 to 20 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Slow*Available water capacity:* 1.8 to 2.2 inches*Water-supplying capacity:* 8 inches*Runoff:* Slow

Hydrologic group: D
Erosion factors (upper layer): K value—0.15; T value—1;
 wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Spasprey Soil

Classification: Haploxerollic Durargids, fine-loamy,
 mixed, mesic
Positions on landscape: The upper summits of fan
 piedmont remnants
Parent material: Mixed alluvium
Slope: 4 to 8 percent
Elevation: 6,200 to 6,500 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Indian ricegrass,
 bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles
Depth: 0 to 5 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 5 to 26 inches
Texture: Clay loam, sandy clay loam
Structure: Prismatic
Consistence: Hard, friable
Reaction: Mildly alkaline
Depth: 26 to 33 inches
Material: Cemented hardpan
Depth: 33 to 60 inches
Texture: Fine sandy loam
Structure: Massive
Consistence: Hard, friable
Reaction: Moderately alkaline

Soil and Water Features

Depth to the hardpan: 20 to 30 inches
Depth to a seasonal high water table: More than 60
 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 4 to 5 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.32; T value—3;
 wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Locane Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal,
 montmorillonitic, frigid
Positions on landscape: Side slopes of foothills
Parent material: Residuum derived from shale and
 conglomerate
Slope: 8 to 15 percent
Elevation: 6,400 to 6,800 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Indian ricegrass,
 needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 6 to 14 inches
Texture: Very gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral

Depth: 14 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60
 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.7 to 2.1 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1;
 wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, loamy-skeletal,
 mixed, mesic
Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Inset fans near the front of foothills

Distinctive present vegetation: Basin wildrye, bluegrass, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Buffaran Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Spasprey Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Locane Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Buffaran Soil

Range seeding: Poor—droughty, rooting depth, small stones

Roadfill: Poor—cemented pan, shrink-swell, low strength

Topsoil: Poor—cemented pan, too clayey, small stones

Daily cover for landfill: Poor—cemented pan, hard to pack

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan, shrink-swell, low strength

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Spasprey Soil

Range seeding: Fair—too arid, small stones

Roadfill: Good

Topsoil: Fair—cemented pan, area reclaim, too clayey

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—shrink-swell, low strength, frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Locane Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Buffaran and Locane soils—VIIs, nonirrigated; Spasprey soil—IIIe, irrigated, and VIIs, nonirrigated

Range site: Buffaran, Spasprey, and Locane soils—028B010N; Inclusion 1—028B010N; Inclusion 2—028B003N

2547—Buffaran-Desatoya association

Positions on landscape: Fan piedmonts

Composition

Major components:

Buffaran gravelly loam, 4 to 8 percent slopes—50 percent

Desatoya very gravelly loam, 8 to 15 percent slopes—35 percent

Contrasting inclusions:

Haploxerollic Durargids, fine-loamy, mixed, mesic, 4 to 8 percent slopes—8 percent

Aridic Argixerolls, fine-loamy, mixed, mesic, 4 to 8 percent slopes—6 percent

Jung very gravelly loam, 15 to 30 percent slopes—1 percent

Characteristics of the Buffaran Soil

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow

Positions on landscape: The lower summits and south-facing side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 8 percent

Elevation: 6,200 to 6,400 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Thurber needlegrass, bottlebrush squirreltail, Indian ricegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 15 percent pebbles

Depth: 0 to 2 inches

Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 2 to 16 inches
Texture: Clay, gravelly clay, gravelly clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 16 to 27 inches
Material: Indurated hardpan
Structure: Massive
Consistence: Extremely hard, extremely firm
Depth: 27 to 60 inches
Material: Cemented hardpan
Structure: Platy
Consistence: Very hard, very firm

Soil and Water Features

Depth to the hardpan: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.8 to 2.2 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Desatoya Soil

Classification: Durixerollic Haplargids, clayey over loamy-skeletal, montmorillonitic, mesic
Positions on landscape: The upper summits and north-facing side slopes of fan piedmont remnants
Parent material: Mixed alluvium
Slope: 8 to 15 percent
Elevation: 6,200 to 6,400 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, needlegrass, Indian ricegrass, black sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 45 percent pebbles

Depth: 0 to 6 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 6 to 13 inches
Texture: Gravelly clay, gravelly clay loam
Structure: Prismatic
Consistence: Hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 13 to 60 inches
Texture: Stratified extremely gravelly sandy loam to very gravelly loamy sand
Structure: Massive
Consistence: Hard, firm
Reaction: Strongly alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 4.0 to 5.4 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: C
Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Haploxerollic Durargids, fine-loamy, mixed, mesic
Positions on landscape: Fan aprons
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Aridic Argixerolls, fine-loamy, mixed, mesic
Positions on landscape: Foot slopes of fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic
Positions on landscape: Foothill remnants

Distinctive present vegetation: Bluegrass, black sagebrush

Major Current Uses

livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Buffaran Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Desatoya Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Buffaran Soil

Range seeding: Poor—droughty, rooting depth

Roadfill: Poor—cemented pan, shrink-swell, low strength

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—cemented pan, hard to pack

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan, shrink-swell, low strength

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Desatoya Soil

Range seeding: Poor—rooting depth, small stones

Roadfill: Fair—large stones

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—large stones, slope

Local roads and streets: Moderate—slope, frost action, large stones

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Buffaran and Desatoya soils—VII, nonirrigated

Range site: Buffaran soil—027X008N; Desatoya soil—027X032N; Inclusions 1 and 2—027X008N; Inclusion 3—027X032N

2548—Buffaran-Tenabo-Pineval association

Positions on landscape: Fan piedmonts

Composition

Major components:

Buffaran very gravelly fine sandy loam, 4 to 8 percent slopes—45 percent

Tenabo gravelly very fine sandy loam, 4 to 8 percent slopes—25 percent

Pineval gravelly fine sandy loam, 4 to 8 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Haplargids, fine-loamy, mixed, mesic, 8 to 15 percent slopes—6 percent

Orovada fine sandy loam, 2 to 8 percent slopes—5 percent

Lithic Xerollic Haplargids, clayey, montmorillonitic, mesic, 4 to 15 percent slopes—4 percent

Characteristics of the Buffaran Soil

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow

Positions on landscape: The upper summits of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,700 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Thurber needlegrass, bottlebrush squirreltail, Indian ricegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 45 percent pebbles

Depth: 0 to 5 inches

Texture: Very gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 16 inches

Texture: Clay, gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 16 to 27 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Depth: 27 to 60 inches

Material: Cemented hardpan

Structure: Platy

Consistence: Very hard, very firm

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.6 to 2.2 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Tenabo Soil

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow

Positions on landscape: The lower summits of fan piedmont remnants

Parent material: Thin loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,700 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 4 to 15 inches

Texture: Clay loam, gravelly clay loam, silty clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 15 to 28 inches

Material: Indurated hardpan

Structure: Platy

Consistence: Extremely hard, extremely firm

Depth: 28 to 60 inches

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to the hardpan: 9 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.5 to 2.9 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Pineval Soil

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Foot slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,700 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 11 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 11 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.1 to 4.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Bottlebrush squirreltail, small rabbitbrush, black sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Indian ricegrass, Wyoming big sagebrush

Inclusion 3

Classification: Lithic Xerollic Haplargids, clayey, montmorillonitic, mesic

Positions on landscape: Low knolls

Distinctive present vegetation: Bottlebrush squirreltail, small rabbitbrush, black sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Buffaran Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Tenabo Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Pineval Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Buffaran Soil

Range seeding: Poor—droughty, rooting depth, small stones

Roadfill: Poor—cemented pan, shrink-swell, low strength

Topsoil: Poor—cemented pan, too clayey, small stones

Daily cover for landfill: Poor—cemented pan, hard to pack

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan, shrink-swell, low strength

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Tenabo Soil

Range seeding: Poor—too arid, droughty, excess sodium

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones, too sandy

Daily cover for landfill: Poor—cemented pan, seepage, too sandy

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—seepage, cemented pan

Embankments, dikes, and levees: Severe—seepage, excess sodium, excess salt

Sand: Probable source

Gravel: Probable source

Pineval Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Buffaran soil—VIIs, nonirrigated; Tenabo soil—IVe, irrigated, and VIIs,

nonirrigated; Pineval soil—IVe, irrigated, and VIs, nonirrigated

Range site: Buffaran and Pineval soils—028B010N; Tenabo soil—024X002N; Inclusion 1—024X030N; Inclusion 2—028B010N; Inclusion 3—024X030N

2554—Laped-Hooplite-Osoll association

Positions on landscape: Foothills

Composition

Major components:

Laped very gravelly fine sandy loam, 8 to 15 percent slopes—40 percent

Hooplite very gravelly fine sandy loam, 8 to 15 percent slopes—30 percent

Osoll very gravelly fine sandy loam, 8 to 15 percent slopes—20 percent

Contrasting inclusions:

Rock outcrop—5 percent

Typic Durorthids, loamy, mixed, mesic, shallow, 8 to 15 percent slopes—5 percent

Characteristics of the Laped Soil

Classification: Typic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: Convex, lower side slopes of foothills

Parent material: Colluvium and residuum derived from tuff and andesite

Slope: 8 to 15 percent

Elevation: 5,900 to 6,200 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 45 percent pebbles

Depth: 0 to 6 inches

Texture: Very gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 18 inches

Texture: Gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 18 to 23 inches

Material: Indurated hardpan

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.8 to 2.3 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1 wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Hooplite Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Convex, upper side slopes of foothills

Parent material: Residuum derived from rhyolitic rock

Slope: 8 to 15 percent

Elevation: 5,900 to 6,200 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 45 percent pebbles

Depth: 0 to 4 inches

Texture: Very gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 4 to 8 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 8 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 6 to 14 inches

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 0.6 to 0.8 inch
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Osoll Soil

Classification: Typic Durorthids, loamy-skeletal, mixed, mesic, shallow
Positions on landscape: Concave toe slopes of foothills
Parent material: Colluvium that includes loess over residuum derived from various kinds of rock
Slope: 8 to 15 percent
Elevation: 5,900 to 6,200 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 50 percent pebbles
Depth: 0 to 5 inches
Texture: Very gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 5 to 12 inches
Texture: Very gravelly loam, very gravelly fine sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 12 to 35 inches
Material: Indurated hardpan
Structure: Platy
Consistence: Extremely hard, extremely firm
Depth: 35 inches
Texture: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 8 to 14 inches

Depth to bedrock: 20 to 40 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid
Available water capacity: 0.6 to 1.0 inch
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Positions on landscape: Scattered knobs
Distinctive present vegetation: None

Inclusion 2

Classification: Typic Durorthids, loamy, mixed, mesic, shallow
Positions on landscape: Eroded, south-facing side slopes of foothills
Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Laped Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Hooplite Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Osoll Soil

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Laped Soil

Range seeding: Poor—too arid, small stones, droughty
Roadfill: Poor—depth to rock
Topsoil: Poor—cemented pan, small stones
Daily cover for landfill: Poor—depth to rock, small stones
Shallow excavations: Severe—depth to rock, cemented pan
Local roads and streets: Severe—cemented pan
Pond reservoir areas: Severe—cemented pan, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Hooplite Soil

Range seeding: Poor—too arid, droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Osoll Soil

Range seeding: Poor—droughty, small stones, too arid

Roadfill: Poor—depth to rock

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock, cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Laped, Hooplite, and Osoll soils—VII_s, nonirrigated

Range site: Laped and Osoll soils—024X002N; Hooplite soil—028B016N; Inclusion 1—none; Inclusion 2—024X002N

2555—Laped-Colbar association

Positions on landscape: Foothills

Composition

Major components:

Laped very cobbly loam, 15 to 30 percent slopes—55 percent

Colbar very cobbly loam, 30 to 50 percent slopes—30 percent

Contrasting inclusions:

Typic Haplargids, fine, montmorillonitic, mesic, 2 to 8 percent slopes—8 percent

Typic Durargids, loamy-skeletal, mixed, mesic, 30 to 50 percent slopes—5 percent

Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow, 30 to 50 percent slopes—2 percent

Characteristics of the Laped Soil

Classification: Typic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: Convex crests, shoulder slopes, and south-facing side slopes of foothills

Parent material: Colluvium and residuum derived from tuff and andesite

Slope: 15 to 30 percent

Elevation: 5,200 to 6,400 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 10 percent pebbles

Depth: 0 to 6 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 18 inches

Texture: Gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 18 to 23 inches

Material: Indurated hardpan

Depth: 23 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.2 to 3.5 inches

Water-supplying capacity: 7 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Colbar Soil

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Concave, north-facing side slopes of foothills

Parent material: Colluvium over residuum derived from rhyolite and andesite

Slope: 30 to 50 percent

Elevation: 5,200 to 6,400 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Needlegrass, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 3 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 3 to 22 inches

Texture: Cobbly loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 22 to 26 inches

Texture: Gravelly loam, cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 26 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.3 to 3.8 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Typic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: Colluvial fans between hills

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Typic Durargids, loamy-skeletal, mixed, mesic

Positions on landscape: Concave, south-facing side slopes of foothills

Distinctive present vegetation: Shadscale, Wyoming big sagebrush

Inclusion 3

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Concave, eroded side slopes of hills

Distinctive present vegetation: Small rabbitbrush, Wyoming big sagebrush, galleta

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Laped Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Colbar Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Laped Soil

Range seeding: Poor—large stones, droughty, too arid

Roadfill: Poor—depth to rock

Topsoil: Poor—cemented pan, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, cemented pan, slope

Local roads and streets: Severe—cemented pan, slope

Pond reservoir areas: Severe—cemented pan, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Colbar Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—large stones, slope

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Laped and Colbar soils—Vlls, nonirrigated

Range site: Laped soil—024X002N; Colbar soil—024X005N; Inclusion 1—024X002N; Inclusion 2—024X026N; Inclusion 3—024X045N

2570—Colbar-Atlow-Burrita association

Positions on landscape: Mountains

Composition

Major components:

Colbar gravelly loam, 15 to 30 percent slopes—50 percent

Atlow very cobbly loam, 15 to 30 percent slopes—20 percent

Burrita very cobbly loam, 30 to 50 percent slopes—15 percent

Contrasting inclusions:

Burrita very cobbly loam, 4 to 8 percent slopes—7 percent

Rock outcrop—3 percent

Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, shallow, 30 to 50 percent slopes—3 percent

Lithic Haplargids, loamy-skeletal, mixed, mesic, 15 to 30 percent slopes—2 percent

Characteristics of the Colbar Soil

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Concave east-, west-, and lower south-facing side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolite and andesite

Slope: 15 to 30 percent

Elevation: 6,000 to 6,600 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Needlegrass, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 6 to 16 inches

Texture: Cobbly loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 16 to 21 inches

Texture: Gravelly loam, cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 21 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.3 to 3.8 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.24; T value—2; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Atlow Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Shoulder slopes and north-facing side slopes of mountains

Parent material: Residuum derived from chert, shale, and altered rhyolitic tuff

Slope: 15 to 30 percent

Elevation: 6,000 to 6,600 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 46 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Black sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 20 percent cobbles, 20 percent pebbles

Depth: 0 to 3 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 14 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 14 inches

Texture: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.1 to 1.4 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Burrita Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Convex, upper, south-facing side slopes of mountains

Parent material: Residuum derived from interbedded chert, quartzite, and sandstone

Slope: 30 to 50 percent

Elevation: 6,000 to 6,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Needlegrass, bottlebrush squirreltail, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 25 percent cobbles, 30 percent pebbles

Depth: 0 to 7 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 7 to 14 inches

Texture: Very cobbly clay, very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Moderately alkaline

Depth: 14 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.2 to 1.5 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—8

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Crests of mountains

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Positions on landscape: Scattered knobs

Distinctive present vegetation: None

Inclusion 3

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, shallow

Positions on landscape: Erosional balloons

Distinctive present vegetation: Utah juniper, Wyoming big sagebrush

Inclusion 4

Classification: Lithic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Convex toe slopes of mountains

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Colbar Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Atlow Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Burrita Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Colbar Soil

Range seeding: Fair—too arid, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Atlow Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Burrita Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Colbar soil—V1e, nonirrigated; Atlow and Burrita soils—VIIs, nonirrigated

Range site: Colbar and Burrita soils—024X005N; Atlow soil—024X030N; Inclusion 1—024X005N; Inclusion 2—none; Inclusion 3—024X002N; Inclusion 4—025X062N

2603—Grina-Genaw association

Positions on landscape: Rolling hills

Composition

Major components:

Grina gravelly loam, 15 to 30 percent slopes—45 percent

Genaw gravelly loam, 15 to 30 percent slopes—40 percent

Contrasting inclusions:

Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic, 4 to 15 percent slopes—7 percent

Aridic Haploxerolls, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—5 percent

Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic, 30 to 50 percent slopes—3 percent

Characteristics of the Grina Soil

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Convex, eroded side slopes of hills

Parent material: Residuum derived from sedimentary rock

Slope: 15 to 30 percent

Elevation: 5,900 to 6,300 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Wyoming big sagebrush, Utah juniper, singleleaf pinyon, ephedra

Site index for Utah juniper: 30

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 5 to 14 inches

Texture: Silt loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 14 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.8 to 2.1 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—5

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Genaw Soil

Classification: Xerollic Haplargids, loamy, mixed, mesic, shallow

Positions on landscape: Convex, stable side slopes of hills

Parent material: Loess mantle over residuum derived from tuffaceous sediment

Slope: 15 to 30 percent

Elevation: 5,900 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, Wyoming big sagebrush, singleleaf pinyon

Typical Profile

Rock fragments on surface: 25 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 11 inches

Texture: Gravelly loam, gravelly clay loam

Structure: Angular blocky

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 11 to 16 inches

Texture: Very gravelly loam

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 16 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.9 to 2.4 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Crests of hills

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Aridic Haploxerolls, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Basin wildrye, rubber rabbitbrush

Inclusion 3

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Concave, eroded side slopes of hills

Distinctive present vegetation: Bluegrass, small rabbitbrush, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Grina Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Poor

Shrubs (nonirrigated): Fair

Genaw Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Grina Soil

Range seeding: Poor—droughty.

Roadfill: Poor—depth to rock, low strength, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—low strength, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Genaw Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Grina and Genaw soils—Vllc, nonirrigated

Range site: Grina soil—025X059N; Genaw soil—028B010N; Inclusion 1—028B010N; Inclusion 2—028B003N; Inclusion 3—024X035N

2640—Rasille-Kelk association

Positions on landscape: Inset fans dissecting fan skirts

Composition

Major components:

Rasille silt loam, gravelly substratum, 0 to 2 percent slopes—45 percent

Kelk silt loam, occasionally flooded, 0 to 2 percent slopes—40 percent

Contrasting inclusions:

Batan silt loam, 0 to 2 percent slopes—8 percent

Broyles very fine sandy loam, 0 to 2 percent slopes—4 percent

Wendane silt loam, frequently flooded, 0 to 2 percent slopes—3 percent

Characteristics of the Rasille Soil

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Inset fans at margins of fan skirts and alluvial flats

Parent material: Silty alluvium derived from loess and various kinds of rock

Slope: 0 to 2 percent

Elevation: 5,200 to 5,400 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 15 inches

Texture: Silt loam

Structure: Prismatic

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 15 to 41 inches

Texture: Silt loam, very fine sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 41 to 60 inches

Texture: Stratified fine sandy loam to very gravelly coarse sand

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderate

Available water capacity: 7.6 to 9.3 inches

Water-supplying capacity: 8 inches

Runoff: Slow
 Hydrologic group: B
 Erosion factors (upper layer): K value—0.55; T value—5;
 wind erodibility group—5
 Hazard of erosion: By water—slight; by wind—slight
 Shrink-swell potential: Low
 Corrosivity: To steel—high; to concrete—low
 Potential for frost action: Moderate

Characteristics of the Kelk Soil

Classification: Durixerollic Camborthids, fine-silty, mixed, mesic
 Positions on landscape: Inset fans
 Parent material: Loess that includes volcanic ash, mixed alluvium
 Slope: 0 to 2 percent
 Elevation: 5,200 to 5,400 feet
 Average annual precipitation: About 8 inches
 Average annual air temperature: About 48 degrees F
 Frost-free season: About 110 days
 Dominant present vegetation: Basin big sagebrush, basin wildrye, rubber rabbitbrush, black greasewood

Typical Profile

Depth: 0 to 14 inches
 Texture: Silt loam
 Structure: Platy
 Consistence: Slightly hard, very friable
 Reaction: Moderately alkaline
 Salinity: 0 to 4 millimhos per centimeter
 Sodicity (SAR): 0 to 5

Depth: 14 to 51 inches
 Texture: Silt loam
 Structure: Massive
 Consistence: Hard, very friable
 Reaction: Moderately alkaline
 Salinity: 0 to 4 millimhos per centimeter
 Sodicity (SAR): 5 to 13

Depth: 51 to 60 inches
 Texture: Silt loam
 Structure: Massive
 Consistence: Slightly hard, very friable
 Reaction: Strongly alkaline
 Salinity: 4 to 8 millimhos per centimeter
 Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
 Frequency of flooding: Occasional for brief to long periods in February through June
 Permeability: Slow
 Available water capacity: 10 to 12 inches
 Water-supplying capacity: 8 inches

Runoff: Slow
 Hydrologic group: C
 Erosion factors (upper layer): K value—0.55; T value—5;
 wind erodibility group—6
 Hazard of erosion: By water—slight; by wind—slight
 Shrink-swell potential: Moderate
 Corrosivity: To steel—high; to concrete—low
 Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic
 Positions on landscape: Alluvial flat remnants
 Distinctive present vegetation: Shadscale, black greasewood

Inclusion 2

Classification: Duric Camborthids, coarse-loamy, mixed, mesic
 Positions on landscape: Fan skirt margins
 Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
 Positions on landscape: Alluvial flats
 Distinctive present vegetation: Black greasewood, basin wildrye, rubber rabbitbrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Rasille Soil

Wild herbaceous plants (nonirrigated): Fair
 Shrubs (nonirrigated): Fair

Kelk Soil

Wild herbaceous plants (nonirrigated): Fair
 Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Rasille Soil

Range seeding: Fair—too arid
 Roadfill: Good
 Topsoil: Fair—area reclaim, excess salt
 Daily cover for landfill: Fair—thin layer
 Shallow excavations: Severe—cutbanks cave
 Local roads and streets: Moderate—flooding, frost action
 Pond reservoir areas: Severe—seepage
 Embankments, dikes, and levees: Severe—piping
 Sand: Improbable source—excess fines
 Gravel: Improbable source—excess fines

Kelk Soil

Range seeding: Fair—too arid, excess salt

Roadfill: Poor—low strength
Topsoil: Good
Daily cover for landfill: Good
Shallow excavations: Moderate—flooding
Local roads and streets: Severe—low strength, flooding
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Rasille soil—IIc, irrigated, and VIc, nonirrigated; Kelk soil—IIw, irrigated, and VIw, nonirrigated
Range site: Rasille soil—028B010N; Kelk soil—024X006N; Inclusion 1—024X003N; Inclusion 2—024X002N; Inclusion 3—024X007N

2672—Zoesta Variant-Jung-Trunk association

Positions on landscape: Foothills

Composition

Major components:

Zoesta Variant gravelly loam, 15 to 30 percent slopes—35 percent

Jung very cobbly fine sandy loam, 8 to 15 percent slopes—30 percent

Trunk cobbly loam, 30 to 50 percent slopes—20 percent

Contrasting inclusions:

Aridic Argixerolls, fine, montmorillonitic, frigid, 30 to 50 percent slopes—8 percent

Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 50 to 75 percent slopes—5 percent

Rock outcrop—2 percent

Characteristics of the Zoesta Variant Soil

Classification: Xerollic Paleargids, fine, montmorillonitic, mesic

Positions on landscape: Convex side slopes of foothills

Parent material: Colluvium over residuum derived from metavolcanic rock

Slope: 15 to 30 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, needlegrass, black sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 45 percent pebbles

Depth: 0 to 8 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter

Depth: 8 to 27 inches
Texture: Clay
Structure: Prismatic
Consistence: Very hard, very firm
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter

Depth: 27 to 36 inches
Texture: Clay, clay loam
Structure: Subangular blocky
Consistence: Hard, firm
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Depth: 36 to 60 inches
Texture: Gravelly loam, gravelly sandy loam
Structure: Massive
Consistence: Very hard, firm
Reaction: Moderately alkaline
Salinity: 2 to 8 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 6 to 8 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.28; T value—1
 wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Jung Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal montmorillonitic, mesic

Positions on landscape: Convex crests and shoulder slopes of foothills

Parent material: Residuum derived from volcanic and metavolcanic rock

Slope: 8 to 15 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 25 percent cobbles, 20 percent pebbles

Depth: 0 to 8 inches

Texture: Very cobbly fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 8 to 19 inches

Texture: Very cobbly clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 19 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.6 to 2.2 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Trunk Soil

Classification: Xerollic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: Slightly concave, west-facing, upper side slopes of foothills

Parent material: Colluvium and residuum derived from quartzite and chert

Slope: 30 to 50 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, bottlebrush squirreltail, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 15 percent cobbles, 10 percent pebbles

Depth: 0 to 3 inches

Texture: Cobbly loam

Structure: Granular

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 30 inches

Texture: Gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 30 inches

Texture: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 3 to 4 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—2; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: The upper, concave, north-facing side slopes of foothills

Distinctive present vegetation: Singleleaf pinyon, Utah juniper, mountain big sagebrush

Inclusion 2

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Convex, eroded side slopes of foothills

Distinctive present vegetation: Indian ricegrass, Wyoming big sagebrush, shadscale

Inclusion 3

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Zoesta Variant Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Jung Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Trunk Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Zoesta Variant Soil

Range seeding: Poor—rooting depth

Roadfill: Fair—slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—too clayey, hard to pack, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—low strength, shrink-swell, slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—hard to pack

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Jung Soil

Range seeding: Poor—large stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Trunk Soil

Range seeding: Poor—rooting depth, erodes easily

Roadfill: Poor—depth to rock, low strength, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, hard to pack, small stones

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—low strength, slope, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Zoesta Variant soil—VIIe, nonirrigated; Jung and Trunk soils—VIIs, nonirrigated

Range site: Zoesta Variant and Jung soils—024X030N; Trunk soil—024X005N; Inclusion 1—025X062N; Inclusion 2—024X045N; Inclusion 3—none

2681—Tessfive-Puett-Grina association

Positions on landscape: Dissected, rolling hills

Composition

Major components:

Tessfive gravelly loam, 8 to 30 percent slopes—40 percent

Puett gravelly sandy loam, 15 to 50 percent slopes—25 percent

Grina gravelly loam, eroded, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Orovada gravelly very fine sandy loam, 2 to 8 percent slopes—6 percent

Unsel Variant very gravelly loam, 15 to 30 percent slopes—5 percent

Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 2 to 8 percent slopes—4 percent

Characteristics of the Tessfive Soil

Classification: Lithic Xeric Torriorthents, loamy, mixed (calcareous), mesic

Positions on landscape: Convex, rolling crests and upper side slopes of hills

Parent material: Residuum derived from tuffaceous sediment that includes loess

Slope: 8 to 30 percent

Elevation: 5,300 to 5,700 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, bluegrass, black sagebrush

Typical Profile

Rock fragments on surface: 35 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 6 to 16 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 16 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.8 to 2.4 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—5

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Puett Soil

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Convex, eroded side slopes of hills

Parent material: Residuum derived from tuff and sandstone

Slope: 15 to 50 percent

Elevation: 5,300 to 5,700 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Wyoming big sagebrush, Indian ricegrass

Typical Profile

Rock fragments on surface: 25 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 4 to 15 inches

Texture: Coarse sandy loam, sandy loam, gravelly loam

Structure: Massive

Consistence: Soft, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 15 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 1.5 to 2.5 inches

Water-supplying capacity: 6 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—4

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Grina Soil

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Concave, lower, rolling side slopes of hills

Parent material: Residuum derived from sedimentary rock

Slope: 15 to 30 percent

Elevation: 5,300 to 5,700 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Wyoming big sagebrush, Utah juniper, singleleaf pinyon

Site index for Utah juniper: 18

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 3 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 14 inches

Texture: Silt loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 14 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.8 to 2.1 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1;
 wind erodibility group—5
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans dissecting hills
Distinctive present vegetation: Wyoming big sagebrush, bluegrass

Inclusion 2

Classification: Duric Haplargids, fine-loamy, mixed, mesic
Positions on landscape: Convex, south-facing side slopes of hills
Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Areas adjacent to channels
Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Tessfive Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Puett Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Grina Soil

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Poor
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Tessfive Soil

Range seeding: Poor—droughty
Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope
Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Puett Soil

Range seeding: Poor—droughty, too arid

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—seepage, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Grina Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock, low strength, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—low strength, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Tessfive, Puett, and Grina soils—VIIe, nonirrigated

Range site: Tessfive soil—024X030N; Puett soil—025X025N; Grina soil—025X059N; Inclusion 1—028B010N; Inclusion 2—024X002N; Inclusion 3—024X020N

2683—Tessfive-Genaw-Orovada association

Positions on landscape: Dissected, rolling hills

Composition

Major components:

Tessfive gravelly loam, 15 to 30 percent slopes—35 percent

Genaw gravelly loam, 15 to 30 percent slopes—35 percent

Orovada fine sandy loam, 2 to 8 percent slopes—15 percent

Contrasting inclusions:

Xerollic Durargids, loamy, mixed, mesic, shallow, 4 to 15 percent slopes—5 percent

Puett fine sandy loam, 15 to 30 percent slopes—5 percent

Duric Natrargids, loamy-skeletal, mixed, mesic, 15 to 50 percent slopes—5 percent

Characteristics of the Tessfive Soil

Classification: Lithic Xeric Torriorthents, loamy, mixed (calcareous), mesic

Positions on landscape: Convex, higher, north-facing crests and side slopes of rolling hills

Parent material: Residuum derived from tuffaceous sediment that includes loess

Slope: 15 to 30 percent

Elevation: 5,400 to 5,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, bluegrass, black sagebrush

Typical Profile

Rock fragments on surface: 35 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 16 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 16 inches

Texture: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.8 to 2.4 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—5

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Genaw Soil

Classification: Xerollic Haplargids, loamy, mixed, mesic, shallow

Positions on landscape: Slightly concave side slopes of rolling hills

Parent material: Loess mantle over residuum derived from tuffaceous sediment

Slope: 15 to 30 percent

Elevation: 5,400 to 5,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 25 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 11 inches

Texture: Gravelly loam, gravelly clay loam

Structure: Angular blocky

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 11 to 16 inches

Texture: Very gravelly loam

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 16 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.9 to 2.4 inches

Water-supplying capacity: 8 inches

Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1;
 wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy,
 mixed, mesic
Positions on landscape: Inset fans dissecting rolling hills
Parent material: Loess mantle that is high in content of
 volcanic ash over mixed alluvium
Slope: 2 to 8 percent
Elevation: 5,400 to 5,800 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush,
 bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches
Texture: Fine sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 8 to 20 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 20 to 65 inches
Texture: Stratified fine sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60
 inches
Frequency of flooding: Rare
Permeability: Moderate
Available water capacity: 8 to 10 inches
Water-supplying capacity: 9 inches
Runoff: Medium

Hydrologic group: B
Erosion factors (upper layer): K value—0.43; T value—
 wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Durargids, loamy, mixed, mesic,
 shallow

Positions on landscape: Convex crests of rolling hills
Distinctive present vegetation: Black sagebrush

Inclusion 2

Classification: Xeric Torriorthents, loamy, mixed
 (calcareous), mesic, shallow

Positions on landscape: Erosional balloons
Distinctive present vegetation: Indian ricegrass,
 Wyoming big sagebrush, black sagebrush

Inclusion 3

Classification: Duric Natrargids, loamy-skeletal, mixed,
 mesic

Positions on landscape: Convex, south-facing side
 slopes of hills

Distinctive present vegetation: Indian ricegrass,
 shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Tessfive Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Genaw Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Tessfive Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small
 stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Genaw Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action, flooding

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Tessfive and Genaw soils—VIIe, nonirrigated; Orovada soil—IIIe, irrigated, and VIc, nonirrigated

Range site: Tessfive soil—024X030N; Genaw and Orovada soils—028B010N; Inclusion 1—028B011N; Inclusion 2—025X025N; Inclusion 3—028B017N

2684—Tessfive-Perlor-Orovada association

Positions on landscape: Dissected, rolling hills

Composition

Major components:

Tessfive gravelly loam, 2 to 8 percent slopes—40 percent

Perlor fine sandy loam, 8 to 15 percent slopes—25 percent

Orovada gravelly very fine sandy loam, 2 to 4 percent slopes—20 percent

Contrasting inclusions:

Puett fine sandy loam, 15 to 30 percent slopes—8 percent

Durixerollic Haplargids, fine, montmorillonitic, mesic, 4 to 8 percent slopes—4 percent

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 8 to 15 percent slopes—3 percent

Characteristics of the Tessfive Soil

Classification: Lithic Xeric Torriorthents, loamy, mixed (calcareous), mesic

Positions on landscape: Convex, north- and east-facing side slopes of hills

Parent material: Residuum that is derived from tuffaceous sediment and includes loess

Slope: 2 to 8 percent

Elevation: 5,600 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, bluegrass, black sagebrush

Typical Profile

Rock fragments on surface: 35 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 16 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 16 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.8 to 2.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Perlor Soil

Classification: Typic Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: South-facing side slopes of hills

Parent material: Loess-capped residuum derived from tuffaceous sediment

Slope: 8 to 15 percent

Elevation: 5,600 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bluegrass, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 7 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 4

Depth: 7 to 14 inches

Texture: Loam, sandy loam, gravelly sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 14 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.6 to 2.3 inches

Water-supplying capacity: 6 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,600 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Gravelly very fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 20 to 65 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 8 to 10 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.37; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Convex, eroded side slopes hills

Distinctive present vegetation: Rabbitbrush, bottlebrush squirreltail, Wyoming big sagebrush, black sagebrush

Inclusion 2

Classification: Durixerollic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: Summits of hills

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Toe slopes of hills

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Tessfive Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Perlor Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Tessfive Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Moderate—depth to rock, frost action

Pond reservoir areas: Severe—depth to rock

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Perlor Soil

Range seeding: Poor—too arid, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock

Shallow excavations: Severe—depth to rock

Local roads and streets: Moderate—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Tessfive and Perlor soils—VIIs, nonirrigated; Orovada soil—IIe, irrigated, and VIc, nonirrigated

Range site: Tessfive soil—024X030N; Perlor soil—024X002N; Orovada soil—028B010N; Inclusion 1—025X025N; Inclusions 2 and 3—028B010N

2690—Itca Variant-Reluctan-Handy association

Positions on landscape: Mountains

Composition

Major components:

Itca Variant very gravelly loam, 15 to 30 percent slopes—45 percent

Reluctan very gravelly loam, 15 to 30 percent slopes—25 percent

Handy gravelly loam, 8 to 15 percent slopes—15 percent

Contrasting inclusions:

Aridic Argixerolls, clayey, montmorillonitic, frigid, shallow, 4 to 15 percent slopes—8 percent

Aridic Argixerolls, fine, montmorillonitic, frigid, 4 to 15 percent slopes—4 percent

Pachic Argixerolls, loamy-skeletal, mixed, frigid, 30 to 50 percent slopes—3 percent

Characteristics of the Itca Variant Soil

Classification: Aridic Argixerolls, loamy, mixed, frigid, shallow

Positions on landscape: Convex side slopes of mountains

Parent material: Residuum derived from tuffaceous sediment

Slope: 15 to 30 percent

Elevation: 6,200 to 7,000 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, mountain big sagebrush, singleleaf pinyon

Site index for common trees: Singleleaf pinyon—45; Utah juniper—45

Typical Profile

Rock fragments on surface: 5 percent cobbles, 30 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 3 to 12 inches

Texture: Gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 12 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.8 to 2.2 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Reluctant Soil

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid

Positions on landscape: Concave, north-facing side slopes of mountains

Parent material: Colluvium over residuum derived from rhyolitic rock

Slope: 15 to 30 percent

Elevation: 6,200 to 7,000 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, Idaho fescue, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 10 percent cobbles, 35 percent pebbles

Depth: 0 to 9 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 9 to 27 inches

Texture: Gravelly clay loam, gravelly loam

Structure: Subangular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 27 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3 to 4 inches

Water-supplying capacity: 12 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Handy Soil

Classification: Xerollic Haplargids, fine, montmorillonitic frigid

Positions on landscape: Mountain valley fan remnants

Parent material: Alluvium and colluvium derived from various kinds of rock

Slope: 8 to 15 percent

Elevation: 6,200 to 7,000 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, needlegrass, western wheatgrass, big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 4 to 30 inches

Texture: Clay, gravelly clay

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Moderately alkaline

Depth: 30 to 60 inches

Texture: Stratified gravelly loam to very gravelly loamy sand

Structure: Massive

Consistence: Hard, firm

Reaction: Moderately alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6.0 to 7.5 inches

Water-supplying capacity: 10 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Aridic Argixerolls, clayey, montmorillonitic, frigid, shallow

Positions on landscape: Crests of mountains

Distinctive present vegetation: Singleleaf pinyon, Utah juniper, mountain big sagebrush

Inclusion 2

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Convex, north-facing crests of mountains

Distinctive present vegetation: Needlegrass, low sagebrush

Inclusion 3

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, north-facing side slopes of mountains in areas where snow accumulates

Distinctive present vegetation: Bluebunch wheatgrass, serviceberry, mountain big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Itca Variant Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Reluctan Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Handy Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Itca Variant Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Reluctan Soil

Range seeding: Poor—small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Handy Soil

Range seeding: Poor—rooting depth

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Itca Variant, Reluctan, and Handy soils—VIIs, nonirrigated

Range site: Itca Variant soil—025X062N; Reluctan

soil—024X021N; Handy soil—025X014N; Inclusion 1—025X062N; Inclusion 2—024X018N; Inclusion 3—024X021N

2730—Pula-Spike-Bufferan association

Positions on landscape: Deeply dissected fan piedmonts

Composition

Major components:

Pula very gravelly sandy loam, 15 to 30 percent slopes—40 percent

Spike very gravelly sandy loam, 30 to 50 percent slopes—30 percent

Bufferan gravelly loam, 4 to 8 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Haplargids, clayey-skeletal, montmorillonitic, mesic, 15 to 50 percent slopes—8 percent

Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 4 to 15 percent slopes—4 percent

Durixerollic Haplargids, fine-loamy, mixed, mesic, 8 to 15 percent slopes—3 percent

Characteristics of the Pula Soil

Classification: Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: North-facing side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 15 to 30 percent

Elevation: 5,200 to 6,000 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, bottlebrush squirreltail, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 45 percent pebbles

Depth: 0 to 2 inches

Texture: Very gravelly sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 2 to 24 inches

Texture: Very gravelly clay loam, extremely gravelly clay

Structure: Subangular blocky

Consistence: Very hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 24 to 60 inches

Texture: Extremely gravelly sandy loam

Structure: Massive

Consistence: Hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 3 to 5 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—5 wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Spike Soil

Classification: Typic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: South-facing side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 30 to 50 percent

Elevation: 5,200 to 6,000 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, galleta, shadscale, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 70 percent pebbles

Depth: 0 to 2 inches

Texture: Very gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 2 to 6 inches

Texture: Very gravelly clay, very gravelly clay loam

Structure: Angular blocky

Consistence: Very hard, firm

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 6 to 60 inches

Texture: Extremely gravelly clay loam, very gravelly loam

Structure: Massive

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.7 to 5.0 inches

Water-supplying capacity: 7 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—5

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Buffaran Soil

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow

Positions on landscape: Summits of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,200 to 6,000 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Thurber needlegrass, bottlebrush squirreltail, Indian ricegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 15 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 5 to 16 inches

Texture: Clay, gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 16 to 27 inches

Material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Depth: 27 to 60 inches

Material: Cemented hardpan

Structure: Platy

Consistence: Very hard, very firm

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.9 to 2.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: The lowest parts of north-facing side slopes of fan piedmont remnants

Distinctive present vegetation: Black sagebrush, bottlebrush squirreltail

Inclusion 2

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Bluegrass, basin wildrye, basin big sagebrush

Inclusion 3

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Toe slopes of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Pula Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Spike Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Buffaran Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Pula Soil

Range seeding: Poor—small stones

Roadfill: Fair—large stones, slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—seepage, small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Spike Soil

Range seeding: Poor—too arid, small stones, erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Buffaran Soil

Range seeding: Poor—droughty, rooting depth

Roadfill: Poor—cemented pan, shrink-swell, low strength

Topsoil: Poor—cemented pan, too clayey, small stones

Daily cover for landfill: Poor—cemented pan, hard to pack

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan, shrink-swell, low strength

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Pula, Spike, Buffaran soils—VIIs, nonirrigated

Range site: Pula and Buffaran soils—028B010N; Spike soil—024X045N; Inclusion 1—024X030N; Inclusion 2—028B003N; Inclusion 3—028B016N

2731—Pula-Spike association

Positions on landscape: Deeply dissected fan piedmont

Composition

Major components:

Pula very cobbly loam, 30 to 50 percent slopes—50 percent

Spike very gravelly sandy loam, 30 to 50 percent slopes—35 percent

Contrasting inclusions:

Duric Natrargids, fine, montmorillonitic, mesic, 2 to 8 percent slopes—6 percent

Xeric Torriorthents, loamy, mixed (calcareous), mesic, 15 to 50 percent slopes—4 percent

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 4 to 15 percent slopes—3 percent

Durixerollic Haplargids, fine-loamy, mixed, mesic, 4 to 15 percent slopes—2 percent

Characteristics of the Pula Soil

Classification: Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: North-facing side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 30 to 50 percent

Elevation: 5,300 to 5,700 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, bottlebrush squirreltail, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 45 percent pebbles

Depth: 0 to 2 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 2 to 24 inches

Texture: Very gravelly clay loam, extremely gravelly clay
Structure: Subangular blocky
Consistence: Very hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 24 to 60 inches
Texture: Extremely gravelly sandy loam
Structure: Massive
Consistence: Hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 3 to 5 inches
Water-supplying capacity: 9 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Characteristics of the Spike Soil

Classification: Typic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: South-facing side slopes of fan piedmont remnants
Parent material: Mixed alluvium
Slope: 30 to 50 percent
Elevation: 5,200 to 5,700 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, galleta, shadscale, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 70 percent pebbles
Depth: 0 to 2 inches
Texture: Very gravelly sandy loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 2 to 6 inches
Texture: Very gravelly clay, very gravelly clay loam
Structure: Angular blocky
Consistence: Very hard, firm
Reaction: Moderately alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 13 to 25

Depth: 6 to 60 inches
Texture: Extremely gravelly clay loam, very gravelly loam
Structure: Massive
Consistence: Hard, friable
Reaction: Moderately alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 2.7 to 5.0 inches
Water-supplying capacity: 7 inches
Runoff: Rapid
Hydrologic group: B
Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—5
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Duric Natrargids, fine, montmorillonitic, mesic
Positions on landscape: The lower summits of fan piedmont remnants
Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, shallow
Positions on landscape: Eroded side slopes of hills along edges of fan piedmont remnants
Distinctive present vegetation: Shadscale, Wyoming big sagebrush, galleta

Inclusion 3

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Needlegrass, Indian ricegrass, Wyoming big sagebrush

Inclusion 4

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The upper summits of fan piedmont remnants

Distinctive present vegetation: Needlegrass, Wyoming big sagebrush, spiny hopsage

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Pula Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Spike Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses**Pula Soil**

Range seeding: Poor—large stones

Roadfill: Poor—large stones, slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—seepage, small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Spike Soil

Range seeding: Poor—too arid, small stones, erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Pula and Spike soils—VII_s, nonirrigated

Range site: Pula soil—028B010N; Spike soil—024X045N; Inclusion 1—024X002N; Inclusion 2—024X045N; Inclusion 3—028B010N; Inclusion 4—024X020N

2740—Spike-Desatoya Variant-Grassval association

Positions on landscape: Deeply dissected fan piedmonts

Composition

Major components:

Spike very gravelly sandy loam, 30 to 50 percent slopes—35 percent

Desatoya Variant very gravelly sandy loam, 15 to 50 percent slopes—35 percent

Grassval gravelly loam, 4 to 8 percent slopes—15 percent

Contrasting inclusions:

Xerollic Durargids, fine, montmorillonitic, mesic, shallow, 4 to 8 percent slopes—8 percent

Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic, 4 to 15 percent slopes—7 percent

Characteristics of the Spike Soil

Classification: Typic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: South-facing side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 30 to 50 percent

Elevation: 5,400 to 5,900 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, galleta, shadscale, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 70 percent pebbles

Depth: 0 to 2 inches

Texture: Very gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 2 to 6 inches

Texture: Very gravelly clay, very gravelly clay loam

Structure: Angular blocky

Consistence: Very hard, firm

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 6 to 60 inches

Texture: Extremely gravelly clay loam, very gravelly loam

Structure: Massive
Consistence: Hard, friable
Reaction: Moderately alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 2.7 to 5.0 inches
Water-supplying capacity: 7 inches
Runoff: Rapid
Hydrologic group: B
Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—5
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Characteristics of the Desatoya Variant Soil

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic
Positions on landscape: North-facing side slopes of fan piedmont remnants
Parent material: Mixed alluvium
Slope: 15 to 50 percent
Elevation: 5,400 to 5,900 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Indian ricegrass, black sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 45 percent pebbles
Depth: 0 to 3 inches
Texture: Very gravelly sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 3 to 13 inches
Texture: Gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 13 to 26 inches
Texture: Very gravelly sandy loam
Structure: Massive
Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 26 to 60 inches
Texture: Very gravelly sand
Structure: Single grain
Consistence: Loose
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate over rapid
Available water capacity: 2.8 to 4.4 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: B
Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Grassval Soil

Classification: Xerollic Durargids, loamy, mixed, mesic, shallow
Positions on landscape: Summits of fan piedmont remnants
Parent material: Mixed alluvium
Slope: 4 to 8 percent
Elevation: 5,400 to 5,900 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 46 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles
Depth: 0 to 4 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 4 to 13 inches

Texture: Gravelly clay loam, gravelly loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 13 inches

Material: Indurated hardpan

Soil and Water Features

Depth to the hardpan: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.6 to 1.9 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Durargids, fine, montmorillonitic, mesic, shallow

Positions on landscape: Slightly concave summits of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush, bluegrass

Inclusion 2

Classification: Xeric Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Bluegrass, spiny hopsage, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Spike Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Desatoya Variant Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Grassval Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Spike Soil

Range seeding: Poor—too arid, small stones, erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Desatoya Variant Soil

Range seeding: Poor—small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Grassval Soil

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones

Daily cover for landfill: Poor—cemented pan, small stones

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Spike, Desatoya Variant and Grassval soils—VII_s, nonirrigated

Range site: Spike soil—024X045N; Desatoya Variant and Grassval soils—024X030N; Inclusion 1—028B010N; Inclusion 2—024X020N

2771—Kram-Hopeka-Rock outcrop association

Positions on landscape: Mountains

Composition*Major components:*

Kram very gravelly very fine sandy loam, 30 to 50 percent slopes—35 percent
 Hopeka very gravelly loam, 30 to 50 percent slopes—35 percent

Rock outcrop—15 percent

Contrasting inclusions:

Aridic Calcixerolls, loamy-skeletal, mixed, frigid, 15 to 30 percent slopes—8 percent

Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 15 to 30 percent slopes—4 percent

Durorthidic Xeric Torriorthents, loamy-skeletal, carbonatic, mesic, 15 to 30 percent slopes—3 percent

Characteristics of the Kram Soil

Classification: Lithic Xeric Torriorthents, loamy-skeletal, carbonatic, mesic

Positions on landscape: The lower side slopes of mountains

Parent material: Residuum derived from limestone

Slope: 30 to 50 percent

Elevation: 5,400 to 7,200 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 95 days

Dominant present vegetation: Bluegrass, black sagebrush, singleleaf pinyon, Utah juniper

Site index for common trees: Singleleaf pinyon—45; Utah juniper—45

Typical Profile

Rock fragments on surface: 65 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly very fine sandy loam

Structure: Granular

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Depth: 3 to 10 inches

Texture: Very gravelly loam, very gravelly very fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Depth: 10 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.0 to 1.3 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—5

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Hopeka Soil

Classification: Lithic Xeric Torriorthents, loamy-skeletal, carbonatic, frigid

Positions on landscape: The upper side slopes of mountains

Parent material: Residuum derived from limestone and dolostone

Slope: 30 to 50 percent

Elevation: 6,500 to 7,800 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Bluegrass, black sagebrush, singleleaf pinyon, Utah juniper

Site index for common trees: Singleleaf pinyon—33; Utah juniper—33

Typical Profile

Rock fragments on surface: 25 percent cobbles, 20 percent pebbles

Depth: 0 to 8 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 8 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 4 to 10 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 0.4 to 0.7 inch

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Rock Outcrop

Positions on landscape: Scattered peaks, exposed bedding planes

Dominant present vegetation: None

Contrasting Inclusions

Inclusion 1

Classification: Aridic Calcixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: North-facing side slopes of mountains

Distinctive present vegetation: Bluebunch wheatgrass, mountain big sagebrush, currant

Inclusion 2

Classification: Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Convex, lower side slopes of mountains

Distinctive present vegetation: Bluegrass, black sagebrush

Inclusion 3

Classification: Durorthidic Xeric Torriorthents, loamy-skeletal, carbonatic, mesic

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Basin wildrye, bluegrass, basin big sagebrush

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Cordwood production

Suitability for Wildlife Habitat Elements

Kram Soil

Wild herbaceous plants (nonirrigated): Poor

Coniferous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Hopeka Soil

Wild herbaceous plants (nonirrigated): Poor

Coniferous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Kram Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Hopeka Soil

Range seeding: Poor—droughty, depth to rock, small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Kram and Hopeka soils—VIIIs, nonirrigated; Rock outcrop—VIIIIs, nonirrigated

Range site: Kram and Hopeka soils—025X063N; Rock outcrop—none; Inclusion 1—024X021N; Inclusion 2—024X030N; Inclusion 3—025X003N

2780—Desatoya-Tenabo-Pineval association

Positions on landscape: Fan piedmonts

Composition

Major components:

Desatoya gravelly fine sandy loam, 2 to 4 percent slopes—45 percent

Tenabo very gravelly fine sandy loam, 4 to 8 percent slopes—25 percent

Pineval gravelly loam, 4 to 8 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 15 to 30 percent slopes—7 percent

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 8 to 15 percent slopes—6 percent

Xerollic Durargids, clayey, montmorillonitic, mesic, shallow, 2 to 4 percent slopes—2 percent

Characteristics of the Desatoya Soil

Classification: Durixerollic Haplargids, clayey over loamy-skeletal, montmorillonitic, mesic

Positions on landscape: Slightly dissected fan aprons

Parent material: Mixed alluvium

Slope: 2 to 4 percent

Elevation: 6,000 to 6,500 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, needlegrass, Indian ricegrass, black sagebrush

Typical Profile

Rock fragments on surface: 25 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 13 inches

Texture: Gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 13 to 60 inches

Texture: Stratified extremely gravelly sandy loam, very gravelly loamy sand

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 4.0 to 5.3 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Tenabo Soil

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow

Positions on landscape: Nonburied summits of fan piedmont remnants

Parent material: Thin loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 4 to 8 percent

Elevation: 6,000 to 6,500 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 5 inches

Texture: Very gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 5 to 17 inches

Texture: Clay loam, gravelly clay loam, silty clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 17 to 31 inches

Material: Indurated hardpan

Structure: Platy

Consistence: Extremely hard, extremely firm

Depth: 31 to 60 inches

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to the hardpan: 9 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.2 to 2.4 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Pineval Soil

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants, fan drainageways

Parent material: Mixed alluvium
Slope: 4 to 8 percent
Elevation: 6,000 to 6,500 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles
Depth: 0 to 5 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 5 to 11 inches
Texture: Very gravelly loam, very gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 11 to 60 inches
Texture: Extremely gravelly sandy loam, extremely gravelly loamy sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 3.2 to 4.4 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: East-facing shoulder slopes and scarps of fan piedmonts
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: Side slopes of fan piedmont remnants
Distinctive present vegetation: Bluegrass, black sagebrush

Inclusion 3

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow
Positions on landscape: The highest summits of nonburied fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Desatoya Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Tenabo Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Pineval Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Desatoya Soil

Range seeding: Poor—rooting depth
Roadfill: Fair—large stones
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—small stones
Shallow excavations: Moderate—large stones
Local roads and streets: Moderate—frost action, large stones
Pond reservoir areas: Moderate—slope, seepage
Embankments, dikes, and levees: Severe—seepage
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Tenabo Soil

Range seeding: Poor—too arid, droughty, excess sodium
Roadfill: Poor—cemented pan
Topsoil: Poor—cemented pan, small stones, too sandy
Daily cover for landfill: Poor—cemented pan, seepage, too sandy
Shallow excavations: Severe—cemented pan, cutbanks, cave

Local roads and streets: Severe—cemented pan
Pond reservoir areas: Severe—seepage, cemented pan
Embankments, dikes, and levees: Severe—seepage, excess sodium, excess salt
Sand: Probable source
Gravel: Probable source

Pineval Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—frost action
Pond reservoir areas: Moderate—seepage, slope
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Interpretive Groups

Land capability classification: Desatoya soil—VII_s, nonirrigated; Tenabo soil—IV_e, irrigated, and VII_s, nonirrigated; Pineval soil—IV_e, irrigated, and VI_s, nonirrigated
Range site: Desatoya soil—027X032N; Tenabo soil—028B017N; Pineval soil—028B010N; Inclusion 1—028B010N; Inclusion 2—028B011N; Inclusion 3—028B010N

2781—Desatoya-Orovada association

Positions on landscape: Fan piedmonts

Composition

Major components:
 Desatoya gravelly fine sandy loam, 4 to 8 percent slopes—60 percent
 Orovada gravelly fine sandy loam, 4 to 8 percent slopes—25 percent
Contrasting inclusions:
 Durixerollic Haplargids, fine-loamy, mixed, mesic, 2 to 8 percent slopes—7 percent
 Duric Natrargids, fine-loamy, mixed, mesic, 2 to 8 percent slopes—5 percent
 Durixerollic Haplargids, fine, montmorillonitic, mesic, 4 to 15 percent slopes—3 percent

Characteristics of the Desatoya Soil

Classification: Durixerollic Haplargids, clayey over loamy-skeletal, montmorillonitic, mesic
Positions on landscape: Summits of fan piedmont remnants
Parent material: Mixed alluvium
Slope: 4 to 8 percent

Elevation: 6,000 to 6,300 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, needlegrass, Indian ricegrass, black sagebrush

Typical Profile

Depth: 0 to 6 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 6 to 13 inches
Texture: Gravelly clay, gravelly clay loam
Structure: Prismatic
Consistence: Hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 13 to 60 inches
Texture: Stratified extremely gravelly sandy loam to very gravelly loamy sand
Structure: Massive
Consistence: Hard, firm
Reaction: Strongly alkaline
Salinity: 2 to 8 millimhos per centimeter
Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 4.0 to 5.3 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: C
Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans
Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium
Slope: 4 to 8 percent

Elevation: 6,000 to 6,300 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches
Texture: Gravelly fine sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 20 to 65 inches
Texture: Stratified fine sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 8.2 to 9.0 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic
Positions on landscape: Slightly concave side slopes of fan piedmont remnants
Distinctive present vegetation: Bluegrass, Wyoming big sagebrush

Inclusion 2

Classification: Duric Natrargids, fine-loamy, mixed, mesic
Positions on landscape: The lower summits of fan piedmont remnants
Distinctive present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Inclusion 3

Classification: Durixerollic Haplargids, fine, montmorillonitic, mesic
Positions on landscape: The upper summits of fan piedmont remnants
Distinctive present vegetation: Bluegrass, Indian ricegrass, black sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Desatoya Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Desatoya Soil

Range seeding: Poor—rooting depth
Roadfill: Fair—large stones
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—small stones
Shallow excavations: Moderate—large stones
Local roads and streets: Moderate—frost action, large stones
Pond reservoir areas: Moderate—slope, seepage
Embankments, dikes, and levees: Severe—seepage
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Poor—small stones
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—frost action
Pond reservoir areas: Moderate—seepage, slope
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Desatoya soil—VII₃,

nonirrigated; Orovada soil—Ille, irrigated, and VIc, nonirrigated

Range site: Desatoya soil—027X032N; Orovada soil—028B010N; Inclusion 1—028B010N; Inclusion 2—028B017N; Inclusion 3—027X032N

2782—Desatoya-Pineval-Grassval association

Positions on landscape: Piedmont slopes

Composition

Major components:

Desatoya very gravelly loam, 8 to 15 percent slopes—35 percent

Pineval gravelly loam, 2 to 8 percent slopes—35 percent

Grassval gravelly loam, 2 to 8 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 8 to 15 percent slopes—7 percent

Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—4 percent

Durixerollic Haplargids, fine-loamy, mixed, mesic, 4 to 8 percent slopes—4 percent

Characteristics of the Desatoya Soil

Classification: Durixerollic Haplargids, clayey over loamy-skeletal, montmorillonitic, mesic

Positions on landscape: Convex side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 8 to 15 percent

Elevation: 6,300 to 6,600 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, needlegrass, Indian ricegrass, black sagebrush

Typical Profile

Rock fragments on surface: 5 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 3 to 14 inches

Texture: Gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 14 to 60 inches

Texture: Stratified extremely gravelly sandy loam to very gravelly loamy sand

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 4.0 to 5.4 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Pineval Soil

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Mixed alluvium

Slope: 2 to 8 percent

Elevation: 6,300 to 6,600 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 5 to 11 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter
Depth: 11 to 60 inches
Texture: Extremely gravelly sandy loam, extremely gravelly loamy sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 3.2 to 4.4 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Grassval Soil

Classification: Xerollic Durargids, loamy, mixed, mesic, shallow
Positions on landscape: The highest summits of fan piedmont remnants
Parent material: Mixed alluvium
Slope: 2 to 8 percent
Elevation: 6,300 to 6,600 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 46 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles
Depth: 0 to 4 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 4 to 13 inches
Texture: Gravelly clay loam, gravelly loam
Structure: Subangular blocky
Consistence: Hard, friable
Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 13 inches
Material: Indurated hardpan

Soil and Water Features

Depth to the hardpan: 8 to 14 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.6 to 1.9 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: The higher side slopes of fan piedmont remnants
Distinctive present vegetation: Black sagebrush, bluegrass, rabbitbrush

Inclusion 2

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic
Positions on landscape: The lower summits of fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Desatoya Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Pineval Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Grassval Soil*Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair**Suitability and Limitations for Selected Uses****Desatoya Soil***Range seeding:* Poor—rooting depth, small stones*Roadfill:* Fair—large stones*Topsoil:* Poor—small stones, area reclaim*Daily cover for landfill:* Poor—small stones*Shallow excavations:* Moderate—large stones, slope*Local roads and streets:* Moderate—slope, frost action, large stones*Pond reservoir areas:* Severe—slope*Embankments, dikes, and levees:* Severe—seepage*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Pineval Soil***Range seeding:* Fair—too arid*Roadfill:* Good*Topsoil:* Poor—small stones, area reclaim*Daily cover for landfill:* Poor—seepage, too sandy, small stones*Shallow excavations:* Severe—cutbanks cave*Local roads and streets:* Moderate—frost action*Pond reservoir areas:* Moderate—seepage, slope*Embankments, dikes, and levees:* Severe—seepage*Sand:* Probable source*Gravel:* Probable source**Grassval Soil***Range seeding:* Poor—droughty*Roadfill:* Poor—cemented pan*Topsoil:* Poor—cemented pan, small stones*Daily cover for landfill:* Poor—cemented pan, small stones*Shallow excavations:* Severe—cemented pan*Local roads and streets:* Severe—cemented pan*Pond reservoir areas:* Severe—cemented pan*Embankments, dikes, and levees:* Severe—thin layer*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Interpretive Groups***Land capability classification:* Desatoya and Grassval soils—VIIs, nonirrigated; Pineval soil—IVe, irrigated, and VIIs, nonirrigated*Range site:* Desatoya soil—024X030N; Pineval soil—028B010N; Grassval soil—028B011N; Inclusion 1—024X030N; Inclusions 2 and 3—028B010N**2783—Desatoya-Spike association***Positions on landscape:* Strongly dissected fan piedmonts**Composition***Major components:*

Desatoya very gravelly sandy loam, 30 to 50 percent slopes—35 percent

Spike very gravelly sandy loam, 30 to 50 percent slopes—35 percent

Desatoya gravelly sandy loam, 8 to 15 percent slopes—15 percent

Contrasting inclusions:

Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic, 15 to 50 percent slopes—8 percent

Durixerollic Camborthids, coarse-loamy, mixed, mesic, 4 to 8 percent slopes—4 percent

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 4 to 15 percent slopes—3 percent

Characteristics of the Desatoya Soil, Steep*Classification:* Durixerollic Haplargids, clayey over loamy-skeletal, montmorillonitic, mesic*Positions on landscape:* Convex, north- and east-facing side slopes of fan piedmont remnants*Parent material:* Mixed alluvium*Slope:* 30 to 50 percent*Elevation:* 5,200 to 6,000 feet*Average annual precipitation:* About 10 inches*Average annual air temperature:* About 48 degrees F*Frost-free season:* About 110 days*Dominant present vegetation:* Bluegrass, needlegrass, Indian ricegrass, black sagebrush**Typical Profile***Rock fragments on surface:* 45 percent pebbles*Depth:* 0 to 3 inches*Texture:* Very gravelly sandy loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Mildly alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 3 to 14 inches*Texture:* Gravelly clay, gravelly clay loam*Structure:* Prismatic*Consistence:* Hard, friable*Reaction:* Mildly alkaline*Salinity:* 0 to 2 millimhos per centimeter*Sodicity (SAR):* 0 to 2*Depth:* 14 to 60 inches*Texture:* Stratified extremely gravelly sandy loam to very gravelly loamy sand*Structure:* Massive*Consistence:* Hard, firm*Reaction:* Strongly alkaline*Salinity:* 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 4.0 to 5.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Spike Soil

Classification: Typic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: South- and west-facing side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 30 to 50 percent

Elevation: 5,200 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, galleta, shadscale, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 70 percent pebbles

Depth: 0 to 2 inches

Texture: Very gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 2 to 6 inches

Texture: Very gravelly clay, very gravelly clay loam

Structure: Angular blocky

Consistence: Very hard, firm

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 6 to 60 inches

Texture: Extremely gravelly clay loam, very gravelly loam

Structure: Massive

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.7 to 5.0 inches

Water-supplying capacity: 7 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—5

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Desatoya Soil, Strongly Sloping

Classification: Durixerollic Haplargids, clayey over loamy-skeletal, montmorillonitic, mesic

Positions on landscape: Convex crests and shoulder slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 8 to 15 percent

Elevation: 5,300 to 6,000 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, needlegrass, Indian ricegrass, black sagebrush

Typical Profile

Rock fragments on surface: 25 percent pebbles

Depth: 0 to 3 inches

Texture: Gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 3 to 14 inches

Texture: Gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 14 to 60 inches

Texture: Stratified extremely gravelly sandy loam to very gravelly loamy sand

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 10

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 4.0 to 5.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Slightly concave side slopes of fan piedmont remnants

Distinctive present vegetation: Small rabbitbrush, bluegrass, Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Basin big sagebrush

Inclusion 3

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: The lower, concave side slopes of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush, small rabbitbrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Desatoya Soil, Steep

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Spike Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Desatoya Soil, Strongly Sloping

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Desatoya Soil, Steep

Range seeding: Poor—rooting depth, small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Spike Soil

Range seeding: Poor—small stones, erodes easily, excess salt

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Desatoya Soil, Strongly Sloping

Range seeding: Poor—rooting depth

Roadfill: Fair—large stones

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—large stones, slope

Local roads and streets: Moderate—slope, frost action, large stones

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Desatoya and Spike soils—VIIs, nonirrigated

Range site: Desatoya soils—024X030N; Spike soil—024X045N; Inclusion 1—028B010N; Inclusion 2—028B003N; Inclusion 3—028B010N

2791—Old Camp-Colbar-Rock outcrop association

Positions on landscape: Mountains

Composition

Major components:

Old Camp very cobbly loam, 4 to 15 percent slopes—40 percent

Colbar very cobbly loam, 15 to 30 percent slopes—30 percent

Rock outcrop—15 percent

Contrasting inclusions:

Xerollic Durargids, clayey, montmorillonitic, mesic, shallow, 15 to 30 percent slopes—7 percent

McVegas very gravelly loam, 4 to 15 percent slopes—5 percent

Haploxerollic Durargids, fine, montmorillonitic, mesic, 4 to 15 percent slopes—3 percent

Characteristics of the Old Camp Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Convex crests and shoulder slopes of mountains

Parent material: Residuum derived from basalt and andesite

Slope: 4 to 15 percent

Elevation: 5,400 to 6,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Thurber needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 2 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 2 to 11 inches

Texture: Very gravelly loam, very cobbly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 0.9 to 1.2 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1 wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Colbar Soil

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Concave, north-facing side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolite and andesite

Slope: 15 to 30 percent

Elevation: 5,400 to 6,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Needlegrass, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 10 percent pebbles

Depth: 0 to 3 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 3 to 22 inches

Texture: Cobbly loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 22 to 26 inches

Texture: Gravelly loam, cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 26 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.3 to 3.8 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—2;
wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Rock Outcrop

Positions on landscape: Escarpments and severely eroded side slopes of mountains

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow

Positions on landscape: Convex, south-facing side slopes of mountains

Distinctive present vegetation: Bluebunch wheatgrass, big sagebrush

Inclusion 2

Classification: Haplic Nadurargids, clayey-skeletal, montmorillonitic, mesic, shallow

Positions on landscape: Convex, broad crests and saddles of mountains

Distinctive present vegetation: Shadscale, small rabbitbrush, bud sagebrush

Inclusion 3

Classification: Haploxerollic Durargids, fine, montmorillonitic, mesic

Positions on landscape: Convex crests and shoulder slopes of mountains

Distinctive present vegetation: Spiny hopsage, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Old Camp Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Colbar Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Old Camp Soil

Range seeding: Poor—large stones, droughty

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock, large stones

Local roads and streets: Severe—depth to rock, large stones

Pond reservoir areas: Severe—depth to rock, large stones

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Colbar Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock

Topsoil: Poor—large stones, slope

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Old Camp and Colbar soils—VIIIs, nonirrigated; Rock outcrop—VIIIIs, nonirrigated

Range site: Old Camp and Colbar soils—024X005N; Rock outcrop—none; Inclusion 1—024X028N; Inclusion 2—024X002N; Inclusion 3—024X020N

2792—Old Camp-Allor-Puett association

Positions on landscape: Foothills, fan piedmonts

Composition

Major components:

Old Camp gravelly loam, 4 to 15 percent slopes—40 percent

Allor gravelly loam, 2 to 8 percent slopes—30 percent

Puett very gravelly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Duco very cobbly loam, 15 to 30 percent slopes—6 percent

Durixerollic Haplargids, fine-loamy, mixed, mesic, 0 to 2 percent slopes—5 percent

Jung very cobbly fine sandy loam, 4 to 15 percent slopes—4 percent

Characteristics of the Old Camp Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Convex, north- and west-facing crests and side slopes of foothills

Parent material: Residuum derived from basalt and andesite
Slope: 4 to 15 percent
Elevation: 5,400 to 6,500 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Thurber needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 50 percent pebbles
Depth: 0 to 2 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Depth: 2 to 11 inches
Texture: Very gravelly loam, very cobbly clay loam
Structure: Angular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Depth: 11 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.2 to 1.8 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Allor Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic
Positions on landscape: Fan piedmont remnants
Parent material: Mixed alluvium
Slope: 2 to 8 percent
Elevation: 5,400 to 6,200 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles
Depth: 0 to 12 inches
Texture: Gravelly loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 12 to 34 inches
Texture: Gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 34 to 60 inches
Texture: Gravelly loamy sand, very gravelly loamy sand
Structure: Massive
Consistence: Very hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 5.1 to 6.4 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Puett Soil

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow
Positions on landscape: South- and east-facing side slopes of foothills
Parent material: Residuum derived from weathered tuff and sandstone
Slope: 15 to 30 percent
Elevation: 5,400 to 6,500 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Wyoming big sagebrush, Indian ricegrass, black sagebrush

Typical Profile

Rock fragments on surface: 55 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 3 to 13 inches

Texture: Coarse sandy loam, sandy loam, gravelly loam

Structure: Massive

Consistence: Soft, friable

Reaction: Moderately alkaline

Depth: 13 inches

Material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 1.4 to 1.6 inches

Water-supplying capacity: 6 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Lithic Argixerolls, loamy-skeletal, mixed, mesic

Positions on landscape: Concave, higher side slopes of foothills

Distinctive present vegetation: Singleleaf pinyon, Utah juniper, Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: The upper, south-facing side slopes of foothills

Distinctive present vegetation: Black sagebrush, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Old Camp Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Allor Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Puett Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Old Camp Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Allor Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action, shrink-swell

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Puett Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—seepage, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Old Camp and Puett soils—VIIs, nonirrigated; Allor soil—IIIe, irrigated, and VIIc, nonirrigated

Range site: Old Camp soil—027X007N; Allor soil—027X008N; Puett soil—025X025N; Inclusion 1—025X062N; Inclusion 2—027X008N; Inclusion 3—027X032N

2793—Old Camp-Laped association

Positions on landscape: Mountains

Composition

Major components:

Old Camp very cobbly loam, 15 to 30 percent slopes—55 percent

Laped very cobbly loam, 15 to 30 percent slopes—30 percent

Contrasting inclusions:

Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic, 15 to 30 percent slopes—7 percent

Xerollic Haplargids, fine-loamy, mixed, mesic, 30 to 50 percent slopes—6 percent

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 8 to 15 percent slopes—2 percent

Characteristics of the Old Camp Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: North- and east-facing side slopes of mountains

Parent material: Residuum derived from basalt and andesite

Slope: 15 to 30 percent

Elevation: 5,400 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Thurber needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 2 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 2 to 11 inches

Texture: Very gravelly loam, very cobbly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 0.9 to 1.2 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Laped Soil

Classification: Typic Durargids, loamy, mixed, mesic, shallow

Positions on landscape: South- and west-facing side slopes of mountains

Parent material: Colluvium and residuum derived from tuff and andesite

Slope: 15 to 30 percent

Elevation: 5,400 to 6,200 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Depth: 0 to 6 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 6 to 18 inches

Texture: Gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 18 to 23 inches

Material: Indurated hardpan

Depth: 23 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.1 to 2.7 inches

Water-supplying capacity: 7 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Convex, lower, south-facing side slopes of mountains

Distinctive present vegetation: Wyoming big sagebrush, shadscale

Inclusion 2

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Concave, north-facing side slopes of mountains

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Colluvial toe slopes of mountains

Distinctive present vegetation: Spiny hopsage, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Old Camp Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Laped Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Old Camp Soil

Range seeding: Poor—large stones, droughty

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope, large stones

Local roads and streets: Severe—depth to rock, slope, large stones

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Laped Soil

Range seeding: Poor—large stones, droughty, too arid

Roadfill: Poor—depth to rock

Topsoil: Poor—cemented pan, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, cemented pan, slope

Local roads and streets: Severe—cemented pan, slope

Pond reservoir areas: Severe—cemented pan, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Old Camp and Laped soils—VIIs, nonirrigated

Range site: Old Camp soil—024X005N; Laped soil—024X002N; Inclusion 1—024X026N; Inclusion 2—024X005N; Inclusion 3—024X020N

2797—Old Camp-Colbar association

Positions on landscape: Foothills

Composition

Major components:

Old Camp gravelly loam, 30 to 50 percent slopes—45 percent

Colbar cobbly loam, 15 to 30 percent slopes—25 percent

Old Camp very cobbly loam, 8 to 15 percent slopes—15 percent

Contrasting inclusions:

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 4 to 15 percent slopes—4 percent

Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic, 8 to 30 percent slopes—4 percent

Lithic Haplargids, loamy-skeletal, mixed, mesic, 15 to 50 percent slopes—4 percent

Rock outcrop—3 percent

Characteristics of the Old Camp Soil, Steep

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Convex, lower side slopes and shoulder slopes of foothills

Parent material: Residuum derived from basalt and andesite

Slope: 30 to 50 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Thurber needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 2 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 2 to 11 inches

Texture: Very gravelly loam, very cobbly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.2 to 1.6 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Colbar Soil

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The higher side slopes of foothills

Parent material: Colluvium and residuum derived from rhyolite and andesite

Slope: 15 to 30 percent

Elevation: 5,900 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Needlegrass, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent cobbles, 10 percent pebbles

Depth: 0 to 3 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 3 to 22 inches

Texture: Cobbly loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 22 to 26 inches

Texture: Gravelly loam, cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 26 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.3 to 3.8 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.17; T value—2; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Old Camp Soil, Strongly Sloping

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Summits and shoulder slopes of foothills

Parent material: Residuum derived from basalt and andesite

Slope: 8 to 15 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Thurber needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 2 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 2 to 11 inches

Texture: Very gravelly loam, very cobbly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 11 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 0.9 to 1.2 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Concave foot slopes of foothills

Distinctive present vegetation: Mountain big sagebrush, bluebunch wheatgrass

Inclusion 2

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Slightly convex, higher crests of foothills

Distinctive present vegetation: Black sagebrush, bluebunch wheatgrass

Inclusion 3

Classification: Lithic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: South-facing side slopes of foothills

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 4

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Old Camp Soil, Steep

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Colbar Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Old Camp Soil, Strongly Sloping

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Old Camp Soil, Steep

Range seeding: Poor—erodes easily, droughty

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Colbar Soil

Range seeding: Fair—too arid, large stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—large stones, slope

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Old Camp Soil, Strongly Sloping

Range seeding: Poor—large stones, droughty

Roadfill: Poor—depth to rock, large stones
Topsoil: Poor—depth to rock, small stones
Daily cover for landfill: Poor—depth to rock, small stones
Shallow excavations: Severe—depth to rock, large stones
Local roads and streets: Severe—depth to rock, large stones
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Old Camp soil, steep—VIIe, nonirrigated; Colbar soil—VIe, nonirrigated; Old Camp soil, strongly sloping—VIIs, nonirrigated
Range site: Old Camp and Colbar soils—024X005N; Inclusion 1—025X014N; Inclusion 2—024X030N; Inclusion 3—024X002N

2798—Old Camp-Atlow-Osoll association

Positions on landscape: Foothills

Composition

Major components:

Old Camp gravelly loam, 15 to 30 percent slopes—40 percent
 Atlow very gravelly loam, 30 to 50 percent slopes—30 percent
 Osoll very gravelly loam, 30 to 50 percent slopes—15 percent
Contrasting inclusions:
 Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic, 4 to 15 percent slopes—6 percent
 Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 30 to 50 percent slopes—5 percent
 Xerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—2 percent
 Rock outcrop—2 percent

Characteristics of the Old Camp Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: Concave, lower side slopes and shoulder slopes of foothills
Parent material: Residuum derived from basalt and andesite
Slope: 15 to 30 percent
Elevation: 5,800 to 6,200 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Thurber needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles
Depth: 0 to 2 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Depth: 2 to 11 inches
Texture: Very gravelly loam, very cobbly clay loam
Structure: Angular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Depth: 11 inches
Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.2 to 1.6 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1
 wind erodibility group—6
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Atlow Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: The upper side slopes of foothills
Parent material: Residuum derived from chert, argillite, shale, and altered tuff
Slope: 30 to 50 percent
Elevation: 5,800 to 6,200 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 46 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Black sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 10 percent cobbles, 40 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 14 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 14 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.1 to 1.3 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Osoll Soil

Classification: Typic Durorthids, loamy-skeletal, mixed, mesic, shallow

Positions on landscape: Eroded side slopes of foothills

Parent material: Colluvium that includes loess over residuum

Slope: 30 to 50 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 50 percent pebbles

Depth: 0 to 5 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 5 to 12 inches

Texture: Very gravelly loam, very gravelly fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Depth: 12 to 35 inches

Material: Indurated hardpan

Structure: Platy

Consistence: Extremely hard, extremely firm

Depth: 35 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 8 to 14 inches

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 0.6 to 1.0 inch

Water-supplying capacity: 6 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Crests of foothills

Distinctive present vegetation: Black sagebrush, bluegrass

Inclusion 2

Classification: Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Convex, eroded side slopes below areas of Rock outcrop on foothills

Distinctive present vegetation: Wyoming big sagebrush, desert needlegrass

Inclusion 3

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Interhill drainageways

Distinctive present vegetation: Big sagebrush, bluebunch wheatgrass

Inclusion 4

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Old Camp Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Atlow Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Osoll Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Old Camp Soil

Range seeding: Poor—erodes easily, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Atlow Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Osoll Soil

Range seeding: Poor—droughty, small stones, too arid

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—cemented pan, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, cemented pan, slope

Local roads and streets: Severe—cemented pan, slope

Pond reservoir areas: Severe—cemented pan, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Old Camp, Atlow, and Osoll soils—VIIIs, nonirrigated

Range site: Old Camp soil—024X005N; Atlow soil—024X030N; Osoll soil—024X002N; Inclusion 1—024X030N; Inclusion 2—024X045N; Inclusion 3—025X013N; Inclusion 4—none

3001—Barrier-Kobeh association

Positions on landscape: Fan piedmonts

Composition

Major components:

Barrier cobbly loam, 4 to 15 percent slopes—65 percent
Kobeh gravelly fine sandy loam, 2 to 8 percent slopes—20 percent

Contrasting inclusions:

Xerollic Durargids, loamy, mixed, frigid, shallow, 2 to 8 percent slopes—8 percent

Haploxerollic Durorthids, loamy-skeletal, mixed, frigid, 2 to 8 percent slopes—5 percent

Haploxerollic Nadurargids, fine, montmorillonitic, frigid, 2 to 8 percent slopes—2 percent

Characteristics of the Barrier Soil

Classification: Haploxerollic Durorthids, loamy, mixed, frigid

Positions on landscape: Summits and side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 15 percent

Elevation: 6,800 to 7,400 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Indian ricegrass, needlegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 15 percent pebbles

Depth: 0 to 7 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 7 to 12 inches

Texture: Gravelly loam, gravelly sandy loam, fine sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 12 to 27 inches

Material: Cemented hardpan

Depth: 27 to 60 inches

Texture: Very cobbly loamy sand

Structure: Massive

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to the hardpan: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.2 to 1.7 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Kobeh Soil

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, frigid

Positions on landscape: Inset fans

Parent material: Mixed alluvium that includes volcanic ash

Slope: 2 to 8 percent

Elevation: 6,800 to 7,400 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Indian ricegrass, needleandthread, Wyoming big sagebrush

Typical Profile

Depth: 0 to 7 inches

Texture: Gravelly fine sandy loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 20 inches

Texture: Gravelly sandy loam, gravelly fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 20 to 60 inches

Texture: Stratified gravelly fine sandy loam to very gravelly sand

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 4.6 to 6.0 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.17; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Durargids, loamy, mixed, frigid, shallow

Positions on landscape: Slightly convex shoulder slopes of fan piedmont remnants

Distinctive present vegetation: Black sagebrush, Indian ricegrass

Inclusion 2

Classification: Haploxerollic Durorthids, loamy-skeletal, mixed, frigid

Positions on landscape: Foot slopes of fan piedmont remnants

Distinctive present vegetation: Black sagebrush, Indian ricegrass

Inclusion 3

Classification: Haploxerollic Nadurargids, fine, montmorillonitic, frigid

Positions on landscape: Summits of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Barrier Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Kobeh Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Barrier Soil

Range seeding: Poor—droughty, excess salt

Roadfill: Good

Topsoil: Poor—cemented pan, large stones

Daily cover for landfill: Poor—cemented pan, large stones

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Moderate—cemented pan, slope, frost action

Pond reservoir areas: Severe—cemented pan, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Kobeh Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Barrier soil—VII_s, nonirrigated; Kobeh soil—IV_e, irrigated, and VII_c, nonirrigated

Range site: Barrier soil—028B011N; Kobeh soil—028B010N; Inclusions 1 and 2—028B011N; Inclusion 3—028B017N

3011—Defler-Orovada association

Positions on landscape: Broad inset fans and fan skirts

Composition

Major components:

Defler gravelly fine sandy loam, 0 to 2 percent slopes—70 percent

Orovada gravelly fine sandy loam, gravelly substratum, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Silverado sandy loam, 0 to 4 percent slopes—5 percent

Orovada fine sandy loam, gullied, 0 to 4 percent slopes—3 percent

Wholan very fine sandy loam, 0 to 4 percent slopes—2 percent

Characteristics of the Defler Soil

Classification: Typic Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Smooth to slightly convex inset fans

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 0 to 2 percent

Elevation: 6,400 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, winterfat

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 4 to 38 inches

Texture: Very gravelly fine sandy loam, very gravelly sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 38 to 60 inches

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Massive

Consistence: Hard, very friable

Reaction: Moderately alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Occasional for very brief periods in December through August

Permeability: Moderately rapid

Available water capacity: 3.0 to 4.8 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fan remnants

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 0 to 2 percent

Elevation: 6,400 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 5 inches

Texture: Gravelly fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 5 to 15 inches

Texture: Fine sandy loam, loam, silt loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 15 to 40 inches

Texture: Fine sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 40 to 60 inches

Texture: Stratified gravelly sandy loam to very gravelly sand

Structure: Massive

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 6 to 8 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, frigid

Positions on landscape: The upper fan skirt remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Recently dissected inset fans

Distinctive present vegetation: Wyoming big sagebrush, basin big sagebrush

Inclusion 3

Classification: Typic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: The lower, convex fan skirt margins

Distinctive present vegetation: Indian ricegrass, winterfat

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Defler Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Defler Soil

Range seeding: Poor—droughty, too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Severe—flooding
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage
Sand: Improbable source—small stones
Gravel: Probable source

Orovada Soil

Range seeding: Fair—too arid, small stones
Roadfill: Good
Topsoil: Poor—area reclaim
Daily cover for landfill: Fair—thin layer
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—frost action
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Probable source
Gravel: Improbable source—too sandy

Interpretive Groups

Land capability classification: Defler soil—IVw, irrigated, and VIIw, nonirrigated; Orovada soil—IIIc, irrigated, and VIc, nonirrigated

Range site: Defler soil—028B013N; Orovada soil—028B010N; Inclusion 1—028B010N; Inclusion 2—028B009N; Inclusion 3—028B013N

3050—Novacan cobbly loam, 2 to 8 percent slopes

Positions on landscape: Fan piedmonts

Composition

Major component:

Novacan cobbly loam, 2 to 8 percent slopes—85 percent

Contrasting inclusions:

Durixerollic Camborthids, coarse-loamy, mixed, mesic, 2 to 8 percent slopes—6 percent

Haploxerollic Durorthids, loamy, mixed, mesic, shallow, 2 to 8 percent slopes—6 percent

Typic Nadurargids, fine, montmorillonitic, mesic, 2 to 8 percent slopes—3 percent

Characteristics of the Novacan Soil

Classification: Haploxerollic Durargids, fine, montmorillonitic, mesic

Positions on landscape: Summits of fan piedmont remnants

Parent material: Mixed volcanic alluvium

Slope: 2 to 8 percent

Elevation: 6,500 to 7,000 feet

Average annual precipitation: About 9 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 90 days
Dominant present vegetation: Indian ricegrass, needleandthread, black sagebrush

Typical Profile

Rock fragments on surface: 25 percent cobbles, 10 percent pebbles

Depth: 0 to 5 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 24 inches

Texture: Clay, gravelly clay

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 24 to 45 inches

Material: Cemented hardpan

Depth: 45 to 60 inches

Texture: Very cobbly loamy sand

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to the hardpan: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 3.0 to 3.7 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—2 wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Haploxerollic Durorthids, loamy, mixed, mesic, shallow

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Black sagebrush

Inclusion 3

Classification: Typic Nadurargids, fine, montmorillonitic, mesic

Positions on landscape: Slightly convex summits of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Range seeding: Poor—rooting depth

Roadfill: Poor—cemented pan

Topsoil: Poor—too clayey, cemented pan, small stones

Daily cover for landfill: Poor—cemented pan, large stones

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—shrink-swell, low strength

Pond reservoir areas: Moderate—seepage, cemented pan, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Novacan soil—VII_s, nonirrigated

Range site: Novacan soil—028B011N; Inclusion 1—028B010N; Inclusion 2—028B011N; Inclusion 3—028B017N

3071—Allor-Wieland association

Positions on landscape: Fan piedmonts

Composition

Major components:

Allor gravelly loam, 4 to 15 percent slopes—50 percent

Wieland gravelly loam, 4 to 15 percent slopes—35 percent

Contrasting inclusions:

Haploxerollic Durargids, fine-loamy, mixed, mesic, 2 to 8 percent slopes—7 percent

Durixerollic Haplargids, fine, montmorillonitic, mesic, 0 to 4 percent slopes—4 percent

Haploxerollic Durargids, fine, montmorillonitic, mesic, 4 to 15 percent slopes—4 percent

Characteristics of the Allor Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The lower fan piedmont remnants and foot slopes

Parent material: Mixed alluvium

Slope: 4 to 15 percent

Elevation: 6,200 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 12 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 34 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 34 to 60 inches

Texture: Gravelly loamy sand, very gravelly loamy sand

Structure: Massive

Consistence: Very hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 5.1 to 6.4 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Wieland Soil

Classification: Durixerollic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: The higher summits of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 4 to 15 percent

Elevation: 6,200 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 8 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 8 to 20 inches

Texture: Gravelly clay

Structure: Prismatic

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 20 to 60 inches

Texture: Gravelly loam, gravelly sandy loam

Structure: Massive

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6 to 9 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.32; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Haploxerollic Durargids, fine-loamy, mixed, mesic

Positions on landscape: Nonburied fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Inclusion 3

Classification: Haploxerollic Durargids, fine, montmorillonitic, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Allor Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Wieland Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Allor Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action, shrink-swell, slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wieland Soil

Range seeding: Poor—rooting depth

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey, slope

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Allor soil—IVe, irrigated, and VIIc, nonirrigated; Wieland soil—VIs, nonirrigated

Range site: Allor and Wieland soils—028B010N;

Inclusion 1—028B010N; Inclusion 2—028B003N;

Inclusion 3—028B010N

3072—Allor-Orovada association, moderately sloping

Positions on landscape: Fan piedmonts

Composition

Major components:

Allor gravelly loam, 4 to 8 percent slopes—55 percent

Orovada fine sandy loam, 2 to 4 percent slopes—30 percent

Contrasting inclusions:

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—5 percent

Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—5 percent

Durixerollic Haplargids, fine-loamy, mixed, mesic, 4 to 8 percent slopes—5 percent

Characteristics of the Allor Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,800 to 6,300 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 12 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 34 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 34 to 60 inches

Texture: Gravelly loamy sand, very gravelly loamy sand

Structure: Massive

Consistence: Very hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 5.1 to 6.4 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,800 to 6,300 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 20 to 65 inches
Texture: Stratified fine sandy loam to silt loam
Structure: Massive

Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 8.4 to 9.6 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: The upper part of fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: Adjacent to channels on inset fans
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic
Positions on landscape: Fan aprons
Distinctive present vegetation: Black sagebrush, bluegrass, shadscale

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Allor Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Allor Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—frost action, shrink-swell
Pond reservoir areas: Moderate—seepage, slope
Embankments, dikes, and levees: Severe—seepage
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Fair—small stones, thin layer
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—frost action
Pond reservoir areas: Moderate—seepage, slope
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Allor soil—IIIe, irrigated, and VIIc, nonirrigated; Orovada soil—IIe, irrigated, and VIc, nonirrigated
Range site: Allor and Orovada soils—028B010N; Inclusions 1 and 2—028B010N; Inclusion 3—024X030N

3073—Allor-Kelk association

Positions on landscape: Fan piedmonts, fan skirts

Composition

Major components:

Allor gravelly loam, 0 to 2 percent slopes—50 percent
 Kelk very fine sandy loam, lacustrine substratum, 0 to 2 percent slopes—35 percent

Contrasting inclusions:

Durixerollic Camborthids, coarse-silty, mixed, mesic, 0 to 2 percent slopes—8 percent
 Durixerollic Camborthids, fine-loamy, mixed, mesic, 0 to 2 percent slopes—7 percent

Characteristics of the Allor Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants

Parent material: Mixed alluvium

Slope: 0 to 2 percent

Elevation: 6,300 to 6,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 12 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 34 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 34 to 60 inches

Texture: Gravelly loamy sand, very gravelly loamy sand

Structure: Massive

Consistence: Very hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 5.1 to 6.4 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Kelk Soil

Classification: Durixerollic Camborthids, fine-silty, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Loess that includes volcanic ash, mixed alluvium

Slope: 0 to 2 percent

Elevation: 6,300 to 6,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass

Typical Profile

Depth: 0 to 4 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 4 to 12 inches

Texture: Silt loam

Structure: Massive

Consistence: Hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 40 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 40 to 60 inches

Texture: Silty clay loam

Structure: Massive

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Slow

Available water capacity: 9 to 11 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Fan aprons

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, fine-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Allor Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Kelk Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Allor Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action, shrink-swell

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Kelk Soil

Range seeding: Fair—too arid

Roadfill: Fair—thin layer, shrink-swell

Topsoil: Good

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—flooding, frost action, shrink-swell

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Allor soil—III_s, irrigated, and VII_c, nonirrigated; Kelk soil—II_c, irrigated, and VI_c, nonirrigated

Range site: Allor and Kelk soils—028B010N; Inclusion 1—028B010N; Inclusion 2—028B003N

3074—Allor-Orovada association, nearly level

Positions on landscape: Fan piedmonts, fan skirts

Composition

Major components:

Allor fine sandy loam, 0 to 2 percent slopes—50 percent

Orovada very fine sandy loam, 0 to 2 percent slopes—35 percent

Contrasting inclusions:

Duric Camborthids, coarse-loamy, mixed, mesic, 0 to 2 percent slopes—7 percent

Aeric Halaquepts, coarse-loamy, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Wholan silt loam, 0 to 2 percent slopes—3 percent

Characteristics of the Allor Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed mesic

Positions on landscape: Fan piedmont remnants

Parent material: Mixed alluvium

Slope: 0 to 2 percent

Elevation: 6,100 to 6,300 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 12 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 34 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 34 to 60 inches

Texture: Gravelly loamy sand, very gravelly loamy sand

Structure: Massive

Consistence: Very hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 5.1 to 6.4 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.32; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 0 to 2 percent

Elevation: 6,100 to 6,300 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Very fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 20 to 65 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 8.8 to 10.0 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The lower fan skirt margins

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Aeric Halaquepts, coarse-loamy, mixed, mesic

Positions on landscape: Adjacent lagoon remnants

Distinctive present vegetation: Black greasewood, basin big sagebrush

Inclusion 3

Classification: Typic Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Winterfat, Indian ricegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Allor Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Allor Soil**

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action, shrink-swell

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Fair—small stones, thin layer
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—frost action
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Allor soil—III_s, irrigated, and VII_c, nonirrigated; Orovada soil—II_c, irrigated, and VI_c, nonirrigated
Range site: Allor and Orovada soils—028B010N; Inclusion 1—024X002N; Inclusion 2—024X022N; Inclusion 3—024X004N

3080—Zaidy-Ricert association

Positions on landscape: Fan piedmonts

Composition

Major components:
 Zaidy very gravelly sandy loam, 2 to 8 percent slopes—60 percent
 Ricert gravelly fine sandy loam, 2 to 8 percent slopes—25 percent
Contrasting inclusions:
 Durixerollic Haplargids, coarse-loamy, mixed, mesic, 2 to 4 percent slopes—4 percent
 Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 4 to 8 percent slopes—4 percent
 Xerollic Durargids, loamy-skeletal, mixed, mesic, shallow, 8 to 15 percent slopes—4 percent
 Xerollic Haplargids, loamy, mixed, mesic, 8 to 15 percent slopes—3 percent

Characteristics of the Zaidy Soil

Classification: Haploxerollic Durargids, fine-loamy, mixed, mesic
Positions on landscape: The upper fan piedmont remnants
Parent material: Mixed alluvium
Slope: 2 to 8 percent
Elevation: 5,700 to 6,000 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 47 degrees F
Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, bluegrass, black sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 50 percent pebbles
Depth: 0 to 5 inches
Texture: Very gravelly sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 5 to 25 inches
Texture: Loam, clay loam, gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 6 to 13
Depth: 25 to 60 inches
Material: Cemented hardpan

Soil and Water Features

Depth to the hardpan: 20 to 30 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 2.8 to 3.4 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: C
Erosion factors (upper layer): K value—0.05; T value—2
 wind erodibility group—5
Hazard of erosion: By water—slight; by wind—moderate
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Ricert Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic
Positions on landscape: The lower fan piedmont remnants
Parent material: Thin loess deposits over mixed alluvium
Slope: 2 to 8 percent
Elevation: 5,700 to 6,000 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 6 to 18 inches

Texture: Loam, clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 18 to 60 inches

Texture: Very gravelly sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4 to 6 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—high

Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Classification: Durixerollic Haplargids, coarse-loamy, mixed, mesic

Positions on landscape: Fan drainageways

Distinctive present vegetation: Black sagebrush

Inclusion 2

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan aprons

Distinctive present vegetation: Wyoming big sagebrush, needleandthread

Inclusion 3

Classification: Xerollic Durargids, loamy-skeletal, mixed, mesic, shallow

Positions on landscape: The highest areas of fan piedmont remnants

Distinctive present vegetation: Black sagebrush

Inclusion 4

Classification: Xerollic Haplargids, loamy, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants near the front of mountains

Distinctive present vegetation: Wyoming big sagebrush, needleandthread

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Zaidy Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Ricert Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses**Zaidy Soil**

Range seeding: Poor—small stones

Roadfill: Poor—cemented pan

Topsoil: Poor—small stones

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cemented pan

Local roads and streets: Moderate—cemented pan, shrink-swell

Pond reservoir areas: Moderate—cemented pan, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Ricert Soil

Range seeding: Poor—too arid, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess sodium

Daily cover for landfill: Poor—seepage, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, excess sodium

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Zaidy soil—IVs, irrigated,

and VIIIs, nonirrigated; Ricert soil—IVe, irrigated, and VIIIs, nonirrigated

Range site: Zaidy soil—028B011N; Ricert soil—024X002N; Inclusion 1—028B016N; Inclusion 2—028B010N; Inclusion 3—028B016N; Inclusion 4—028B010N

3081—Zaidy-Allor association

Positions on landscape: Fan piedmonts

Composition

Major components:

Zaidy very gravelly fine sandy loam, 8 to 15 percent slopes—55 percent

Allor gravelly loam, 4 to 15 percent slopes—30 percent

Contrasting inclusions:

Durixerollic Haplargids, fine-loamy, mixed, mesic, 2 to 8 percent slopes—8 percent

Haploxerollic Durargids, fine-loamy, mixed, mesic, 15 to 30 percent slopes—4 percent

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—3 percent

Characteristics of the Zaidy Soil

Classification: Haploxerollic Durargids, fine-loamy, mixed, mesic

Positions on landscape: The higher fan piedmont remnants

Parent material: Mixed alluvium

Slope: 8 to 15 percent

Elevation: 6,700 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, bluegrass, black sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 50 percent pebbles

Depth: 0 to 5 inches

Texture: Very gravelly fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 5 to 25 inches

Texture: Loam, clay loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 6 to 13

Depth: 25 to 60 inches

Material: Cemented hardpan

Soil and Water Features

Depth to the hardpan: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.8 to 3.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—2 wind erodibility group—5

Hazard of erosion: By water—slight; by wind—moderate

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Allor Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed mesic

Positions on landscape: The lower fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 15 percent

Elevation: 6,700 to 6,800 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 12 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 12 to 34 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 34 to 60 inches

Texture: Gravelly loamy sand, very gravelly loamy sand

Structure: Massive

Consistence: Very hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 5.0 to 7.5 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic
Positions on landscape: Fan aprons
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Haploxerollic Durargids, fine-loamy, mixed, mesic
Positions on landscape: South-facing side slopes of fan piedmont remnants
Distinctive present vegetation: Indian ricegrass, galleta, Wyoming big sagebrush, shadscale

Inclusion 3

Classification: Durixerollic Durargids, loamy-skeletal, mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Zaidy Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Allor Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Zaidy Soil

Range seeding: Poor—small stones
Roadfill: Poor—cemented pan

Topsoil: Poor—small stones

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cemented pan

Local roads and streets: Moderate—cemented pan, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Allor Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action, shrink-swell, slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Zaidy soil—IVs, irrigated, and VIIs, nonirrigated; Allor soil—IVe, irrigated, and VIIc, nonirrigated

Range site: Zaidy soil—028B011N; Allor soil—028B010N; Inclusion 1—028B010N; Inclusion 2—024X045N; Inclusion 3—028B010N

3091—Packer-Newlands association

Positions on landscape: Mountains

Composition

Major components:

Packer extremely gravelly loam, 15 to 30 percent slopes—60 percent

Packer extremely cobbly loam, 8 to 15 percent slopes—15 percent

Newlands loam, 8 to 15 percent slopes—10 percent

Contrasting inclusions:

Argic Cryoborolls, clayey-skeletal, montmorillonitic, 8 to 15 percent slopes—8 percent

Argic Lithic Cryoborolls, loamy-skeletal, mixed, 8 to 15 percent slopes—4 percent

Rock outcrop—3 percent

Characteristics of the Packer Soil

Classification: Argic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: South-, east-, and west-facing side slopes of mountains

Parent material: Mixed residuum that includes loess and volcanic ash

Slope: 15 to 30 percent
Elevation: 7,800 to 10,000 feet
Average annual precipitation: About 15 inches
Average annual air temperature: About 42 degrees F
Frost-free season: About 50 days
Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Rock fragments on surface: 20 percent cobbles and stones, 70 percent pebbles

Depth: 0 to 10 inches

Texture: Extremely gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 21 inches

Texture: Extremely cobbly clay loam, extremely cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 21 to 60 inches

Texture: Extremely cobbly sandy loam, extremely cobbly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 3.8 to 5.5 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—3; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Packer Soil, Cobbly

Classification: Argic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Windswept crests of mountains

Parent material: Mixed residuum that includes loess and volcanic ash

Slope: 8 to 15 percent

Elevation: 7,800 to 10,000 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Rock fragments on surface: 40 percent cobbles, 30 percent pebbles

Depth: 0 to 10 inches

Texture: Extremely cobbly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 21 inches

Texture: Extremely cobbly sandy loam, extremely cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 21 to 60 inches

Texture: Extremely cobbly clay loam, extremely cobbly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 3.4 to 5.2 inches

Water-supplying capacity: 12 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Newlands Soil

Classification: Argic Cryoborolls, fine-loamy, mixed

Positions on landscape: Concave, north-facing side slopes of mountains

Parent material: Colluvium and residuum derived from andesite and rhyolite

Slope: 8 to 15 percent

Elevation: 7,800 to 10,000 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 41 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Mountain brome, needlegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 10 inches

Texture: Loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 46 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 46 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 40 to 60 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 5.5 to 6.7 inches

Water-supplying capacity: 14 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.28; T value—3; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Argic Cryoborolls, clayey-skeletal, montmorillonitic

Positions on landscape: The lower, north-facing side slopes of mountains

Distinctive present vegetation: Low sagebrush, Idaho fescue

Inclusion 2

Classification: Argic Lithic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Crests of mountains adjacent to areas of Rock outcrop

Distinctive present vegetation: Low sagebrush, black sagebrush

Inclusion 3

Positions on landscape: Escarpments

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Packer Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Packer Soil, Cobbly

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Newlands Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Packer Soil**

Range seeding: Poor—small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage, large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Packer Soil, Cobbly

Range seeding: Poor—large stones

Roadfill: Poor—large stones

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—large stones

Local roads and streets: Severe—large stones

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage, large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Newlands Soil

Range seeding: Good

Roadfill: Fair—depth to rock, thin layer

Topsoil: Poor—small stones, depth to rock

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—depth to rock, slope

Local roads and streets: Moderate—slope, shrink-swell, frost action

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Packer soils—VIIIs, nonirrigated; Newlands soil—IVe, irrigated, and VIc, nonirrigated

Range site: Packer soils—024X016N; Newlands soil—028B029N; Inclusion 1—024X027N; Inclusion 2—024X016N; Inclusion 3—none

3092—Packer-Hapgood-Rock outcrop association

Positions on landscape: Mountains

Composition

Major components:

Packer extremely gravelly loam, 8 to 15 percent slopes—50 percent

Hapgood gravelly loam, 8 to 15 percent slopes—20 percent

Rock outcrop—15 percent

Contrasting inclusions:

Layview extremely cobbly loam, 4 to 15 percent slopes—8 percent

Entic Cryoborolls, loamy-skeletal, mixed, 8 to 15 percent slopes—4 percent

Pachic Cryoborolls, loamy-skeletal, mixed, 15 to 30 percent slopes—3 percent

Characteristics of the Packer Soil

Classification: Argic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Convex, windswept crests and upper side slopes of mountains

Parent material: Mixed residuum that includes loess and volcanic ash

Slope: 8 to 15 percent

Elevation: 8,500 to 10,000 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Rock fragments on surface: 70 percent pebbles

Depth: 0 to 10 inches

Texture: Extremely gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 21 inches

Texture: Extremely cobbly clay loam, extremely cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 21 to 60 inches

Texture: Extremely cobbly sandy loam, extremely cobbly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 3.6 to 5.0 inches

Water-supplying capacity: 12 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—3 wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Concave, protected, lower side slopes of mountains

Parent material: Colluvium that includes loess and volcanic ash

Slope: 8 to 15 percent

Elevation: 8,500 to 10,000 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, mountain brome, bluegrass, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 17 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 5.8 to 7.4 inches
Water-supplying capacity: 16 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Rock Outcrop

Positions on landscape: Scattered peaks

Contrasting Inclusions**Inclusion 1**

Classification: Argic Lithic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: Crests of mountains near areas of Rock outcrop
Distinctive present vegetation: Low sagebrush, black sagebrush, Idaho fescue

Inclusion 2

Classification: Entic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: Side slopes of mountains in areas where snow accumulates
Distinctive present vegetation: Needlegrass, balsamroot

Inclusion 3

Classification: Pachic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: North-facing side slopes of mountains
Distinctive present vegetation: Oceanspray, mountain big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Packer Soil**

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Hapgood Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Packer Soil**

Range seeding: Poor—small stones

Roadfill: Fair—large stones
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—small stones
Shallow excavations: Moderate—slope, large stones
Local roads and streets: Moderate—slope, frost action, large stones
Pond reservoir areas: Severe—seepage, slope
Embankments, dikes, and levees: Severe—seepage, large stones
Sand: Improbable source—excess fines, large stones
Gravel: Improbable source—excess fines, large stones

Hapgood Soil

Range seeding: Fair—small stones
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—small stones
Shallow excavations: Moderate—slope
Local roads and streets: Moderate—slope, frost action
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Moderate—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Packer soil—VII_s, nonirrigated; Hapgood soil—VI_s, nonirrigated; Rock outcrop—VIII_s, nonirrigated
Range site: Packer soil—024X016N; Hapgood soil—024X032N; Rock outcrop—none; Inclusion 1—024X016N; Inclusion 2—025X028N; Inclusion 3—024X034N

3093—Packer-Layview-Hapgood association

Positions on landscape: Mountains

Composition**Major components:**

Packer very gravelly loam, 15 to 50 percent slopes—40 percent

Layview very gravelly sandy loam, 8 to 15 percent slopes—25 percent

Hapgood fine sandy loam, 30 to 50 percent slopes—20 percent

Contrasting inclusions:

Cumulic Haplaquolls, fine-loamy, mixed, frigid, 4 to 8 percent slopes—5 percent

Rock outcrop—4 percent

Itca very cobbly loam, 15 to 30 percent slopes—3 percent

Argic Cryoborolls, clayey-skeletal, montmorillonitic, 30 to 50 percent slopes—3 percent

Characteristics of the Packer Soil

Classification: Argic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Convex side slopes of mountains

Parent material: Mixed residuum that includes loess and volcanic ash

Slope: 15 to 50 percent

Elevation: 8,000 to 10,000 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 40 days

Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Rock fragments on surface: 55 percent pebbles

Depth: 0 to 10 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 21 inches

Texture: Extremely cobbly clay loam, extremely cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 21 to 60 inches

Texture: Extremely cobbly sandy loam, extremely cobbly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 6 to 8 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.15; T value—3; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Layview Soil

Classification: Argic Lithic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Windswept crests of mountains

Parent material: Residuum derived from andesite, rhyolite, and tuff

Slope: 8 to 15 percent

Elevation: 8,000 to 10,000 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Rock fragments on surface: 50 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 3 to 12 inches

Texture: Very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 12 inches

Material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.0 to 1.8 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Concave side slopes of mountains

Parent material: Colluvium that includes loess and volcanic ash

Slope: 30 to 50 percent

Elevation: 8,000 to 10,000 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, mountain

brome, bluegrass, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 17 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 6 to 7 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.20; T value—3; wind erodibility group—3

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Near seeps and springs, along canyon bottoms

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Inclusion 2

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 3

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: The lower, south- and west-facing side slopes of mountains

Distinctive present vegetation: Singleleaf pinyon, mountain big sagebrush

Inclusion 4

Classification: Argic Cryoborolls, clayey-skeletal, montmorillonitic

Positions on landscape: The lower, north-facing side slopes of mountains

Distinctive present vegetation: Low sagebrush, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Packer Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Layview Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Hapgood Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Packer Soil

Range seeding: Poor—small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage, large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Layview Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Hapgood Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Moderate—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Packer and Layview soils—VIIIs, nonirrigated; Hapgood soil—VIIe, nonirrigated
Range site: Packer and Layview soils—024X016N; Hapgood soil—024X023N; Inclusion 1—028B024N; Inclusion 2—none; Inclusion 3—025X061N; Inclusion 4—024X018N

3094—Packer-Hapgood-Torro association

Positions on landscape: Mountains

Composition

Major components:
 Packer extremely gravelly sandy loam, 30 to 75 percent slopes—40 percent
 Hapgood gravelly loam, 30 to 50 percent slopes—25 percent
 Torro very gravelly loam, 5 to 75 percent slopes—20 percent
Contrasting inclusions:
 Newlands extremely gravelly sandy loam, 30 to 50 percent slopes—7 percent
 Layview extremely gravelly sandy loam, 30 to 50 percent slopes—3 percent
 Rock outcrop—3 percent
 Rubble land—2 percent

Characteristics of the Packer Soil

Classification: Argic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: The highest side slopes of mountains
Parent material: Mixed residuum that includes loess and volcanic ash
Slope: 30 to 75 percent
Elevation: 8,700 to 9,400 feet
Average annual precipitation: About 15 inches
Average annual air temperature: About 42 degrees F
Frost-free season: About 50 days
Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 60 percent pebbles
Depth: 0 to 10 inches

Texture: Extremely gravelly sandy loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Neutral
Depth: 10 to 21 inches
Texture: Extremely cobbly clay loam, extremely cobbly loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral
Depth: 21 to 60 inches
Texture: Extremely cobbly sandy loam, extremely cobbly loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 5.0 to 6.5 inches
Water-supplying capacity: 12 inches
Runoff: Rapid
Hydrologic group: B
Erosion factors (upper layer): K value—0.10; T value—3
 wind erodibility group—8
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: North-facing, concave side slopes of mountains
Parent material: Colluvium that includes loess and volcanic ash
Slope: 30 to 50 percent
Elevation: 8,400 to 9,400 feet
Average annual precipitation: About 16 inches
Average annual air temperature: About 42 degrees F
Frost-free season: About 50 days
Dominant present vegetation: Idaho fescue, mountain brome, bluegrass, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 10 percent pebbles
Depth: 0 to 17 inches
Texture: Gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.8 to 7.4 inches

Water-supplying capacity: 16 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Torro Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: The lower, south- and west-facing side slopes of mountains

Parent material: Colluvium and residuum derived from chert and shale

Slope: 50 to 75 percent

Elevation: 7,700 to 8,800 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, bluegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 20 percent cobbles, 45 percent pebbles

Depth: 0 to 10 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 34 inches

Texture: Extremely gravelly loam, extremely gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 34 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy coarse sand

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.5 to 7.0 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Argic Cryoborolls, fine-loamy, mixed

Positions on landscape: The lower, north-facing side slopes of mountains

Distinctive present vegetation: Snowberry, serviceberry

Inclusion 2

Classification: Argic Lithic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Crests of mountains

Distinctive present vegetation: Low sagebrush, black sagebrush, bluegrass

Inclusion 3

Positions on landscape: Scattered peaks and severely eroded side slopes of mountains

Distinctive present vegetation: None

Inclusion 4

Positions on landscape: Side slopes of mountains

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Packer Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Hapgood Soil*Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair**Torro Soil***Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair***Suitability and Limitations for Selected Uses*****Packer Soil***Range seeding:* Poor—small stones*Roadfill:* Poor—slope*Topsoil:* Poor—small stones, area reclaim, slope*Daily cover for landfill:* Poor—small stones, slope*Shallow excavations:* Severe—slope*Local roads and streets:* Severe—slope*Pond reservoir areas:* Severe—seepage, slope*Embankments, dikes, and levees:* Severe—seepage, large stones*Sand:* Improbable source—excess fines, large stones*Gravel:* Improbable source—excess fines, large stones**Hapgood Soil***Range seeding:* Poor—erodes easily*Roadfill:* Poor—slope*Topsoil:* Poor—small stones, area reclaim, slope*Daily cover for landfill:* Poor—small stones, slope*Shallow excavations:* Severe—slope*Local roads and streets:* Severe—slope*Pond reservoir areas:* Severe—slope*Embankments, dikes, and levees:* Moderate—large stones*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Torro Soil***Range seeding:* Poor—small stones, erodes easily*Roadfill:* Poor—slope*Topsoil:* Poor—small stones, area reclaim, slope*Daily cover for landfill:* Poor—seepage, small stones, slope*Shallow excavations:* Severe—cutbanks cave, slope*Local roads and streets:* Severe—slope*Pond reservoir areas:* Severe—seepage, slope*Embankments, dikes, and levees:* Severe—seepage*Sand:* Probable source*Gravel:* Probable source***Interpretive Groups****Land capability classification:* Packer and Torro soils—VIIs, nonirrigated; Hapgood soil—VIIe, nonirrigated*Range site:* Packer soil—024X016N; Hapgood soil—024X032N; Torro soil—024X029N; Inclusion 1—028B029N; Inclusion 2—024X016N; Inclusions 3 and 4—none**3101—Hackwood-Newlands-Hapgood association***Positions on landscape:* Mountains***Composition****Major components:*

Hackwood gravelly loam, 15 to 30 percent slopes, rubbly—75 percent

Newlands extremely bouldery loam, 8 to 15 percent slopes—10 percent

Hapgood gravelly loam, 15 to 30 percent slopes—10 percent

Contrasting inclusions:

Entic Cryumbrepts, loamy-skeletal, mixed, 8 to 15 percent slopes—2 percent

Packer very gravelly loam, 8 to 15 percent slopes—2 percent

Rock outcrop—1 percent

Characteristics of the Hackwood Soil*Classification:* Pachic Cryoborolls, fine-loamy, mixed*Positions on landscape:* Concave side slopes of mountains below ridges and areas of Rock outcrop*Parent material:* Colluvium derived from volcanic rock*Slope:* 15 to 30 percent*Elevation:* 7,800 to 9,500 feet*Average annual precipitation:* About 18 inches*Average annual air temperature:* About 41 degrees F*Frost-free season:* About 40 days*Dominant present vegetation:* Quaking aspen***Typical Profile****Rock fragments on surface:* 25 percent stones and boulders*Depth:* 0 to 18 inches*Texture:* Gravelly loam*Structure:* Granular*Consistence:* Slightly hard, very friable*Reaction:* Slightly acid*Depth:* 18 to 32 inches*Texture:* Gravelly loam*Structure:* Subangular blocky*Consistence:* Slightly hard, friable*Reaction:* Slightly acid*Depth:* 32 to 60 inches*Texture:* Very gravelly clay loam*Structure:* Subangular blocky*Consistence:* Slightly hard, friable*Reaction:* Slightly acid***Soil and Water Features****Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None

Permeability: Moderate

Available water capacity: 6 to 8 inches

Water-supplying capacity: 18 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—5;
wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Newlands Soil

Classification: Argic Cryoborolls, fine-loamy, mixed

Positions on landscape: Slightly convex side slopes of mountains

Parent material: Colluvium and residuum derived from andesite and rhyolite

Slope: 8 to 15 percent

Elevation: 7,800 to 9,500 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 41 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Mountain brome, needlegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 8 percent stones and boulders, 25 percent pebbles

Depth: 0 to 10 inches

Texture: Extremely bouldery loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 46 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 46 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 40 to 60 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 6 to 8 inches

Water-supplying capacity: 14 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—3;
wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Concave side slopes of mountains

Parent material: Colluvium that includes loess and volcanic ash

Slope: 15 to 30 percent

Elevation: 7,800 to 9,500 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, mountain brome, bluegrass, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 17 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 6.0 to 7.4 inches

Water-supplying capacity: 16 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5;
wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Entic Cryumbrepts, loamy-skeletal, mixed

Positions on landscape: Concave areas of basins

Distinctive present vegetation: Needlegrass, balsamroot

Inclusion 2

Classification: Argic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Windswept crests of mountains

Distinctive present vegetation: Low sagebrush, Idaho fescue, balsamroot

Inclusion 3

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Hackwood Soil

Wild herbaceous plants (nonirrigated): Good

Shrubs (nonirrigated): Good

Newlands Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Hapgood Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Hackwood Soil

Range seeding: Poor—large stones

Roadfill: Fair—shrink-swell, slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Newlands Soil

Range seeding: Poor—large stones

Roadfill: Fair—depth to rock, thin layer

Topsoil: Poor—small stones, depth to rock

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—depth to rock, slope

Local roads and streets: Moderate—slope, shrink-swell, frost action

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer, large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Hapgood Soil

Range seeding: Fair—erodes easily, small stones

Roadfill: Fair—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Hackwood and Newlands soils—VII_s, nonirrigated; Hapgood soil—VI_e, nonirrigated

Range site: Hackwood soil—025X065N; Newlands

soil—028B029N; Hapgood soil—024X032N;

Inclusion 1—025X028N; Inclusion 2—024X016N;

Inclusion 3—none

3111—Ninemile-Zoesta-Itca association

Positions on landscape: Mountains

Composition

Major components:

Ninemile extremely cobbly loam, 15 to 30 percent slopes—55 percent

Zoesta cobbly loam, 8 to 15 percent slopes—15 percent

Itca extremely stony loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Rock outcrop—10 percent

Aridic Argixerolls, fine-loamy, mixed, frigid, 2 to 8 percent slopes—3 percent

Punchbowl very gravelly loam, 8 to 15 percent slopes—2 percent

Characteristics of the Ninemile Soil

Classification: Lithic Argixerolls, clayey, montmorillonitic, frigid

Positions on landscape: Convex side slopes of mountains

Parent material: Residuum derived from andesite, basalt, and tuff

Slope: 15 to 30 percent

Elevation: 6,800 to 7,400 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Low sagebrush, bluegrass, needlegrass, Idaho fescue, singleleaf pinyon

Typical Profile

Rock fragments on surface: 10 percent stones and boulders, 40 percent cobbles, 25 percent pebbles

Depth: 0 to 9 inches

Texture: Extremely cobbly loam

Structure: Granular

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 9 to 19 inches

Texture: Clay, gravelly clay

Structure: Prismatic

Consistence: Hard, firm

Reaction: Neutral

Depth: 19 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 2 to 3 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.05; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Zoesta Soil

Classification: Xerollic Paleargids, fine, montmorillonitic, frigid

Positions on landscape: Side slopes of mountains

Parent material: Alluvium and colluvium derived from various kinds of rock

Slope: 8 to 15 percent

Elevation: 6,800 to 7,400 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, low sagebrush

Typical Profile

Rock fragments on surface: 15 percent cobbles, 15 percent pebbles

Depth: 0 to 7 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 7 to 23 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Mildly alkaline

Depth: 23 to 31 inches

Texture: Gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Moderately alkaline

Depth: 31 to 60 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Massive

Consistence: Very hard, very firm

Reaction: Moderately alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 8 to 11 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Crests and side slopes of mountains near areas of Rock outcrop

Parent material: Residuum derived from extrusive volcanic and pyroclastic rock

Slope: 15 to 30 percent

Elevation: 6,800 to 7,400 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush

Site index for singleleaf pinyon: 70

Typical Profile

Rock fragments on surface: 15 percent stones and boulders, 10 percent cobbles, 20 percent pebbles

Depth: 0 to 9 inches

Texture: Extremely stony loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 9 to 17 inches

Texture: Very cobbly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 17 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.5 to 2.5 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Positions on landscape: Scattered peaks, rims, escarpments

Distinctive present vegetation: None

Inclusion 2

Classification: Argic Argixerolls, fine-loamy, mixed, frigid

Positions on landscape: Drainageways

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 3

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid

Positions on landscape: Low crests and shoulder slopes of mountains

Distinctive present vegetation: Black sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Ninemile Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Zoesta Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Itca Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Ninemile Soil**

Range seeding: Poor—droughty, large stones, rooting depth

Roadfill: Poor—depth to rock, low strength

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, too clayey, hard to pack

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, low strength, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Zoesta Soil

Range seeding: Poor—rooting depth

Roadfill: Fair—shrink-swell

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey, slope

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Slight

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Itca Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, large stones, too clayey

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Interpretive Groups

Land capability classification: Ninemile and Itca soils—VIIs, nonirrigated; Zoesta soil—IVs, irrigated, and VIIs, nonirrigated

Range site: Ninemile soil—028B037N; Zoesta soil—028B045N; Itca soil—025X061N; Inclusion 1—none; Inclusion 2—028B003N; Inclusion 3—028B016N

3120—Walti-Softscrabble-Chad association

Positions on landscape: Mountains

Composition

Major components:

Walti very cobbly loam, 30 to 50 percent slopes—40 percent

Softscrabble very cobbly fine sandy loam, 30 to 50 percent slopes—25 percent

Chad cobbly loam, 30 to 50 percent slopes—20 percent

Contrasting inclusions:

Cleavage very cobbly loam, 15 to 50 percent slopes—7 percent

Rock outcrop—6 percent

Rubble land—2 percent

Characteristics of the Walti Soil

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Convex side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolite, andesite, and tuff

Slope: 30 to 50 percent

Elevation: 6,400 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 4 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 10 inches

Texture: Clay loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 10 to 30 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Neutral

Depth: 30 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 2.0 to 3.5 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, north-facing side slopes of mountains

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 30 to 50 percent

Elevation: 6,400 to 8,200 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 30 percent cobbles, 25 percent pebbles

Depth: 0 to 16 inches

Texture: Very cobbly fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 16 to 30 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 30 to 60 inches
Texture: Very gravelly clay loam

Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 6 to 8 inches
Water-supplying capacity: 15 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—8
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Chad Soil

Classification: Aridic Argixerolls, fine, mixed, frigid
Positions on landscape: South-facing side slopes of mountains
Parent material: Residuum derived from chert and shale
Slope: 30 to 50 percent
Elevation: 6,400 to 8,200 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Bluebunch wheatgrass, Thurber needlegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 20 percent cobbles, 10 percent pebbles

Depth: 0 to 11 inches
Texture: Cobbly loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Neutral

Depth: 11 to 43 inches
Texture: Gravelly clay, clay
Structure: Prismatic
Consistence: Hard, firm
Reaction: Mildly alkaline

Depth: 43 inches
Texture: Weathered bedrock

Soil and Water Features

Depth to bedrock: 40 to 60 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 4.5 to 7.0 inches

Water-supplying capacity: 13 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.28; T value—3
 wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Convex crests and shoulder slopes of mountains

Distinctive present vegetation: Low sagebrush, black sagebrush

Inclusion 2

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 3

Positions on landscape: Below areas of Rock outcrop

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Walti Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Chad Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Walti Soil

Range seeding: Poor—rooting depth, large stones

Roadfill: Poor—depth to rock, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones, slope

Daily cover for landfill: Poor—depth to rock, hard to pack, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—shrink-swell, low strength, slope

Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Severe—hard to pack
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Poor—large stones
Roadfill: Poor—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Severe—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Chad Soil

Range seeding: Poor—erodes easily
Roadfill: Poor—slope, shrink-swell
Topsoil: Poor—small stones, slope
Daily cover for landfill: Poor—too clayey, hard to pack, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope, shrink-swell
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Severe—hard to pack
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Walti and Softscrabble soils—VII, nonirrigated; Chad soil—VIIe, nonirrigated
Range site: Walti soil—028B037N; Softscrabble soil—024X021N; Chad soil—024X029N; Inclusion 1—028B038N; Inclusions 2 and 3—none

3121—Walti-Softscrabble-Bucan association

Positions on landscape: Mountains

Composition

Major components:
 Walti extremely cobbly loam, 30 to 50 percent slopes—45 percent
 Softscrabble very cobbly loam, 30 to 50 percent slopes—20 percent
 Bucan very cobbly loam, 30 to 50 percent slopes—20 percent
Contrasting inclusions:
 Cumulic Haplaquolls, fine-loamy, mixed, frigid, 2 to 8 percent slopes—6 percent
 Rock outcrop—5 percent
 Pachic Haploxerolls, fine-loamy, mixed, frigid, 4 to 15 percent slopes—3 percent

Cumulic Haplaquolls, fine-loamy, mixed, frigid, 2 to 8 percent slopes—1 percent

Characteristics of the Walti Soil

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid
Positions on landscape: Stable crests and shoulder slopes of mountains
Parent material: Colluvium and residuum derived from rhyolite, andesite, and tuff
Slope: 30 to 50 percent
Elevation: 6,500 to 8,000 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Rock fragments on surface: 40 percent cobbles and stones, 20 percent pebbles
Depth: 0 to 4 inches
Texture: Extremely cobbly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral
Depth: 4 to 10 inches
Texture: Clay loam, gravelly clay loam
Structure: Subangular blocky
Consistence: Hard, friable
Reaction: Neutral
Depth: 10 to 30 inches
Texture: Clay
Structure: Prismatic
Consistence: Very hard, firm
Reaction: Neutral
Depth: 30 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 30 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Very slow
Available water capacity: 3.5 to 5.0 inches
Water-supplying capacity: 12 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, north- and east-facing side slopes of mountains

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 30 to 50 percent

Elevation: 6,500 to 8,000 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 16 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 16 to 30 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 30 to 60 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6 to 8 inches

Water-supplying capacity: 15 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Bucan Soil

Classification: Xerollic Haplargids, fine, montmorillonitic, frigid

Positions on landscape: West- and south-facing side slopes of mountains

Parent material: Loess cap that is high in content of volcanic ash over residuum and colluvium derived from volcanic rock

Slope: 30 to 50 percent

Elevation: 6,500 to 8,000 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Wyoming big sagebrush, bluebunch wheatgrass, bluegrass

Typical Profile

Rock fragments on surface: 15 percent stones and boulders, 20 percent cobbles, 20 percent pebbles

Depth: 0 to 4 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 4 to 18 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Mildly alkaline

Depth: 18 to 52 inches

Texture: Cobbly clay, gravelly clay, gravelly clay loam

Structure: Massive

Consistence: Hard, firm

Reaction: Moderately alkaline

Depth: 52 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 40 to 60 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 8 to 10 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—3; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Canyon bottoms, near seeps

Distinctive present vegetation: Willow, sedge, chokecherry

Inclusion 2

Positions on landscape: Rims

Distinctive present vegetation: None

Inclusion 3

Classification: Pachic Haploxerolls, fine-loamy, mixed, frigid

Positions on landscape: Concave, sheltered side slopes of mountains

Distinctive present vegetation: Aspen

Inclusion 4

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Seeps, springs

Distinctive present vegetation: Tufted hairgrass, Nevada bluegrass

Minor Inclusion

Positions on landscape: Below areas of Rock outcrop

Distinctive present vegetation: None

Suitability for Wildlife Habitat Elements

Walti Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Bucan Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Walti Soil

Range seeding: Poor—rooting depth, large stones

Roadfill: Poor—depth to rock, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones, slope

Daily cover for landfill: Poor—depth to rock, hard to pack, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—shrink-swell, low strength, slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—hard to pack

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Poor—large stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Bucan Soil

Range seeding: Poor—large stones, rooting depth

Roadfill: Poor—shrink-swell, low strength, slope

Topsoil: Poor—too clayey, area reclaim, small stones

Daily cover for landfill: Poor—large stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—shrink-swell, low strength, slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Walti, Softscrabble, and Bucan soils—VIIs, nonirrigated

Range site: Walti soil—024X027N; Softscrabble soil—024X021N; Bucan soil—024X028N; Inclusion 1—028B024N; Inclusion 2—none; Inclusion 3—025X065N; Inclusion 4—025X005N

3122—Walti-Sumine-Softscrabble association

Positions on landscape: Mountains

Composition

Major components:

Walti gravelly loam, 30 to 50 percent slopes—35 percent

Sumine cobbly loam, 30 to 50 percent slopes—30 percent

Softscrabble cobbly loam, 30 to 50 percent slopes—20 percent

Contrasting inclusions:

Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid, 4 to 30 percent slopes—6 percent

Rock outcrop—5 percent

Cumulic Haploxerolls, fine-loamy, mixed, frigid, 4 to 15 percent slopes—2 percent

Rubble land—2 percent

Characteristics of the Walti Soil

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Convex, stable side slopes of mountains

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 30 to 50 percent

Elevation: 6,500 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 10 inches

Texture: Clay loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 10 to 30 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Neutral

Depth: 30 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 3.5 to 4.7 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.28; T value—2; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Sumine Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: South-facing side slopes of mountains

Parent material: Colluvium and residuum derived from quartzite and sandstone

Slope: 30 to 50 percent

Elevation: 6,500 to 8,200 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Bluebunch wheatgrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 20 percent cobbles, 10 percent pebbles

Depth: 0 to 10 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Soft, friable

Reaction: Neutral

Depth: 10 to 30 inches

Texture: Very cobbly clay loam, very gravelly clay loam, very gravelly loam

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 30 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 3.0 to 4.5 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.24; T value—2; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, north-facing side slopes of mountains

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 30 to 50 percent

Elevation: 6,500 to 8,200 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 20 percent cobbles, 10 percent pebbles

Depth: 0 to 16 inches

Texture: Cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 16 to 30 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 30 to 60 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6 to 8 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.17; T value—5; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid

Positions on landscape: Windswept crests of mountains

Distinctive present vegetation: Black sagebrush, low sagebrush, Idaho fescue

Inclusion 2

Positions on landscape: Rims, cliffs

Distinctive present vegetation: None

Inclusion 3

Classification: Cumulic Haploxerolls, fine-loamy, mixed, frigid

Positions on landscape: Narrow mountain drainageways

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 4

Positions on landscape: Side slopes of mountains

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Walti Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Sumine Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Walti Soil

Range seeding: Poor—rooting depth, erodes easily

Roadfill: Poor—depth to rock, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones, slope

Daily cover for landfill: Poor—depth to rock, hard to pack, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—shrink-swell, low strength, slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—hard to pack

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Sumine Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Fair—large stones, erodes easily

Roadfill: Poor—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Moderate—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Walti soil—VIIe, nonirrigated; Sumine and Softscrabble soils—VIIs, nonirrigated
Range site: Walti soil—024X027N; Sumine soil—024X029N; Softscrabble soil—024X021N; Inclusion 1—024X016N; Inclusion 2—none; Inclusion 3—028B024N; Inclusion 4—none

3123—Walti-Softscrabble-Itca association

Positions on landscape: Mountains

Composition

Major components:
 Walti very cobbly loam, 8 to 15 percent slopes—35 percent
 Softscrabble very gravelly loam, 15 to 30 percent slopes—30 percent
 Itca extremely stony loam, 15 to 30 percent slopes—20 percent
Contrasting inclusions:
 Cumulic Haploxerolls, fine-loamy, mixed, frigid, 2 to 8 percent slopes—5 percent
 Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid, 15 to 30 percent slopes—5 percent
 Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid, 15 to 30 percent slopes—5 percent

Characteristics of the Walti Soil

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid
Positions on landscape: Crests and shoulder slopes of mountains
Parent material: Colluvium and residuum derived from rhyolite, andesite, and tuff
Slope: 8 to 15 percent
Elevation: 7,000 to 8,200 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles
Depth: 0 to 4 inches
Texture: Very cobbly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral
Depth: 4 to 10 inches
Texture: Clay loam, gravelly clay loam
Structure: Subangular blocky
Consistence: Hard, friable
Reaction: Neutral
Depth: 10 to 30 inches
Texture: Clay
Structure: Prismatic
Consistence: Very hard, firm
Reaction: Neutral
Depth: 30 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 30 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Very slow
Available water capacity: 3 to 5 inches
Water-supplying capacity: 12 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.15; T value—2
 wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: Concave side slopes of mountains
Parent material: Colluvium and residuum derived from volcanic rock
Slope: 15 to 30 percent
Elevation: 7,000 to 8,200 feet
Average annual precipitation: About 16 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 70 days
Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 10 percent cobbles, 45 percent pebbles

Depth: 0 to 16 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 16 to 30 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 30 to 60 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 7.2 to 8.7 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Convex side slopes of mountains

Parent material: Residuum derived from extrusive volcanic and pyroclastic rock

Slope: 15 to 30 percent

Elevation: 7,000 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush

Site index for singleleaf pinyon: 70

Typical Profile

Rock fragments on surface: 10 percent stones and boulders, 15 percent cobbles, 30 percent pebbles

Depth: 0 to 2 inches

Texture: Extremely stony loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 2 to 14 inches

Texture: Very cobbly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 14 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.8 to 3 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: 28 Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Cumulic Haploxerolls, fine-loamy, mixed, frigid

Positions on landscape: Canyon bottoms, narrow mountain drainageways

Distinctive present vegetation: Chokecherry

Inclusion 2

Classification: Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: South-facing side slopes of mountains

Distinctive present vegetation: Bluebunch wheatgrass, mountain big sagebrush

Inclusion 3

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid

Positions on landscape: Convex, windswept crests of mountains near areas of Rock outcrop

Distinctive present vegetation: Low sagebrush, black sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Walti Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Itca Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Walti Soil

Range seeding: Poor—rooting depth, large stones

Roadfill: Poor—depth to rock, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones

Daily cover for landfill: Poor—depth to rock, hard to pack

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—shrink-swell, low strength

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—hard to pack

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Poor—small stones

Roadfill: Fair—large stones, slope, shrink-swell

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Itca Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—large stones
Sand: Improbable source—excess fines, large stones
Gravel: Improbable source—excess fines, large stones

Interpretive Groups

Land capability classification: Walti, Softscrabble, and Itca soils—VIIs, nonirrigated

Range site: Walti soil—024X027N; Softscrabble soil—024X021N; Itca soil—025X061N; Inclusion 1—028B025N; Inclusion 2—024X029N; Inclusion 3—024X016N

3125—Walti-Softscrabble-Robson association

Positions on landscape: Mountains

Composition

Major components:

Walti very cobbly loam, 15 to 30 percent slopes—50 percent

Softscrabble very cobbly fine sandy loam, 15 to 30 percent slopes—20 percent

Robson very cobbly loam, 8 to 15 percent slopes—15 percent

Contrasting inclusions:

Welch loam, drained, 2 to 8 percent slopes—5 percent

Cleavage very cobbly loam, 8 to 30 percent slopes—5 percent

Rock outcrop—3 percent

Rubble land—2 percent

Characteristics of the Walti Soil

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: The intermediate and upper side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolite, andesite, and tuff

Slope: 15 to 30 percent

Elevation: 6,000 to 7,500 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 4 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 10 inches

Texture: Clay loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 10 to 30 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Neutral

Depth: 30 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 4.0 to 5.5 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: North-facing side slopes of mountains

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 15 to 30 percent

Elevation: 6,000 to 7,500 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 25 percent cobbles, 25 percent pebbles

Depth: 0 to 16 inches

Texture: Very cobbly fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 16 to 30 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 30 to 60 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6.0 to 7.5 inches

Water-supplying capacity: 15 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Robson Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Convex, lower side slopes of mountains

Parent material: Residuum derived from siliceous tuff, rhyolite, and andesite

Slope: 8 to 15 percent

Elevation: 6,000 to 7,300 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Low sagebrush, Sandberg bluegrass

Typical Profile

Rock fragments on surface: 25 percent cobbles, 20 percent pebbles

Depth: 0 to 2 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Salinity: 0 to 1 millimho per centimeter

Depth: 2 to 5 inches

Texture: Very cobbly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 1 millimho per centimeter
Depth: 5 to 15 inches
Texture: Very cobbly clay, extremely cobbly clay
Structure: Angular blocky
Consistence: Hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 1 millimho per centimeter
Depth: 15 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 12 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 0.6 to 1.8 inches
Water-supplying capacity: 10 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid
Positions on landscape: Narrow mountain drainageways
Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 2

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: Crests of mountains
Distinctive present vegetation: Low sagebrush, black sagebrush, Idaho fescue

Inclusion 3

Positions on landscape: Scattered peaks
Distinctive present vegetation: None

Inclusion 4

Positions on landscape: Side slopes of mountains
Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Walti Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Robson Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Walti Soil

Range seeding: Poor—rooting depth, large stones
Roadfill: Poor—depth to rock, shrink-swell, low strength
Topsoil: Poor—too clayey, small stones, slope
Daily cover for landfill: Poor—depth to rock, hard to pack, slope
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—shrink-swell, low strength, slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Severe—hard to pack
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Poor—large stones
Roadfill: Fair—large stones, slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Severe—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Robson Soil

Range seeding: Poor—droughty, large stones
Roadfill: Poor—depth to rock, large stones
Topsoil: Poor—depth to rock, small stones
Daily cover for landfill: Poor—depth to rock, large stones
Shallow excavations: Severe—depth to rock, large stones
Local roads and streets: Severe—depth to rock, large stones
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—large stones
Sand: Improbable source—excess fines, large stones
Gravel: Improbable source—excess fines, large stones

Interpretive Groups

Land capability classification: Walti, Softscrabble, and Robson soils—VIIs, nonirrigated

Range site: Walti soil—028B037N; Softscrabble soil—024X021N; Robson soil—028B045N; Inclusion 1—028B024N; Inclusion 2—028B038N; Inclusions 3 and 4—none

3130—Itca-Clanalpine-Reluctan association

Positions on landscape: Mountains

Composition

Major components:

Itca very gravelly loam, 15 to 30 percent slopes—35 percent

Clanalpine very gravelly loam, 30 to 50 percent slopes—35 percent

Reluctan very cobbly loam, 30 to 50 percent slopes—15 percent

Contrasting inclusions:

Xerollic Paleargids, fine, montmorillonitic, frigid, 8 to 30 percent slopes—8 percent

Cumulic Haploxerolls, fine-loamy, mixed, frigid, 2 to 8 percent slopes—3 percent

Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid, 15 to 30 percent slopes—2 percent

Rock outcrop—2 percent

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Convex crests of mountains

Parent material: Residuum derived from extrusive volcanic and pyroclastic rock

Slope: 15 to 30 percent

Elevation: 6,400 to 7,300 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush

Site index for singleleaf pinyon: 70

Typical Profile

Rock fragments on surface: 10 percent cobbles, 40 percent pebbles

Depth: 0 to 9 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 9 to 17 inches

Texture: Very gravelly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 17 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.5 to 2.2 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Clanalpine Soil

Classification: Typic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic and andesitic tuff

Slope: 30 to 50 percent

Elevation: 6,400 to 7,300 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 41 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Singleleaf pinyon, mountain big sagebrush, bluebunch wheatgrass, Utah juniper

Site index for singleleaf pinyon: 75

Typical Profile

Rock fragments on surface: 5 percent stones and boulders, 40 percent cobbles, 20 percent pebbles

Depth: 0 to 10 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 10 to 39 inches

Texture: Very gravelly clay loam, very cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Mildly alkaline

Depth: 39 inches

Texture: Weathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 5.2 to 6.5 inches
Water-supplying capacity: 14 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.17; T value—2; wind erodibility group—7
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Reluctan Soil

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid
Positions on landscape: Slightly convex, north-facing side slopes of mountains
Parent material: Colluvium and residuum derived from rhyolitic rock
Slope: 30 to 50 percent
Elevation: 6,400 to 7,300 feet
Average annual precipitation: About 12 inches
Average annual air temperature: About 43 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Bluebunch wheatgrass, needlegrass, Idaho fescue, mountain big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles
Depth: 0 to 9 inches
Texture: Very cobbly loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Neutral
Depth: 9 to 27 inches
Texture: Gravelly clay loam, gravelly loam
Structure: Subangular blocky
Consistence: Hard, firm
Reaction: Mildly alkaline
Depth: 27 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow

Available water capacity: 3.6 to 5.0 inches
Water-supplying capacity: 12 inches
Runoff: Medium
Hydrologic group: C
Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Xerollic Paleargids, fine, montmorillonitic, frigid
Positions on landscape: Foot slopes of mountains
Distinctive present vegetation: Low sagebrush, Idaho fescue, rabbitbrush

Inclusion 2

Classification: Cumulic Haploxerolls, fine-loamy, mixed, frigid
Positions on landscape: Canyon bottoms, narrow mountain drainageways
Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 3

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid
Positions on landscape: South-facing, lower crests of mountains
Distinctive present vegetation: Black sagebrush, rabbitbrush

Inclusion 4

Positions on landscape: Scattered peaks
Distinctive present vegetation: None

Major Uses

Current uses: Livestock grazing, wildlife habitat
Potential foreseeable use: Cordwood production

Suitability for Wildlife Habitat Elements**Itca Soil**

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Clanalpine Soil

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Reluctan Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Itca Soil**

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Clanalpine Soil

Range seeding: Poor—small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Reluctan Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Itca, Clanalpine, and Reluctan soils—VII, nonirrigated

Range site: Itca and Clanalpine soils—025X061N; Reluctan soil—024X021N; Inclusion 1—024X018N; Inclusion 2—028B024N; Inclusion 3—024X031N

3131—Itca-Ninemile-Rock outcrop association

Positions on landscape: Mountains

Composition*Major components:*

Itca extremely stony loam, 50 to 75 percent slopes—50 percent

Ninemile extremely cobbly loam, 15 to 30 percent slopes—20 percent

Rock outcrop—15 percent

Contrasting inclusions:

Aridic Argixerolls, fine, montmorillonitic, frigid, 8 to 15 percent slopes—8 percent

Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid, 30 to 50 percent slopes—5 percent

Pachic Argixerolls, fine, montmorillonitic, frigid, 2 to 8 percent slopes—2 percent

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Concave, upper side slopes of mountains

Parent material: Residuum derived from extrusive volcanic and pyroclastic rock

Slope: 50 to 75 percent

Elevation: 6,800 to 7,900 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush

Site index for singleleaf pinyon: 70

Typical Profile

Rock fragments on surface: 25 percent stones and boulders, 35 percent cobbles, 20 percent pebbles

Depth: 0 to 9 inches

Texture: Extremely stony loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 9 to 17 inches

Texture: Very cobbly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 17 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.8 to 2.7 inches
Water-supplying capacity: 10 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—1;
 wind erodibility group—8
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Ninemile Soil

Classification: Lithic Argixerolls, clayey, montmorillonitic, frigid
Positions on landscape: The lower side slopes of mountains
Parent material: Residuum derived from andesite, basalt, and tuff
Slope: 15 to 30 percent
Elevation: 6,800 to 7,800 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 43 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Low sagebrush, bluegrass, needlegrass, Idaho fescue, singleleaf pinyon

Typical Profile

Rock fragments on surface: 10 percent stones and boulders, 40 percent cobbles, 25 percent pebbles
Depth: 0 to 2 inches
Texture: Extremely cobbly loam
Structure: Granular
Consistence: Slightly hard, friable
Reaction: Neutral
Depth: 2 to 14 inches
Texture: Clay, gravelly clay
Structure: Prismatic
Consistence: Hard, firm
Reaction: Neutral
Depth: 14 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Very slow
Available water capacity: 1.8 to 2.5 inches
Water-supplying capacity: 10 inches
Runoff: Rapid

Hydrologic group: D
Erosion factors (upper layer): K value—0.05; T value—1
 wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Characteristics of the Rock Outcrop

Positions on landscape: Shoulder slopes of mountains
Dominant present vegetation: None

Contrasting Inclusions

Inclusion 1

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid
Positions on landscape: Concave crests of mountains
Distinctive present vegetation: Low sagebrush, black sagebrush

Inclusion 2

Classification: Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: South-facing side slopes of mountains
Distinctive present vegetation: Mountain big sagebrush, bluebunch wheatgrass

Inclusion 3

Classification: Pachic Argixerolls, fine, montmorillonitic, frigid
Positions on landscape: Foot slopes of intermountain drainageways
Distinctive present vegetation: Basin big sagebrush

Major Uses

Current uses: Livestock grazing, wildlife habitat
Potential foreseeable use: Wood products

Suitability for Wildlife Habitat Elements

Itca Soil

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Ninemile Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Itca Soil

Range seeding: Poor—droughty, large stones
Roadfill: Poor—depth to rock, large stones, too clayey
Topsoil: Poor—depth to rock, small stones, too clayey
Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Ninemile Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, low strength

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, too clayey, hard to pack

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, low strength, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Itca and Ninemile soils—VIIs, nonirrigated; Rock outcrop—VIIIs, nonirrigated

Range site: Itca soil—025X061N; Ninemile soil—028B037N; Rock outcrop—none; Inclusion 1—024X018N; Inclusion 2—028B027N; Inclusion 3—028B024N

3132—Itca-Softscrabble-Cleavage association

Positions on landscape: Mountains

Composition

Major components:

Itca extremely stony loam, 15 to 50 percent slopes—40 percent

Softscrabble cobbly loam, 30 to 50 percent slopes—30 percent

Cleavage very cobbly loam, 8 to 15 percent slopes—15 percent

Contrasting inclusions:

Aridic Argixerolls, fine, montmorillonitic, frigid, 30 to 50 percent slopes—5 percent

Lithic Argixerolls, clayey, montmorillonitic, frigid, 8 to 15 percent slopes—5 percent

Rock outcrop—5 percent

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Side slopes of mountains near Rock outcrop

Parent material: Residuum derived from extrusive volcanic and pyroclastic rock

Slope: 15 to 50 percent

Elevation: 7,000 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush

Site index for singleleaf pinyon: 70

Typical Profile

Rock fragments on surface: 10 percent stones and boulders, 10 percent cobbles, 30 percent pebbles

Depth: 0 to 2 inches

Texture: Extremely stony loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 2 to 14 inches

Texture: Very cobbly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 14 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.8 to 2.5 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave side slopes of mountains

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 30 to 50 percent
Elevation: 7,000 to 8,200 feet
Average annual precipitation: About 16 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 70 days
Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 10 percent cobbles, 10 percent pebbles

Depth: 0 to 16 inches
Texture: Cobbly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral

Depth: 16 to 30 inches
Texture: Very cobbly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral

Depth: 30 to 60 inches
Texture: Very gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 6 to 8 inches
Water-supplying capacity: 14 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.17; T value—5; wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Cleavage Soil

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: Convex crests of mountains
Parent material: Residuum derived from rhyolite and other igneous rock
Slope: 8 to 15 percent
Elevation: 7,500 to 8,200 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 80 days

Dominant present vegetation: Low sagebrush, black sagebrush, Idaho fescue, bluegrass

Typical Profile

Rock fragments on surface: 10 percent cobbles, 60 percent pebbles

Depth: 0 to 4 inches
Texture: Very cobbly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral

Depth: 4 to 18 inches
Texture: Very gravelly clay loam
Structure: Angular blocky
Consistence: Slightly hard, friable
Reaction: Neutral

Depth: 18 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.8 to 2.5 inches
Water-supplying capacity: 10 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid
Positions on landscape: The lower side slopes of mountains
Distinctive present vegetation: Utah juniper, singleleaf pinyon, mountain big sagebrush

Inclusion 2

Classification: Lithic Argixerolls, clayey, montmorillonitic, frigid
Positions on landscape: Concave crests of mountains
Distinctive present vegetation: Low sagebrush, Idaho fescue, bluebunch wheatgrass

Inclusion 3

Positions on landscape: Scattered peaks and cliffs
Distinctive present vegetation: None

Major Uses

Current uses: Livestock grazing, wildlife habitat
Potential foreseeable use: Cordwood production

Suitability for Wildlife Habitat Elements**Itca Soil**

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Cleavage Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Itca Soil**

Range seeding: Poor—droughty, large stones
Roadfill: Poor—depth to rock, large stones, too clayey
Topsoil: Poor—depth to rock, small stones, too clayey
Daily cover for landfill: Poor—depth to rock, too clayey, small stones
Shallow excavations: Severe—depth to rock, large stones, slope
Local roads and streets: Severe—depth to rock, large stones, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—large stones
Sand: Improbable source—excess fines, large stones
Gravel: Improbable source—excess fines, large stones

Softscrabble Soil

Range seeding: Fair—large stones, erodes easily
Roadfill: Poor—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Moderate—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Cleavage Soil

Range seeding: Poor—droughty, large stones
Roadfill: Poor—depth to rock
Topsoil: Poor—depth to rock, small stones
Daily cover for landfill: Poor—depth to rock, small stones
Shallow excavations: Severe—depth to rock
Local roads and streets: Severe—depth to rock
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Itca, Softscrabble, and Cleavage soils—VIIIs, nonirrigated
Range site: Itca soil—025X061N; Softscrabble soil—024X021N; Cleavage soil—024X016N; Inclusion 1—025X062N; Inclusion 2—024X027N; Inclusion 3—none

3134—Itca-Clanalpine-Torro association

Positions on landscape: Mountains

Composition

Major components:

Itca extremely cobbly fine sandy loam, 15 to 30 percent slopes—35 percent
 Clanalpine extremely cobbly loam, 30 to 50 percent slopes—25 percent
 Torro very gravelly loam, 30 to 50 percent slopes—25 percent
Contrasting inclusions:
 Softscrabble gravelly loam, 15 to 50 percent slopes—5 percent
 Rock outcrop—5 percent
 Walti very cobbly fine sandy loam, 8 to 30 percent slopes—4 percent
 Cumulic Haploxerolls, fine-loamy, mixed, frigid, 2 to 8 percent slopes—1 percent

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: Convex crests, spurs, and side slopes of mountains adjacent to areas of Rock outcrop
Parent material: Residuum derived from extrusive volcanic and pyroclastic rock
Slope: 15 to 30 percent
Elevation: 7,000 to 8,200 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 43 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush
Site index for singleleaf pinyon: 65

Typical Profile

Rock fragments on surface: 45 percent cobbles, 30 percent pebbles
Depth: 0 to 9 inches
Texture: Extremely cobbly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 9 to 17 inches

Texture: Very gravelly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 17 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.2 to 1.6 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.05; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Clanalpine Soil

Classification: Typic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: North- and east-facing, convex side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic and andesitic tuff

Slope: 30 to 50 percent

Elevation: 7,000 to 8,200 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 41 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Singleleaf pinyon, mountain big sagebrush, bluebunch wheatgrass, Utah juniper

Site index for singleleaf pinyon: 75

Typical Profile

Rock fragments on surface: 5 percent stones and boulders, 40 percent cobbles, 20 percent pebbles

Depth: 0 to 12 inches

Texture: Extremely cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 12 to 38 inches

Texture: Very gravelly clay loam, very cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Mildly alkaline

Depth: 38 inches

Texture: Weathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4 to 5 inches

Water-supplying capacity: 13 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Torro Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: South- and west-facing side slopes of mountains

Parent material: Colluvium and residuum derived from chert and shale

Slope: 30 to 50 percent

Elevation: 7,000 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, bluegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 55 percent pebbles

Depth: 0 to 10 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 38 inches

Texture: Extremely gravelly loam, extremely gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 38 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy coarse sand

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 4.5 to 5.8 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave side slopes of mountains in areas where snow accumulates

Distinctive present vegetation: Snowberry, mountain big sagebrush, bluegrass

Inclusion 2

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 3

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Stable, convex side slopes of mountains

Distinctive present vegetation: Low sagebrush, bluegrass

Inclusion 4

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Canyon bottoms, drainageways

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Minor Inclusions

Positions on landscape: Side slopes of mountains

Distinctive present vegetation: None

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Cordwood production

Suitability for Wildlife Habitat Elements

Itca Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Clanalpine Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Torro Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Itca Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Clanalpine Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Torro Soil

Range seeding: Poor—small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—seepage, small stones, slope

Shallow excavations: Severe—cutbanks cave, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Itca, Clanalpine, and Torro soils—VIIIs, nonirrigated

Range site: Itca and Clanalpine soils—025X061N; Torro soil—024X029N; Inclusion 1—024X021N; Inclusion 2—none; Inclusion 3—024X027N; Inclusion 4—028B025N

3135—Itca-Clanalpine-Rock outcrop association

Positions on landscape: Mountains

Composition

Major components:

Itca stony loam, 30 to 50 percent slopes—35 percent

Clanalpine very gravelly loam, 50 to 75 percent slopes—35 percent

Rock outcrop—15 percent

Contrasting inclusions:

Cleavage cobbly loam, 15 to 30 percent slopes—7 percent

Jung very gravelly loam, 15 to 30 percent slopes—5 percent

Aridic Argixerolls, loamy-skeletal, mixed, frigid, 15 to 30 percent slopes—3 percent

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Crests, shoulder slopes, and convex side slopes of mountains

Parent material: Residuum derived from extrusive volcanic and pyroclastic rock

Slope: 30 to 50 percent

Elevation: 6,500 to 8,000 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush

Site index for singleleaf pinyon: 70

Typical Profile

Rock fragments on surface: 0.1 percent stones and boulders, 10 percent cobbles, 30 percent pebbles

Depth: 0 to 2 inches

Texture: Stony loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 2 to 14 inches

Texture: Very cobbly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 14 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 2.0 to 2.3 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1 wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Clanalpine Soil

Classification: Typic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic and andesitic tuff

Slope: 50 to 75 percent

Elevation: 6,500 to 8,000 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 41 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Singleleaf pinyon, mountain big sagebrush, bluebunch wheatgrass, Utah juniper

Typical Profile

Rock fragments on surface: 5 percent stones and boulders, 10 percent cobbles, 40 percent pebbles

Depth: 0 to 10 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 10 to 39 inches

Texture: Very gravelly clay loam, very cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Mildly alkaline

Depth: 39 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4.3 to 5.7 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.17; T value—2; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Rock Outcrop

Positions on landscape: Scattered peaks and cliffs

Dominant present vegetation: None

Contrasting Inclusions

Inclusion 1

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Crests of mountains

Distinctive present vegetation: Low sagebrush, black sagebrush, bluegrass

Inclusion 2

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: The lowest convex side slopes of mountains

Distinctive present vegetation: Black sagebrush, rabbitbrush, bottlebrush squirreltail

Inclusion 3

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: North-facing side slopes of mountains in areas where snow accumulates

Distinctive present vegetation: Mountain big sagebrush, bluegrass

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Cordwood production

Suitability for Wildlife Habitat Elements

Itca Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Clanalpine Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Itca Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock, large stones, slope

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Clanalpine Soil

Range seeding: Poor—small stones, erodes easily

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Itca soil—VIIe, nonirrigated; Clanalpine soil—VIIs, nonirrigated; Rock outcrop—VIIIs, nonirrigated

Range site: Itca and Clanalpine soils—025X061N; Rock outcrop—none; Inclusion 1—024X016N; Inclusion 2—028B016N; Inclusion 3—027X054N

3136—Itca-Roca-Reluctan association

Positions on landscape: Mountains

Composition

Major components:

Itca very cobbly loam, 15 to 50 percent slopes—45 percent

Roca very cobbly loam, 30 to 50 percent slopes—25 percent

Reluctan cobbly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Camborthids, coarse-loamy, mixed, frigid, 2 to 8 percent slopes—8 percent
 Lithic Xerollic Haplargids, loamy-skeletal, montmorillonitic, mesic, 4 to 15 percent slopes—5 percent
 Rock outcrop—2 percent

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: Convex, north-facing side slopes of mountains
Parent material: Residuum derived from extrusive volcanic and pyroclastic rock
Slope: 15 to 50 percent
Elevation: 6,100 to 6,500 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 43 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush
Site index for singleleaf pinyon: 70

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles
Depth: 0 to 2 inches
Texture: Very cobbly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 2 to 14 inches
Texture: Very cobbly clay, very gravelly clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Mildly alkaline
Depth: 14 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.8 to 2.3 inches
Water-supplying capacity: 10 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Roca Soil

Classification: Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: South-facing side slopes of mountains
Parent material: Residuum derived from shale and chert
Slope: 30 to 50 percent
Elevation: 6,100 to 6,500 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Bluegrass, bluebunch wheatgrass, big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles
Depth: 0 to 4 inches
Texture: Very cobbly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Depth: 4 to 24 inches
Texture: Very gravelly clay loam, very gravelly clay
Structure: Angular blocky
Consistence: Hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 24 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Very slow
Available water capacity: 2.6 to 3.4 inches
Water-supplying capacity: 11 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Reluctan Soil

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid

Positions on landscape: Concave, north-facing side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic rock

Slope: 15 to 30 percent

Elevation: 6,100 to 6,500 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, Idaho fescue, mountain big sagebrush

Typical Profile

Rock fragments on surface: 15 percent cobbles, 15 percent pebbles

Depth: 0 to 9 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 9 to 27 inches

Texture: Gravelly clay loam, gravelly loam

Structure: Subangular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 27 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.2 to 4.3 inches

Water-supplying capacity: 12 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.28; T value—2; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Durixerollic Camborthids, coarse-loamy, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Inclusion 2

Classification: Lithic Xerollic Haplargids, loamy-skeletal, montmorillonitic, mesic

Positions on landscape: The lowest areas on crests of mountains

Distinctive present vegetation: Wyoming big sagebrush, bluegrass

Inclusion 3

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Itca Soil**

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Roca Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Reluctan Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Itca Soil**

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, large stones, slope

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Roca Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Reluctan Soil

Range seeding: Fair—large stones, erodes easily

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Itca, Roca, and Reluctan soils—VIIIs, nonirrigated

Range site: Itca soil—025X061N; Roca soil—024X028N; Reluctan soil—024X021N; Inclusion 1—025X003N; Inclusion 2—028B010N; Inclusion 3—none

3137—Itca-Reluctan-Walti association

Positions on landscape: Mountains

Composition

Major components:

Itca stony loam, 15 to 30 percent slopes—40 percent

Reluctan very cobbly loam, 15 to 30 percent slopes—30 percent

Walti cobbly loam, 8 to 15 percent slopes—15 percent

Contrasting inclusions:

Xerollic Haplargids, loamy-skeletal, mixed, frigid, 15 to 50 percent slopes—8 percent

Rock outcrop—3 percent

Lithic Argixerolls, loamy-skeletal, mixed, frigid, 2 to 8 percent slopes—2 percent

Aridic Haploxerolls, fine-loamy, mixed, frigid, 8 to 15 percent slopes—2 percent

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Convex side slopes of mountains

Parent material: Residuum derived from extrusive volcanic and pyroclastic rock

Slope: 15 to 30 percent

Elevation: 6,400 to 7,500 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush

Site index for singleleaf pinyon: 70

Typical Profile

Rock fragments on surface: 0.1 percent stones and boulders, 10 percent cobbles, 20 percent pebbles

Depth: 0 to 2 inches

Texture: Stony loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 2 to 14 inches

Texture: Very cobbly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 14 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 2 to 3 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1 wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Reluctan Soil

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid

Positions on landscape: Concave, north-facing side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic rock

Slope: 15 to 30 percent

Elevation: 6,400 to 7,500 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, Idaho fescue, mountain big sagebrush

Typical Profile

Rock fragments on surface: 25 percent cobbles, 15 percent pebbles

Depth: 0 to 9 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 9 to 27 inches

Texture: Gravelly clay loam, gravelly loam

Structure: Subangular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 27 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3 to 5 inches

Water-supplying capacity: 14 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Walti Soil

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Convex crests and shoulder slopes of mountains

Parent material: Colluvium and residuum derived from rhyolite, andesite, and tuff

Slope: 8 to 15 percent

Elevation: 6,400 to 7,500 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Rock fragments on surface: 20 percent cobbles, 15 percent pebbles

Depth: 0 to 4 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 10 inches

Texture: Clay loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 10 to 30 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Neutral

Depth: 30 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 3.7 to 4.7 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Haplargids, loamy-skeletal, mixed, frigid

Positions on landscape: Convex, south-facing side slopes of mountains

Distinctive present vegetation: Bluebunch wheatgrass, mountain big sagebrush

Inclusion 2

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 3

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Summits of mountains

Distinctive present vegetation: Black sagebrush, low sagebrush

Inclusion 4

Classification: Aridic Haploxerolls, fine-loamy, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Cordwood

Suitability for Wildlife Habitat Elements

Itca Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Reluctan Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Walti Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Itca Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Reluctan Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Walti Soil

Range seeding: Poor—rooting depth

Roadfill: Poor—depth to rock, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones

Daily cover for landfill: Poor—depth to rock, hard to pack

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—shrink-swell, low strength

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—hard to pack

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Itca soil—VIII, nonirrigated; Reluctan and Walti soils—VII, nonirrigated

Range site: Itca soil—025X061N; Reluctan soil—024X021N; Walti soil—024X027N; Inclusion 1—024X029N; Inclusion 2—none; Inclusion 3—024X016N; Inclusion 4—025X003N

3140—Sodhouse-Tenabo-Desatoya Variant association

Positions on landscape: Fan piedmonts

Composition

Major components:

Sodhouse very fine sandy loam, 2 to 4 percent slopes—35 percent

Tenabo very fine sandy loam, 2 to 4 percent slopes—3 percent

Desatoya Variant gravelly fine sandy loam, 4 to 8 percent slopes—20 percent

Contrasting inclusions:

Durixerollic Camborthids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—5 percent

Duric Camborthids, loamy-skeletal, mixed, mesic, 15 to 50 percent slopes—5 percent

Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow, 15 to 50 percent slopes—5 percent

Characteristics of the Sodhouse Soil

Classification: Typic Durorthids, loamy, mixed, mesic, shallow

Positions on landscape: Slightly convex areas on summits of fan piedmont remnants

Parent material: Mixed alluvium that includes loess and volcanic ash

Slope: 2 to 4 percent

Elevation: 5,200 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 7 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 14 inches

Texture: Very fine sandy loam, loam, silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 14 to 42 inches

Kind of material: Indurated hardpan

Depth: 42 to 60 inches

Texture: Gravelly sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 13

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 2.1 to 3.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: D

Erosion factors (upper layer): K value—0.55; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Tenabo Soil

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow

Positions on landscape: Slightly concave areas on summits of fan piedmont remnants

Parent material: Thin loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,200 to 5,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 4 to 15 inches

Texture: Clay loam, gravelly clay loam, silty clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 20 to 40

Depth: 15 to 28 inches

Kind of material: Indurated hardpan

Structure: Platy

Consistence: Extremely hard, extremely firm

Depth: 28 to 60 inches

Kind of material: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 20 to 40

Soil and Water Features

Depth to the hardpan: 9 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.8 to 4.0 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.55; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Desatoya Variant Soil

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,200 to 5,700 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, bluegrass, Indian ricegrass, black sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 45 percent pebbles

Depth: 0 to 3 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 3 to 13 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 13 to 26 inches

Texture: Very gravelly sandy loam

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 26 to 60 inches

Texture: Very gravelly sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate over rapid

Available water capacity: 2.7 to 4.2 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.17; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush, bottlebrush squirreltail

Inclusion 2

Classification: Duric Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Scarps of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Remnants of rolling hills adjacent to fan piedmonts

Distinctive present vegetation: Black sagebrush, shadscale, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Sodhouse Soil**

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Tenabo Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Desatoya Variant Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Sodhouse Soil**

Range seeding: Poor—too arid, droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—seepage, cemented pan

Embankments, dikes, and levees: Moderate—seepage, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Tenabo Soil

Range seeding: Poor—too arid, droughty, excess sodium

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones, too sandy

Daily cover for landfill: Poor—cemented pan, seepage, too sandy

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan
Pond reservoir areas: Severe—seepage, cemented pan
Embankments, dikes, and levees: Severe—seepage, excess sodium, excess salt
Sand: Probable source
Gravel: Probable source

Desatoya Variant Soil

Range seeding: Fair—too arid, droughty
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Interpretive Groups

Land capability classification: Sodhouse, Tenabo, and Desatoya Variant soils—Ive, irrigated, and Vlls, nonirrigated
Range site: Sodhouse and Tenabo soils—024X002N; Desatoya Variant soil—024X030N; Inclusion 1—028B010N; Inclusion 2—024X002N; Inclusion 3—024X030N

3151—Robson-Ninemile-Ravenswood association

Positions on landscape: Mountains

Composition

Major components:
 Robson very cobbly loam, 15 to 30 percent slopes—35 percent
 Ninemile extremely cobbly loam, 15 to 30 percent slopes—25 percent
 Ravenswood gravelly loam, 30 to 50 percent slopes, extremely stony—25 percent
Contrasting inclusions:
 Rock outcrop—8 percent
 Pachic Argixerolls, fine, montmorillonitic, frigid, 8 to 15 percent slopes—3 percent
 Pachic Argixerolls, fine, montmorillonitic, frigid, 2 to 8 percent slopes—2 percent
 Rubble land—2 percent

Characteristics of the Robson Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: Convex, south-facing side slopes of mountains

Parent material: Residuum derived from siliceous tuff, rhyolite, and andesite

Slope: 15 to 30 percent

Elevation: 6,800 to 7,400 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Low sagebrush, Sandberg bluegrass

Typical Profile

Rock fragments on surface: 25 percent cobbles, 20 percent pebbles

Depth: 0 to 2 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 2 to 5 inches

Texture: Very cobbly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 5 to 15 inches

Texture: Very cobbly clay, extremely cobbly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 15 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 12 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 0.6 to 1.2 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Ninemile Soil

Classification: Lithic Argixerolls, clayey, montmorillonitic, frigid

Positions on landscape: Convex, north-facing side slopes of mountains

Parent material: Residuum derived from andesite, basalt, and tuff
Slope: 15 to 30 percent
Elevation: 6,800 to 7,400 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 43 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Low sagebrush, bluegrass, needlegrass, Idaho fescue, singleleaf pinyon

Typical Profile

Rock fragments on surface: 10 percent stones and boulders, 40 percent cobbles, 25 percent pebbles
Depth: 0 to 7 inches
Texture: Extremely cobbly loam
Structure: Granular
Consistence: Slightly hard, friable
Reaction: Neutral
Depth: 7 to 19 inches
Texture: Clay, gravelly clay
Structure: Prismatic
Consistence: Hard, firm
Reaction: Neutral
Depth: 19 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Very slow
Available water capacity: 2.2 to 2.7 inches
Water-supplying capacity: 10 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.05; T value—1; wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Characteristics of the Ravenswood Soil

Classification: Typic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: Slightly concave, north- and east-facing side slopes of mountains
Parent material: Colluvium and residuum derived from metavolcanic and volcanic rock
Slope: 30 to 50 percent
Elevation: 6,800 to 7,400 feet
Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Idaho fescue, bluegrass, mountain big sagebrush, singleleaf pinyon
Site index for singleleaf pinyon: 55

Typical Profile

Rock fragments on surface: 3 percent stones and boulders, 10 percent cobbles, 65 percent pebbles
Depth: 0 to 9 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 9 to 13 inches
Texture: Very gravelly clay loam
Structure: Angular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Depth: 13 to 36 inches
Texture: Very gravelly clay
Structure: Angular blocky
Consistence: Hard, firm
Reaction: Mildly alkaline
Depth: 36 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 30 to 40 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 5 to 6 inches
Water-supplying capacity: 14 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.20; T value—2; wind erodibility group—6
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Positions on landscape: Rims, cliffs
Distinctive present vegetation: None

Inclusion 2

Classification: Pachic Argixerolls, fine, montmorillonitic, frigid
Positions on landscape: Concave, lower side slopes of mountains

Distinctive present vegetation: Snowberry, mountain big sagebrush, bluebunch wheatgrass

Inclusion 3

Classification: Pachic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Mountain drainageways

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 4

Positions on landscape: Side slopes of mountains below areas of Rock outcrop

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Robson Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Ninemile Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Ravenswood Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Robson Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Ninemile Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, low strength

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, too clayey, hard to pack

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, low strength, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Ravenswood Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Robson and Ninemile soils—VIIs, nonirrigated; Ravenswood soil—VIIe, nonirrigated

Range site: Robson soil—028B045N; Ninemile soil—028B037N; Ravenswood soil—025X061N; Inclusion 1—none; Inclusion 2—028B027N; Inclusion 3—028B003N; Inclusion 4—none

3153—Robson-Locane-Softscrabble association

Positions on landscape: Mountains

Composition

Major components:

Robson cobbly loam, 15 to 30 percent slopes—55 percent

Locane gravelly loam, 30 to 50 percent slopes—20 percent

Softscrabble gravelly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Welch loam, drained, 2 to 8 percent slopes—7 percent

Rock outcrop—2 percent

Rubble land—1 percent

Characteristics of the Robson Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Convex crests and shoulder slopes of mountains

Parent material: Residuum derived from siliceous tuff, rhyolite, and andesite

Slope: 15 to 30 percent

Elevation: 6,400 to 7,400 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days
Dominant present vegetation: Low sagebrush, Sandberg bluegrass

Typical Profile

Rock fragments on surface: 20 percent cobbles, 10 percent pebbles

Depth: 0 to 2 inches
Texture: Cobbly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral

Depth: 2 to 15 inches
Texture: Very cobbly clay, extremely cobbly clay
Structure: Angular blocky
Consistence: Hard, firm
Reaction: Mildly alkaline

Depth: 15 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 12 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 0.6 to 1.2 inches
Water-supplying capacity: 9 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Characteristics of the Locane Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: Convex, south-facing side slopes of mountains
Parent material: Residuum derived from shale and conglomerate
Slope: 30 to 50 percent
Elevation: 6,400 to 7,400 feet
Average annual precipitation: About 12 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches

Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral

Depth: 6 to 14 inches
Texture: Very gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral

Depth: 14 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.5 to 2.1 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: Concave, north-facing side slopes of mountains
Parent material: Colluvium and residuum derived from volcanic rock
Slope: 15 to 30 percent
Elevation: 6,400 to 7,400 feet
Average annual precipitation: About 16 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 70 days
Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 30 percent pebbles
Depth: 0 to 16 inches
Texture: Gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 16 to 30 inches
Texture: Very cobbly clay loam

Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral

Depth: 30 to 60 inches
Texture: Gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 7.8 to 9.2 inches
Water-supplying capacity: 14 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid
Positions on landscape: Mountain drainageways
Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 2

Positions on landscape: Scattered peaks
Distinctive present vegetation: None

Inclusion 3

Positions on landscape: Side slopes below areas of Rock outcrop
Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Robson Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Locane Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Robson Soil

Range seeding: Poor—droughty
Roadfill: Poor—depth to rock, large stones
Topsoil: Poor—depth to rock, too clayey, large stones
Daily cover for landfill: Poor—depth to rock, large stones, slope
Shallow excavations: Severe—depth to rock, large stones, slope
Local roads and streets: Severe—depth to rock, large stones, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—large stones
Sand: Improbable source—excess fines, large stones
Gravel: Improbable source—excess fines, large stones

Locane Soil

Range seeding: Poor—droughty, erodes easily
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—depth to rock, small stones, slope
Daily cover for landfill: Poor—depth to rock, small stones, slope
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—depth to rock, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Fair—erodes easily
Roadfill: Fair—large stones, slope, shrink-swell
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Moderate—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Robson and Locane soils—VIIe, nonirrigated; Softscrabble soil—VIe, nonirrigated
Range site: Robson soil—024X018N; Locane soil—024X005N; Softscrabble soil—024X021N; Inclusion 1—028B024N; Inclusions 2 and 3—none

3154—Robson-Locane-Rock outcrop association

Positions on landscape: Foothills

Composition

Major components:

Robson very gravelly loam, 8 to 15 percent slopes—40 percent

Locane very gravelly fine sandy loam, 8 to 15 percent slopes—30 percent

Rock outcrop—15 percent

Contrasting inclusions:

Cumulic Haploxerolls, fine-loamy, mixed, frigid, 2 to 8 percent slopes—8 percent

Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid, 15 to 30 percent slopes—4 percent

Itca very cobbly loam, 15 to 30 percent slopes—3 percent

Characteristics of the Robson Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: North-facing summits and side slopes of foothills

Parent material: Residuum derived from siliceous tuff, rhyolite, and andesite

Slope: 8 to 15 percent

Elevation: 6,700 to 7,300 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Low sagebrush, Sandberg bluegrass

Typical Profile

Depth: 0 to 2 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 2 to 15 inches

Texture: Very cobbly clay, extremely cobbly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 15 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 12 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 0.6 to 1.2 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1
wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Locane Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: South-facing side slopes of foothills

Parent material: Residuum derived from shale and conglomerate

Slope: 8 to 15 percent

Elevation: 6,700 to 7,300 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 6 inches

Texture: Very gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 6 to 14 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 14 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.4 to 1.8 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1
wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Rock Outcrop

Positions on landscape: Scattered peaks, side slopes of foothills

Contrasting Inclusions**Inclusion 1**

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Foothill drainageways

Distinctive present vegetation: Basin big sagebrush, bluegrass

Inclusion 2

Classification: Aridic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: The upper, north-facing side slopes of foothills

Distinctive present vegetation: Low sagebrush, Idaho fescue

Inclusion 3

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Slightly concave side slopes of foothills near areas of Rock outcrop

Distinctive present vegetation: Singleleaf pinyon, mountain big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Robson Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Locane Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Robson Soil**

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, large stones

Shallow excavations: Severe—depth to rock, large stones

Local roads and streets: Severe—depth to rock, large stones

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Locane Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Robson and Locane soils—VIIIs, nonirrigated; Rock outcrop—VIIIIs, nonirrigated

Range site: Robson soil—024X018N; Locane soil—024X005N; Rock outcrop—none; Inclusion 1—025X003N; Inclusion 2—024X027N; Inclusion 3—025X061N

3155—Robson-Itca-Softscrabble association

Positions on landscape: Mountains

Composition

Major components:

Robson very gravelly loam, 15 to 30 percent slopes—40 percent

Itca very gravelly loam, 30 to 50 percent slopes—25 percent

Softscrabble gravelly loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Aridic Argixerolls, loamy-skeletal, mixed, frigid, 15 to 30 percent slopes—5 percent

Rock outcrop—4 percent

Cumulic Haploxerolls, fine-loamy, mixed, frigid, 2 to 8 percent slopes—3 percent

Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid, 50 to 75 percent slopes—3 percent

Characteristics of the Robson Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Convex crests, shoulder slopes, and side slopes of mountains

Parent material: Residuum derived from siliceous tuff, rhyolite, and andesite

Slope: 15 to 30 percent

Elevation: 6,700 to 7,500 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Low sagebrush, Sandberg bluegrass

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 2 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 2 to 15 inches

Texture: Very cobbly clay, extremely cobbly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 15 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 12 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 0.6 to 1.2 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Eroded side slopes of mountains adjacent to areas of Rock outcrop

Parent material: Residuum derived from extrusive volcanic and pyroclastic rock

Slope: 30 to 50 percent

Elevation: 6,700 to 7,500 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush

Site index for singleleaf pinyon: 65

Typical Profile

Depth: 0 to 9 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 9 to 17 inches

Texture: Very gravelly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 17 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.5 to 2.0 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—8

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, north-facing side slopes of mountains

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 15 to 30 percent

Elevation: 7,000 to 7,500 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Depth: 0 to 16 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 16 to 30 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 30 to 60 inches
Texture: Gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 7.8 to 9.2 inches
Water-supplying capacity: 14 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: Convex toe slopes of mountains
Distinctive present vegetation: Mountain big sagebrush, bluebunch wheatgrass, snowberry

Inclusion 2

Positions on landscape: Scattered peaks
Distinctive present vegetation: None

Inclusion 3

Classification: Cumulic Haploxerolls, fine-loamy, mixed, frigid
Positions on landscape: Mountain drainageways
Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 4

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: Eroded, lower side slopes of mountains
Distinctive present vegetation: Utah juniper, mountain big sagebrush, singleleaf pinyon

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Robson Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Itca Soil

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Robson Soil

Range seeding: Poor—droughty, small stones
Roadfill: Poor—depth to rock, large stones
Topsoil: Poor—depth to rock, small stones, slope
Daily cover for landfill: Poor—depth to rock, large stones, slope
Shallow excavations: Severe—depth to rock, large stones, slope
Local roads and streets: Severe—depth to rock, large stones, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—large stones
Sand: Improbable source—excess fines, large stones
Gravel: Improbable source—excess fines, large stones

Itca Soil

Range seeding: Poor—droughty, small stones
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—depth to rock, small stones, slope
Daily cover for landfill: Poor—depth to rock, too clayey, small stones
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—depth to rock, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Fair—erodes easily
Roadfill: Fair—large stones, slope, shrink-swell
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Moderate—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Robson and Itca soils—VIIs, nonirrigated; Softscrabble soil—VIe, nonirrigated

Range site: Robson soil—024X018N; Itca soil—025X061N; Softscrabble soil—024X021N; Inclusion 1—025X014N; Inclusion 2—none; Inclusion 3—028B024N; Inclusion 4—025X062N

3170—Teguro-Rubble land-Punchbowl association

Positions on landscape: Mountains

Composition

Major components:

Teguro very gravelly loam, 30 to 50 percent slopes, rubbly—40 percent

Rubble land—25 percent

Punchbowl cobbly loam, 30 to 50 percent slopes—20 percent

Contrasting inclusions:

Jung very cobbly loam, 15 to 30 percent slopes—5 percent

Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 30 to 75 percent slopes—5 percent

Rock outcrop—5 percent

Characteristics of the Teguro Soil

Classification: Lithic Argixerolls, loamy, mixed, frigid

Positions on landscape: North-facing side slopes of mountains

Parent material: Residuum derived from tuff

Slope: 30 to 50 percent

Elevation: 7,000 to 8,000 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluegrass, needlegrass, mountain big sagebrush, singleleaf pinyon, Utah juniper

Site index for common trees: Singleleaf pinyon—30; Utah juniper—30

Typical Profile

Rock fragments on surface: 20 percent stones and boulders, 55 percent pebbles

Depth: 0 to 6 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 6 to 16 inches

Texture: Gravelly loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 16 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.9 to 2.4 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Rubble Land

Positions on landscape: Side slopes of mountains

Kind of material: More than 90 percent cobbles

Characteristics of the Punchbowl Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid

Positions on landscape: Slightly convex, east- and west-facing and upper, south-facing side slopes of mountains

Parent material: Residuum derived from andesite, dacite, rhyolite, and tuff

Slope: 30 to 50 percent

Elevation: 7,000 to 8,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush, bluegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 3 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 7 inches

Texture: Gravelly loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 11 inches

Texture: Gravelly clay loam

Structure: Angular blocky
Consistence: Hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 11 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.3 to 1.6 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic
Positions on landscape: The lower, south-facing side slopes of mountains
Distinctive present vegetation: Black sagebrush, rabbitbrush, bluegrass

Inclusion 2

Classification: Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Severely eroded side slopes of mountains
Distinctive present vegetation: Utah juniper, singleleaf pinyon, bluegrass

Inclusion 3

Positions on landscape: Scattered peaks
Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Teguro Soil

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Punchbowl Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Teguro Soil

Range seeding: Poor—large stones, droughty
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—depth to rock, small stones, slope
Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—depth to rock, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Punchbowl Soil

Range seeding: Poor—droughty, erodes easily
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—depth to rock, small stones, slope
Daily cover for landfill: Poor—depth to rock, small stones, slope
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—depth to rock, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Teguro soil—VIIIs, nonirrigated; Rubble land—VIIIIs, nonirrigated; Punchbowl soil—VIIe, nonirrigated
Range site: Teguro soil—025X062N; Rubble land—none; Punchbowl soil—024X030N; Inclusion 1—024X030N; Inclusion 2—025X062N; Inclusion 3—none

3181—Newlands-Packer-Hapgood association, moderately steep

Positions on landscape: Mountains

Composition

Major components:
 Newlands loam, 15 to 30 percent slopes—40 percent
 Packer very gravelly loam, 8 to 15 percent slopes—30 percent
 Hapgood gravelly loam, 30 to 50 percent slopes—15 percent
Contrasting inclusions:
 Layview very cobbly loam, 8 to 15 percent slopes—8 percent
 Rock outcrop—4 percent
 Hackwood loam, 15 to 30 percent slopes, rubbly—3 percent

Characteristics of the Newlands Soil

Classification: Argic Cryoborolls, fine-loamy, mixed
Positions on landscape: Smooth, intermediate and lower side slopes of mountains
Parent material: Colluvium and residuum derived from andesite and rhyolite
Slope: 15 to 30 percent
Elevation: 8,200 to 9,500 feet
Average annual precipitation: About 15 inches
Average annual air temperature: About 41 degrees F
Frost-free season: About 50 days
Dominant present vegetation: Mountain brome, needlegrass, mountain big sagebrush

Typical Profile

Depth: 0 to 10 inches
Texture: Loam
Structure: Granular
Consistence: Soft, very friable
Reaction: Neutral
Depth: 10 to 46 inches
Texture: Gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral
Depth: 46 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 40 to 60 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 6.3 to 7.3 inches
Water-supplying capacity: 14 inches
Runoff: Medium
Hydrologic group: C
Erosion factors (upper layer): K value—0.28; T value—3; wind erodibility group—5
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Packer Soil

Classification: Argic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: Convex crests and upper side slopes of mountains
Parent material: Mixed residuum that includes loess and volcanic ash
Slope: 8 to 15 percent
Elevation: 7,800 to 9,500 feet
Average annual precipitation: About 15 inches

Average annual air temperature: About 42 degrees F
Frost-free season: About 50 days
Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Depth: 0 to 10 inches
Texture: Very gravelly loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Neutral
Depth: 10 to 21 inches
Texture: Extremely cobbly clay loam, extremely cobbly loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral
Depth: 21 to 60 inches
Texture: Extremely cobbly sandy loam, extremely cobbly loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 4.0 to 5.7 inches
Water-supplying capacity: 12 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.15; T value—3; wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: Concave, north-facing side slopes of mountains
Parent material: Colluvium that includes loess and volcanic ash
Slope: 30 to 50 percent
Elevation: 7,800 to 9,500 feet
Average annual precipitation: About 16 inches
Average annual air temperature: About 42 degrees F
Frost-free season: About 50 days
Dominant present vegetation: Idaho fescue, mountain brome, bluegrass, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 17 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.8 to 7.4 inches

Water-supplying capacity: 16 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Argic Lithic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Convex, windswept crests of mountains

Distinctive present vegetation: Black sagebrush, low sagebrush, rabbitbrush

Inclusion 2

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 3

Classification: Pachic Cryoborolls, fine-loamy, mixed

Positions on landscape: Side slopes of mountains in areas where snow accumulates and below areas of Rock outcrop

Distinctive present vegetation: Quaking aspen

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Newlands Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Packer Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Hapgood Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Newlands Soil**

Range seeding: Fair—erodes easily

Roadfill: Fair—depth to rock, thin layer, slope

Topsoil: Poor—small stones, depth to rock, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Packer Soil

Range seeding: Poor—small stones

Roadfill: Fair—large stones

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—slope, large stones

Local roads and streets: Moderate—slope, frost action, large stones

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage, large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Hapgood Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Newlands soil—VIe, nonirrigated; Packer soil—VIIs, nonirrigated; Hapgood soil—VIIe, nonirrigated

Range site: Newlands soil—028B029N; Packer soil—024X016N; Hapgood soil—024X032N; Inclusion 1—024X016N; Inclusion 2—none; Inclusion 3—025X065N

3182—Newlands-Packer-Hapgood association, strongly sloping

Positions on landscape: Mountains

Composition

Major components:

Newlands extremely bouldery loam, 8 to 15 percent slopes—50 percent

Packer extremely gravelly loam, 8 to 15 percent slopes—30 percent

Hapgood gravelly loam, 2 to 8 percent slopes—10 percent

Contrasting inclusions:

Rock outcrop—4 percent

Lithic Cryoborolls, loamy-skeletal, mixed, 8 to 15 percent slopes—3 percent

Cumulic Cryaquolls, fine-loamy, mixed, 2 to 8 percent slopes—3 percent

Characteristics of the Newlands Soil

Classification: Argic Cryoborolls, fine-loamy, mixed

Positions on landscape: Concave side slopes of mountains

Parent material: Colluvium and residuum derived from andesite and rhyolite

Slope: 8 to 15 percent

Elevation: 7,800 to 9,500 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 41 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Mountain brome, needlegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 12 percent stones and boulders, 15 percent cobbles, 30 percent pebbles

Depth: 0 to 10 inches

Texture: Extremely bouldery loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 46 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 46 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 40 to 60 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 5 to 7 inches

Water-supplying capacity: 14 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—3; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Packer Soil

Classification: Argic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Convex, windswept shoulder slopes and upper side slopes of mountains

Parent material: Mixed residuum that includes loess and volcanic ash

Slope: 8 to 15 percent

Elevation: 7,800 to 9,500 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Depth: 0 to 10 inches

Texture: Extremely gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 21 inches

Texture: Extremely cobbly clay loam, extremely cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 21 to 60 inches

Texture: Extremely cobbly sandy loam, extremely cobbly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 3.6 to 5.5 inches

Water-supplying capacity: 12 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—3; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Concave back slopes and incipient drainageways of mountains

Parent material: Colluvium that includes loess and volcanic ash

Slope: 2 to 8 percent

Elevation: 7,800 to 9,500 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, mountain brome, bluegrass, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 17 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.8 to 7.4 inches

Water-supplying capacity: 16 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Positions on landscape: Scattered peaks of mountains

Distinctive present vegetation: None

Inclusion 2

Classification: Lithic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Windswept crests and shoulder slopes of mountains near areas of Rock outcrop

Distinctive present vegetation: Low sagebrush, black sagebrush, bluegrass

Inclusion 3

Classification: Cumulic Cryaquolls, fine-loamy, mixed

Positions on landscape: Narrow drainageways of mountains

Distinctive present vegetation: Sedge, iris, alpine timothy

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Newlands Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Packer Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Hapgood Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Newlands Soil**

Range seeding: Poor—large stones

Roadfill: Fair—depth to rock, thin layer

Topsoil: Poor—small stones, depth to rock

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—depth to rock, slope

Local roads and streets: Moderate—slope, shrink-swell, frost action

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer, large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Packer Soil

Range seeding: Poor—small stones

Roadfill: Fair—large stones

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—slope, large stones

Local roads and streets: Severe—slope, frost action, large stones

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage, large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Hapgood Soil

Range seeding: Fair—small stones

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—slope, seepage

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Newlands and Packer soils—VII_s, nonirrigated; Hapgood soil—VI_s, nonirrigated

Range site: Newlands soil—028B029N; Packer soil—024X016N; Hapgood soil—024X032N; Inclusion 1—none; Inclusion 2—024X016N; Inclusion 3—025X005N

3190—Softscrabble-Clanalpine-Walti association

Positions on landscape: Mountains

Composition

Major components:

Softscrabble very cobbly fine sandy loam, 15 to 50 percent slopes—45 percent

Clanalpine very gravelly loam, 30 to 50 percent slopes, extremely stony—25 percent

Walti very cobbly loam, 8 to 15 percent slopes—15 percent

Contrasting inclusions:

Lithic Xeric Torriorthents, loamy-skeletal, mixed, frigid, 8 to 30 percent slopes—6 percent

Aridic Haploxerolls, fine-loamy, mixed, frigid, 4 to 15 percent slopes—4 percent

Cleavage very gravelly fine sandy loam, 4 to 15 percent slopes—3 percent

Rock outcrop—2 percent

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, south- and west-facing, upper side slopes of mountains

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 15 to 50 percent

Elevation: 7,000 to 7,900 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Depth: 0 to 16 inches

Texture: Very cobbly fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 16 to 30 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 30 to 60 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 6 to 8 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—5 wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Clanalpine Soil

Classification: Typic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Convex, north-facing side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolite and andesitic tuff

Slope: 30 to 50 percent

Elevation: 7,000 to 7,900 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 41 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Singleleaf pinyon, mountain big sagebrush, bluebunch wheatgrass, Utah juniper

Site index for singleleaf pinyon: 75

Typical Profile

Rock fragments on surface: 5 percent stones and boulders, 40 percent cobbles, 20 percent pebbles

Depth: 0 to 10 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 10 to 39 inches

Texture: Very gravelly clay loam, very cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Mildly alkaline

Depth: 39 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4.5 to 6.0 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.17; T value—2; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Walti Soil

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Convex shoulder slopes and lower side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolite, andesite, and tuff

Slope: 8 to 15 percent

Elevation: 7,000 to 7,900 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Depth: 0 to 4 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 10 inches

Texture: Clay loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 10 to 30 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Neutral

Depth: 30 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 4 to 5 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xeric Torriorthents, loamy-skeletal, mixed, frigid

Positions on landscape: Summits and shoulder slopes of mountains near areas of Rock outcrop

Distinctive present vegetation: Singleleaf pinyon, mountain big sagebrush, Utah juniper

Inclusion 2

Classification: Aridic Haploxerolls, fine-loamy, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 3

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Crests of mountains

Distinctive present vegetation: Low sagebrush, black sagebrush, bluegrass

Inclusion 4

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Softscrabble Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Clan Alpine Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Walti Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Softscrabble Soil**

Range seeding: Poor—large stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Clan Alpine Soil

Range seeding: Poor—small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Walti Soil

Range seeding: Poor—rooting depth, large stones

Roadfill: Poor—depth to rock, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones, slope

Daily cover for landfill: Poor—depth to rock, hard to pack

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—shrink-swell, low strength

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—hard to pack

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Softscrabble, Clan Alpine, and Walti soils—VIIs, nonirrigated

Range site: Softscrabble soil—024X021N; Clan Alpine soil—025X061N; Walti soil—024X027N; Inclusion 1—025X062N; Inclusion 2—024X015N; Inclusion 3—024X016N; Inclusion 4—none

3192—Softscrabble-Walti-Cleavage association

Positions on landscape: Mountains

Composition

Major components:

Softscrabble very gravelly fine sandy loam, 15 to 30 percent slopes—35 percent

Walti extremely cobbly fine sandy loam, 15 to 30 percent slopes—30 percent

Cleavage very gravelly fine sandy loam, 4 to 15 percent slopes—20 percent

Contrasting inclusions:

Itca very cobbly loam, 15 to 30 percent slopes—9 percent

Aridic Argixerolls, loamy-skeletal, mixed, frigid, 30 to 50 percent slopes—4 percent

Rock outcrop—1 percent

Rubble land—1 percent

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave side slopes of mountains

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 15 to 30 percent

Elevation: 7,000 to 8,200 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 5 percent cobbles, 40 percent pebbles

Depth: 0 to 16 inches

Texture: Very gravelly fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 16 to 30 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 30 to 60 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 7 to 9 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—5

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Walti Soil

Classification: Aridic Argixerolls, fine, montmorillonitic, frigid

Positions on landscape: Convex side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolite, andesite, and tuff

Slope: 15 to 30 percent

Elevation: 7,000 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Rock fragments on surface: 50 percent cobbles, 20 percent pebbles

Depth: 0 to 4 inches

Texture: Extremely cobbly fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 10 inches

Texture: Clay loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 10 to 30 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Neutral

Depth: 30 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 3.5 to 5.0 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Cleavage Soil

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Summits and crests of mountains

Parent material: Residuum derived from rhyolite and other igneous rock

Slope: 4 to 15 percent

Elevation: 7,500 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Low sagebrush, black sagebrush, Idaho fescue, bluegrass

Typical Profile

Rock fragments on surface: 10 percent cobbles, 60 percent pebbles

Depth: 0 to 4 inches

Texture: Very gravelly fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 18 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 18 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.2 to 2.0 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Crests of mountains near areas of Rock outcrop

Distinctive present vegetation: Singleleaf pinyon, mountain big sagebrush

Inclusion 2

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: South-facing side slopes of mountains

Distinctive present vegetation: Bluebunch wheatgrass, mountain big sagebrush

Inclusion 3

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 4

Positions on landscape: Below areas of Rock outcrop

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Walti Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Cleavage Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Softscrabble Soil

Range seeding: Poor—small stones

Roadfill: Fair—large stones, slope, shrink-swell

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Walti Soil

Range seeding: Poor—rooting depth, large stones

Roadfill: Poor—depth to rock, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones, slope

Daily cover for landfill: Poor—depth to rock, hard to pack, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—shrink-swell, low strength, slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—hard to pack

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Cleavage Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Softscrabble, Walti, and Cleavage soils—VIIIs, nonirrigated
Range site: Softscrabble soil—024X021N; Walti soil—024X027N; Cleavage soil—024X016N; Inclusion 1—025X061N; Inclusion 2—024X029N; Inclusions 3 and 4—none

3200—Dewar gravelly loam, 2 to 8 percent slopes

Positions on landscape: Fan piedmonts

Composition

Major component:
 Dewar gravelly loam, 2 to 8 percent slopes—85 percent
Contrasting inclusions:
 Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 4 to 8 percent slopes—7 percent
 Xerollic Durargids, loamy-skeletal, mixed, mesic, shallow, 15 to 30 percent slopes—5 percent
 Chiara gravelly loam, 2 to 8 percent slopes—3 percent

Characteristics of the Dewar Soil

Classification: Xerollic Durargids, loamy, mixed, mesic, shallow
Positions on landscape: Summits of fan piedmont remnants
Parent material: Loess and mixed silty alluvium
Slope: 2 to 8 percent
Elevation: 6,200 to 6,700 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 47 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush, Indian ricegrass

Typical Profile

Depth: 0 to 4 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 4 to 14 inches
Texture: Gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter

Depth: 14 to 50 inches
Kind of material: Indurated hardpan
Structure: Platy
Consistence: Extremely hard, extremely firm

Soil and Water Features

Depth to the hardpan: 13 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.7 to 2.3 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.37; T value—1; wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Xerollic Durargids, loamy-skeletal, mixed, mesic, shallow
Positions on landscape: Side slopes of fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Xerollic Durorthids, loamy, mixed, mesic, shallow
Positions on landscape: Shoulder slopes of fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Range seeding: Poor—droughty
Roadfill: Poor—cemented pan
Topsoil: Poor—cemented pan, small stones
Daily cover for landfill: Poor—cemented pan
Shallow excavations: Severe—cemented pan

Local roads and streets: Severe—cemented pan
Pond reservoir areas: Severe—cemented pan
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Dewar soil—I_{Ve}, irrigated;
 VII_s, nonirrigated
Range site: Dewar soil—028B010N; Inclusions 1, 2, and
 3—028B010N

3210—Typic Argixerolls-Torripsammentic Haploxerolls-Glean association

Positions on landscape: Mountains

Composition

Major components:

Typic Argixerolls gravelly coarse sandy loam, 15 to 50
 percent slopes—50 percent

Torripsammentic Haploxerolls cobbly loamy coarse
 sand, 30 to 50 percent slopes—20 percent

Glean very gravelly loam, 15 to 30 percent slopes—15
 percent

Contrasting inclusions:

Torriorthentic Haploxerolls, loamy, mixed, frigid,
 shallow, 30 to 50 percent slopes—8 percent

Xerollic Haplargids, loamy, mixed, frigid, shallow, 30 to
 50 percent slopes—5 percent

Dumps—2 percent

Characteristics of the Typic Argixerolls

Classification: Typic Argixerolls

Positions on landscape: Slightly concave side slopes of
 mountains

Parent material: Residuum derived from granitic rock

Slope: 15 to 50 percent

Elevation: 6,500 to 7,500 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass,
 Idaho fescue, mountain big sagebrush

Representative Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly coarse sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 15 inches

Texture: Sandy clay loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 15 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 40 inches

Depth to a seasonal high water table: More than 60
 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.8 to 2.2 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1;
 wind erodibility group—5

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Torripsammentic Haploxerolls

Classification: Torripsammentic Haploxerolls

Positions on landscape: Convex, west-facing side slopes
 of mountains

Parent material: Residuum derived from granitic rock

Slope: 30 to 50 percent

Elevation: 6,500 to 7,500 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Singleleaf pinyon,
 mountain big sagebrush, bluegrass, bluebunch
 wheatgrass

Site index for singleleaf pinyon: 40

Representative Profile

Rock fragments on surface: 10 percent cobbles, 10
 percent pebbles

Depth: 0 to 2 inches

Texture: Cobbly loamy coarse sand

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Depth: 2 to 7 inches

Texture: Loamy coarse sand, gravelly loamy coarse
 sand, coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Mildly alkaline

Depth: 7 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 5 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Rapid

Available water capacity: 0.2 to 0.5 inch

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—3

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Glean Soil

Classification: Pachic Haploxerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, north- and east-facing side slopes of mountains

Parent material: Colluvium derived from various kinds of rock

Slope: 15 to 30 percent

Elevation: 6,500 to 7,500 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, Idaho fescue, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 6 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 6 to 39 inches

Texture: Very gravelly sandy loam, very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 39 to 51 inches

Texture: Very gravelly sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Depth: 51 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 40 to 60 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 3 to 5 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—3; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Torriorthentic Haploxerolls, loamy, mixed, frigid, shallow

Positions on landscape: Convex, north- and east-facing side slopes of mountains

Distinctive present vegetation: Mountain big sagebrush

Inclusion 2

Classification: Xerollic Haplargids, loamy, mixed, frigid, shallow

Positions on landscape: South-facing side slopes of mountains

Distinctive present vegetation: Mountain big sagebrush, bluegrass

Inclusion 3

Positions on landscape: Scattered areas

Kind of material: Mixed soil material and rock from small mines and exploration scrapes

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Typic Argixerolls

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Torripsammentic Haploxerolls

Wild herbaceous plants (nonirrigated): Poor

Coniferous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Glean Soil

Wild herbaceous plants (nonirrigated): Good

Shrubs (nonirrigated): Good

Suitability and Limitations for Selected Uses

Typic Argixerolls

Range seeding: Poor—erodes easily, droughty
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—depth to rock, small stones, slope
Daily cover for landfill: Poor—depth to rock, slope
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Torrripsammentic Haploxerolls

Range seeding: Poor—droughty
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—depth to rock, small stones, too sandy
Daily cover for landfill: Poor—depth to rock, slope
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Glean Soil

Range seeding: Poor—small stones
Roadfill: Fair—slope, thin layer, depth to rock
Topsoil: Poor—small stones, depth to rock, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—seepage, slope
Embankments, dikes, and levees: Severe—seepage
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Typic Argixerolls and Glean soil—VIIe, nonirrigated; Torrripsammentic Haploxerolls—VIIs, nonirrigated
Range site: Typic Argixerolls—024X021N; Torrripsammentic Haploxerolls—025X061N; Glean soil—024X023N; Inclusion 1—024X021N; Inclusion 2—025X014N; Inclusion 3—none

3231—Stingdorn-Hooplite association

Positions on landscape: Foothills

Composition

Major components:
 Stingdorn extremely cobbly loam, 15 to 30 percent slopes—40 percent

Stingdorn very gravelly loam, 4 to 8 percent slopes—25 percent

Hooplite very gravelly loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Lithic Haplargids, loamy-skeletal, mixed, mesic, 15 to 50 percent slopes—8 percent

Xerollic Durargids, loamy-skeletal, mixed, mesic, shallow, 8 to 15 percent slopes—4 percent

Rock outcrop—3 percent

Characteristics of the Stingdorn Soil, Moderately Steep

Classification: Typic Durargids, loamy-skeletal, mixed, mesic, shallow

Positions on landscape: South-facing side slopes of foothills

Parent material: Residuum derived from rhyolite, tuff, and andesite

Slope: 15 to 30 percent

Elevation: 5,700 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 5 percent stones and boulders, 40 percent cobbles, 30 percent pebbles

Depth: 0 to 7 inches

Texture: Extremely cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 7 to 15 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 2 to 13

Depth: 15 to 20 inches

Kind of material: Indurated hardpan

Depth: 20 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 8 to 20 inches

Depth to bedrock: 8 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1 to 2 inches
Water-supplying capacity: 7 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—1;
 wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Stingdorn Soil, Moderately Sloping

Classification: Typic Durargids, loamy-skeletal, mixed,
mesic, shallow
Positions on landscape: Summits of foothills
Parent material: Residuum derived from rhyolite, tuff,
and andesite
Slope: 4 to 8 percent
Elevation: 5,800 to 6,000 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail,
shadscale, bud sagebrush

Typical Profile

Depth: 0 to 7 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 7 to 15 inches
Texture: Very cobbly clay loam
Structure: Angular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 2 to 13

Depth: 15 to 20 inches
Kind of material: Indurated hardpan

Depth: 20 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 8 to 20 inches
Depth to bedrock: 8 to 20 inches
Depth to a seasonal high water table: More than 60
inches
Frequency of flooding: None

Permeability: Moderately slow
Available water capacity: 1 to 2 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.17; T value—1;
 wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Hooplite Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal,
mixed, mesic
Positions on landscape: North-facing side slopes of
foothills
Parent material: Residuum derived from rhyolitic rock
Slope: 15 to 30 percent
Elevation: 5,700 to 6,000 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail,
black sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 45
percent pebbles

Depth: 0 to 4 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Slightly hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 4 to 8 inches
Texture: Very gravelly loam, very gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 8 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 6 to 14 inches
Depth to a seasonal high water table: More than 60
inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 0.6 to 1.0 inch
Water-supplying capacity: 8 inches

Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.17; T value—1;
 wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Lithic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Convex, lower, south-facing side slopes of foothills

Distinctive present vegetation: Shadscale, galleta, bud sagebrush, spiny hopsage

Inclusion 2

Classification: Xerollic Durargids, loamy-skeletal, mixed, mesic, shallow

Positions on landscape: North-facing shoulder slopes of foothills

Distinctive present vegetation: Black sagebrush

Inclusion 3

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Stingdorn Soil, Moderately Steep

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Stingdorn Soil, Moderately Sloping

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Hooplite Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Stingdorn Soil, Moderately Steep

Range seeding: Poor—too arid, droughty, large stones

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, cemented pan, large stones

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, cemented pan, large stones

Local roads and streets: Severe—depth to rock, slope, large stones

Pond reservoir areas: Severe—depth to rock, cemented pan, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Stingdorn Soil, Moderately Sloping

Range seeding: Poor—too arid, droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, cemented pan, large stones

Daily cover for landfill: Poor—depth to rock, large stones

Shallow excavations: Severe—depth to rock, cemented pan

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, cemented pan

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Hooplite Soil

Range seeding: Poor—droughty, small stones, depth to rock

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Stingdorn and Hooplite soils—Vlls, nonirrigated

Range site: Stingdorn soils—028B017N; Hooplite soil—028B016N; Inclusion 1—029X022N; Inclusion 2—028B016N; Inclusion 3—none

3251—Caphor-Tenabo-Spasprey association

Positions on landscape: Fan piedmonts, fan skirts

Composition

Major components:

Caphor fine sandy loam, 2 to 4 percent slopes—35 percent

Tenabo very gravelly fine sandy loam, 4 to 8 percent slopes—30 percent

Spasprey gravelly fine sandy loam, 2 to 8 percent slopes—20 percent

Contrasting inclusions:

Haploxerollic Durorthids, loamy, mixed, mesic, shallow, 2 to 4 percent slopes—8 percent

Xeric Torriorthents, loamy-skeletal, mixed, mesic, 0 to 4 percent slopes—7 percent

Characteristics of the Caphor Soil

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Fan skirts

Parent material: Mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,800 to 6,100 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 7 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 17 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 17 to 35 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 35 to 60 inches

Texture: Gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow over very rapid

Available water capacity: 4.0 to 5.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Tenabo Soil

Classification: Typic Nadurargids, loamy, mixed, mesic, shallow

Positions on landscape: The lower summits of fan piedmont remnants

Parent material: Thin loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,800 to 6,100 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass

Typical Profile

Rock fragments on surface: 50 percent pebbles

Depth: 0 to 4 inches

Texture: Very gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 4 to 15 inches

Texture: Clay loam, gravelly clay loam, silty clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 15 to 28 inches

Kind of material: Indurated hardpan

Structure: Platy

Consistence: Extremely hard, extremely firm

Depth: 28 to 60 inches

Texture: Stratified very gravelly sandy loam to extremely gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to the hardpan: 9 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.0 to 2.5 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Spasprey Soil

Classification: Haploxerollic Durargids, fine-loamy, mixed, mesic

Positions on landscape: The upper summits of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,800 to 6,100 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 5 to 26 inches

Texture: Clay loam, sandy clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 26 to 33 inches

Texture: Cemented hardpan

Depth: 33 to 60 inches

Texture: Fine sandy loam

Structure: Massive

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to the hardpan: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4 to 5 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.32; T value—3; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Haploxerollic Durorthids, loamy, mixed, mesic, shallow

Positions on landscape: The highest parts of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Xeric Torriorthents, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Spiny hopsage, Wyoming big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Caphor Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Tenabo Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Spasprey Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Caphor Soil

Range seeding: Poor—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Tenabo Soil

Range seeding: Poor—too arid, droughty, excess sodium

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, small stones, too sandy

Daily cover for landfill: Poor—cemented pan, seepage, too sandy

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—seepage, cemented pan

Embankments, dikes, and levees: Severe—seepage, excess sodium, excess salt

Sand: Probable source

Gravel: Probable source

Spasprey Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—cemented pan, area reclaim, too clayey

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—shrink-swell, low strength, frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Caphor soil—IIIe, irrigated, and VIIc, nonirrigated; Tenabo soil—IVs, irrigated, and VIIs, nonirrigated; Spasprey soil—IIIe, irrigated, and VI, nonirrigated

Range site: Caphor and Tenabo soils—028B017N; Spasprey soil—028B010N; Inclusion 1—028B010N; Inclusion 2—028B052N

3252—Caphor-Batan-Unsel association

Positions on landscape: Piedmont slopes, alluvial flats

Composition

Major components:

Caphor fine sandy loam, 0 to 2 percent slopes—45 percent

Batan silt loam, 0 to 2 percent slopes—25 percent

Unsel gravelly fine sandy loam, 0 to 2 percent slopes—20 percent

Contrasting inclusions:

Creemon silt loam, strongly saline-sodic, 0 to 2 percent slopes—5 percent

Typic Torriorthents, coarse-loamy, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Characteristics of the Caphor Soil

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Fan skirts

Parent material: Mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 7 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 10

Depth: 7 to 17 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 17 to 35 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 35 to 60 inches

Texture: Gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None
Permeability: Moderately slow over very rapid
Available water capacity: 4 to 6 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5;
 wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Characteristics of the Batan Soil

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Alluvial flat remnants
Parent material: Silty alluvium that is high in content of loess and pyroclastic material
Slope: 0 to 2 percent
Elevation: 5,600 to 5,800 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Shadscale, black greasewood, bottlebrush squirreltail

Typical Profile

Depth: 0 to 5 inches
Texture: Silt loam
Structure: Platy
Consistence: Hard, very friable
Reaction: Strongly alkaline
Salinity: 20 to 40 millimhos per centimeter
Sodicity (SAR): 46 to 60
Depth: 5 to 68 inches
Texture: Stratified silt loam to silty clay loam
Structure: Massive
Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 11 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.55; T value—5;
 wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Characteristics of the Unsel Soil

Classification: Duric Haplargids, fine-loamy, mixed, mesic
Positions on landscape: Nonburied fan piedmont remnants
Parent material: Mixed alluvium
Slope: 0 to 2 percent
Elevation: 5,600 to 5,800 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 51 degrees F
Frost-free season: About 130 days
Dominant present vegetation: Shadscale, Bailey greasewood, bottlebrush squirreltail, galleta

Typical Profile

Rock fragments on surface: 80 percent pebbles
Depth: 0 to 8 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 8 to 18 inches
Texture: Gravelly clay loam
Structure: Subangular blocky
Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 5 to 13
Depth: 18 to 31 inches
Texture: Gravelly sandy clay loam
Structure: Subangular blocky
Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 5 to 13
Depth: 31 to 60 inches
Texture: Very gravelly loamy sand
Structure: Single grain
Consistence: Loose
Reaction: Strongly alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 13 to 25

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow

Available water capacity: 4 to 6 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.20; T value—2;
 wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Duric Camborthids, coarse-silty, mixed, mesic

Positions on landscape: Outer margins of fan skirts

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Classification: Typic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: Alluvial flats

Distinctive present vegetation: Basin wildrye, black greasewood, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Caphor Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Batan Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Unsel Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Caphor Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, area reclaim, excess salt

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Batan Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Poor—low strength

Topsoil: Poor—excess salt, excess sodium

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Severe—low strength

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Unsel Soil

Range seeding: Poor—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Restrictive Features for Selected Practices

Batan Soil

Drainage: Deep to water

Irrigation: Excess salt, excess sodium

Terraces and diversions: Erodes easily

Interpretive Groups

Land capability classification: Caphor soil—III_s, irrigated, and VII_s, nonirrigated; Batan soil—VII_s, nonirrigated; Unsel soil—III_s, irrigated, and VII_c, nonirrigated

Range site: Caphor and Batan soils—024X003N; Unsel soil—029X017N; Inclusion 1—024X003N; Inclusion 2—024X006N

3253—Caphor association

Positions on landscape: Fan skirts

Composition

Major components:

Caphor gravelly fine sandy loam, 0 to 2 percent slopes—65 percent

Caphor fine sandy loam, moderately saline, 0 to 2 percent slopes—25 percent

Contrasting inclusions:

Duric Camborthids, coarse-loamy, mixed, mesic, 0 to 4 percent slopes—5 percent

Duric Camborthids, coarse-loamy, mixed, mesic, 0 to 4 percent slopes—5 percent

Characteristics of the Caphor Soil

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: The upper fan skirts

Parent material: Mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 7 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 7 to 17 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 17 to 35 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 35 to 60 inches

Texture: Gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow over very rapid

Available water capacity: 3.7 to 5.5 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.15; T value—5
wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Caphor Soil, Moderately Saline

Classification: Durorthidic Torriorthents, coarse-loamy, mixed (calcareous), mesic

Positions on landscape: The lower fan skirts

Parent material: Mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,600 to 5,800 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Shadscale, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 7 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 10

Depth: 7 to 17 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 17 to 35 inches

Texture: Sandy loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Depth: 35 to 60 inches

Texture: Gravelly coarse sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Salinity: 2 to 8 millimhos per centimeter

Sodicity (SAR): 2 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow over very rapid
Available water capacity: 4 to 6 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—moderate
Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Classification: Duric Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Fan drainageways
Distinctive present vegetation: Wyoming big sagebrush, needleandthread

Inclusion 2

Classification: Duric Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Winterfat, Indian ricegrass, shadscale

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Caphor Soil**

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Caphor Soil, Moderately Saline

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses**Caphor Soil**

Range seeding: Poor—too arid
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Caphor Soil, Moderately Saline

Range seeding: Poor—too arid, excess salt, excess sodium
Roadfill: Good
Topsoil: Poor—small stones, area reclaim, excess salt
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Interpretive Groups

Land capability classification: Caphor soil—III_s, irrigated, and VII_c, nonirrigated; Caphor soil, moderately saline—III_s, irrigated, and VII_s, nonirrigated
Range site: Caphor soil—028B017N; Caphor soil, moderately saline—024X003N; Inclusion 1—028B010N; Inclusion 2—024X014N

3270—Koyen fine sandy loam, 2 to 4 percent slopes

Positions on landscape: Fan skirts

Composition

Major component:

Koyen fine sandy loam, 2 to 4 percent slopes—90 percent

Contrasting inclusion:

Izo very gravelly loamy sand, occasionally flooded, 2 to 4 percent slopes—10 percent

Characteristics of the Koyen Soil

Classification: Typic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Fan skirts
Parent material: Alluvium derived from volcanic rock
Slope: 2 to 4 percent
Elevation: 5,700 to 5,800 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 52 degrees F
Frost-free season: About 130 days
Dominant present vegetation: Shadscale, bud sagebrush, galleta, Indian ricegrass

Typical Profile

Depth: 0 to 4 inches
Texture: Fine sandy loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Moderately alkaline

Depth: 4 to 14 inches
Texture: Sandy loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Moderately alkaline

Depth: 14 to 60 inches
Texture: Gravelly sandy loam
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Strongly alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid
Available water capacity: 4.8 to 6.0 inches
Water-supplying capacity: 7 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.32; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusion

Classification: Typic Torriorthents, sandy-skeletal, mixed, mesic
Positions on landscape: Narrow inset fans, adjacent to channels
Distinctive present vegetation: Spiny hopsage, burrobrush, Bailey greasewood

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Poor
Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—too arid
Roadfill: Good
Topsoil: Fair—too sandy, small stones, area reclaim
Daily cover for landfill: Fair—too sandy, thin layer
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Slight
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—thin layer
Sand: Probable source
Gravel: Probable source

Interpretive Groups

Land capability classification: Koyen soil—IIIe, irrigated, and VIIc, nonirrigated
Range site: Koyen soil—029X017N; Inclusion—029X041N

3310—Spasprey-Allor association

Positions on landscape: Fan piedmonts

Composition

Major components:
 Spasprey gravelly fine sandy loam, 2 to 4 percent slopes—50 percent
 Allor gravelly loam, 2 to 8 percent slopes—35 percent
Contrasting inclusions:
 Orovada fine sandy loam, 0 to 4 percent slopes—8 percent
 Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 15 to 30 percent slopes—4 percent
 Wholan silt loam, 0 to 2 percent slopes—3 percent

Characteristics of the Spasprey Soil

Classification: Haploxerollic Durargids, fine-loamy, mixed, mesic
Positions on landscape: The upper fan piedmont remnants
Parent material: Mixed alluvium
Slope: 2 to 4 percent
Elevation: 6,200 to 6,500 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles
Depth: 0 to 5 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 5 to 26 inches
Texture: Clay loam, sandy clay loam
Structure: Prismatic
Consistence: Hard, friable
Reaction: Mildly alkaline
Depth: 26 to 33 inches
Texture: Cemented hardpan
Consistence: Extremely hard, brittle

Depth: 33 to 60 inches
Texture: Fine sandy loam
Structure: Massive
Consistence: Hard, friable
Reaction: Moderately alkaline

Soil and Water Features

Depth to the hardpan: 20 to 30 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 4 to 5 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.32; T value—3; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Allor Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic
Positions on landscape: The lower fan piedmont remnants
Parent material: Mixed alluvium
Slope: 2 to 8 percent
Elevation: 6,200 to 6,500 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles
Depth: 0 to 12 inches
Texture: Gravelly loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 12 to 34 inches
Texture: Gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 34 to 60 inches
Texture: Gravelly loamy sand, very gravelly loamy sand
Structure: Massive

Consistence: Very hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 5 to 7 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Durorthidic Torriorthents, loamy-skeletal, mixed (calcareous), mesic
Positions on landscape: Side slopes of fan piedmont remnants
Distinctive present vegetation: Wyoming big sagebrush, pine bluegrass

Inclusion 3

Classification: Typic Camborthids, coarse-silty, mixed, mesic
Positions on landscape: Convex fan skirts
Distinctive present vegetation: Winterfat

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Spasprey Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Allor Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Spasprey Soil

Range seeding: Fair—too arid
Roadfill: Good

Topsoil: Fair—cemented pan, area reclaim, too clayey

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—shrink-swell, low strength, frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Allor Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action, shrink-swell

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Spasprey soil—III_s, irrigated, and VI_s, nonirrigated; Allor soil—III_e, irrigated, and VII_c, nonirrigated

Range site: Spasprey and Allor soils—028B010N; Inclusion 1—028B010N; Inclusion 2—027X008N; Inclusion 3—024X004N

3312—Spasprey-Bufferan-Orovada association

Positions on landscape: Fan piedmonts

Composition

Major components:

Spasprey gravelly fine sandy loam, 0 to 2 percent slopes—35 percent

Bufferan gravelly loam, 2 to 8 percent slopes—35 percent

Orovada fine sandy loam, 2 to 4 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Haplargids, clayey-skeletal, montmorillonitic, mesic, 15 to 30 percent slopes—5 percent

Xerollic Durargids, clayey-skeletal, montmorillonitic, mesic, 4 to 15 percent slopes—5 percent

Duric Camborthids, loamy-skeletal, mixed, mesic, 15 to 30 percent slopes—5 percent

Characteristics of the Spasprey Soil

Classification: Haploxerollic Durargids, fine-loamy, mixed, mesic

Positions on landscape: Summits of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 0 to 2 percent

Elevation: 6,200 to 6,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 5 to 26 inches

Texture: Clay loam, sandy clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Mildly alkaline

Depth: 26 to 33 inches

Texture: Cemented hardpan

Consistence: Extremely hard, brittle

Depth: 33 to 60 inches

Texture: Fine sandy loam

Structure: Massive

Consistence: Hard, friable

Reaction: Moderately alkaline

Soil and Water Features

Depth to the hardpan: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4 to 5 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.32; T value—3; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Bufferan Soil

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow

Positions on landscape: Side slopes of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 2 to 8 percent

Elevation: 6,200 to 6,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Thurber needlegrass, bottlebrush squirreltail, Indian ricegrass

Typical Profile

Rock fragments on surface: 15 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 5 to 16 inches

Texture: Clay, gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 16 to 27 inches

Kind of material: Indurated hardpan

Structure: Massive

Consistence: Extremely hard, extremely firm

Depth: 27 to 60 inches

Texture: Cemented hardpan

Structure: Platy

Consistence: Very hard, very firm

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 2 to 3 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 4 percent

Elevation: 6,200 to 6,500 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 20 to 65 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 8.4 to 10.0 inches

Water-supplying capacity: 9 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Concave, north-facing side slopes of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Xerollic Durargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Concave, higher parts on summits of concave fan piedmont remnants
Distinctive present vegetation: Black sagebrush, Indian ricegrass

Inclusion 3

Classification: Duric Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: South-facing side slopes of fan piedmont remnants
Distinctive present vegetation: Shadscale, Wyoming big sagebrush, galleta

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Spasprey Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Buffaran Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Spasprey Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Fair—cemented pan, area reclaim, too clayey
Daily cover for landfill: Poor—cemented pan
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—shrink-swell, low strength, frost action
Pond reservoir areas: Severe—seepage
Embankments, dikes, and levees: Severe—seepage, piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Buffaran Soil

Range seeding: Poor—droughty, rooting depth
Roadfill: Poor—cemented pan, shrink-swell, low strength
Topsoil: Poor—cemented pan, too clayey, small stones
Daily cover for landfill: Poor—cemented pan, hard to pack
Shallow excavations: Severe—cemented pan
Local roads and streets: Severe—cemented pan, shrink-swell, low strength
Pond reservoir areas: Severe—cemented pan
Embankments, dikes, and levees: Severe—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Fair—small stones, thin layer
Daily cover for landfill: Good
Shallow excavations: Slight
Local roads and streets: Moderate—frost action
Pond reservoir areas: Moderate—seepage, slope
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Spasprey soil—III_s, irrigated, and VI_s, nonirrigated; Buffaran soil—VII_s, nonirrigated; Orovada soil—II_e, irrigated, and VI_c, nonirrigated

Range site: Spasprey, Buffaran, and Orovada soils—028B010N; Inclusion 1—028B010N; Inclusion 2—028B011N; Inclusion 3—024X045N

3314—Spasprey-Allor-Orovada association

Positions on landscape: Fan piedmonts

Composition

Major components:

Spasprey gravelly fine sandy loam, 4 to 8 percent slopes—35 percent
 Allor gravelly loam, 4 to 8 percent slopes—30 percent
 Orovada fine sandy loam, 2 to 8 percent slopes—20 percent
Contrasting inclusions:
 Pineval gravelly loam, 4 to 15 percent slopes—8 percent
 Buffaran gravelly loam, 4 to 8 percent slopes—4 percent
 Duric Haplargids, fine-loamy, mixed, mesic, 4 to 8 percent slopes—3 percent

Characteristics of the Spasprey Soil

Classification: Haploxerollic Durargids, fine-loamy, mixed, mesic
Positions on landscape: Fan piedmont remnants
Parent material: Mixed alluvium
Slope: 4 to 8 percent
Elevation: 5,500 to 6,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 5 to 26 inches

Texture: Clay loam, sandy clay loam

Structure: Prismatic

Consistence: Hard, friable

Reaction: Mildly alkaline

Depth: 26 to 33 inches

Texture: Cemented hardpan

Consistence: Extremely hard, brittle

Depth: 33 to 60 inches

Texture: Fine sandy loam

Structure: Massive

Consistence: Hard, friable

Reaction: Moderately alkaline

Soil and Water Features

Depth to the hardpan: 20 to 30 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4 to 5 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.32; T value—3; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Allor Soil

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Fan aprons

Parent material: Mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,500 to 6,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 12 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 12 to 34 inches

Texture: Gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 34 to 60 inches

Texture: Gravelly loamy sand, very gravelly loamy sand

Structure: Massive

Consistence: Very hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 5.0 to 6.4 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,500 to 6,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches

Texture: Fine sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 8 to 20 inches

Texture: Fine sandy loam, loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 20 to 60 inches

Texture: Stratified fine sandy loam to silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 8.4 to 9.6 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Side slopes of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Xerollic Durargids, clayey, montmorillonitic, mesic, shallow

Positions on landscape: The highest nonburied fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Duric Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The lower parts of fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Spasprey Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Allor Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Spasprey Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—cemented pan, area reclaim, too clayey

Daily cover for landfill: Poor—cemented pan

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—shrink-swell, low strength, frost action

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—seepage, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Allor Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action, shrink-swell

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Spasprey soil—IIIe, irrigated, and VIs, nonirrigated; Allor soil—IIIe,

irrigated, and Vllc, nonirrigated; Orovada soil—IIIe, irrigated, and VIc, nonirrigated

Range site: Spasprey, Allor, and Orovada soils—028B010N; Inclusion 1—028B010N; Inclusion 2—028B010N; Inclusion 3—024X002N

3341—Halacan-Hatur-Rock outcrop association

Positions on landscape: Mountains

Composition

Major components:

Halacan very gravelly loam, 30 to 50 percent slopes—40 percent

Hatur gravelly loam, 30 to 50 percent slopes—30 percent

Rock outcrop—15 percent

Contrasting inclusions:

Cryic Lithic Rendolls, loamy-skeletal, carbonatic, 4 to 15 percent slopes—9 percent

Pachic Cryoborolls, loamy-skeletal, mixed, 4 to 15 percent slopes—6 percent

Characteristics of the Halacan Soil

Classification: Cryic Lithic Rendolls, loamy-skeletal, carbonatic

Positions on landscape: Smooth to convex side slopes and shoulder slopes of mountains

Parent material: Residuum and colluvium derived from limestone

Slope: 30 to 50 percent

Elevation: 8,200 to 9,400 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 38 degrees F

Frost-free season: About 40 days

Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 50 percent pebbles

Depth: 0 to 5 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 5 to 17 inches

Texture: Extremely channery loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 17 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 1 to 2 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Hatur Soil

Classification: Cryic Rendolls, loamy-skeletal, carbonatic

Positions on landscape: East- and south-facing, slightly concave side slopes of mountains

Parent material: Colluvium and residuum derived from limestone

Slope: 30 to 50 percent

Elevation: 8,200 to 9,400 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 60 days

Dominant present vegetation: Idaho fescue, mountain brome, needlegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 90 percent pebbles

Depth: 0 to 14 inches

Texture: Gravelly loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 14 to 29 inches

Texture: Extremely gravelly loam, extremely gravelly sandy loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 29 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 3.0 to 4.5 inches

Water-supplying capacity: 12 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.20; T value—2;
 wind erodibility group—6
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Rock Outcrop

Positions on landscape: Scattered peaks and limestone ledges
Dominant present vegetation: None

Contrasting Inclusions

Inclusion 1

Classification: Cryic Lithic Rendolls, loamy-skeletal, carbonatic
Positions on landscape: Crests of mountains
Distinctive present vegetation: Black sagebrush, Idaho fescue

Inclusion 2

Classification: Pachic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: Intermountain drainageways
Distinctive present vegetation: Basin big sagebrush, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Halacan Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Hatur Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Halacan Soil

Range seeding: Poor—droughty, small stones
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—depth to rock, small stones, slope
Daily cover for landfill: Poor—depth to rock, small stones, slope
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—depth to rock, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—seepage, large stones
Sand: Improbable source—excess fines, large stones
Gravel: Improbable source—excess fines, large stones

Hatur Soil

Range seeding: Poor—erodes easily
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—small stones, slope
Daily cover for landfill: Poor—depth to rock, seepage, small stones
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Severe—seepage
Sand: Improbable source—small stones
Gravel: Improbable source—thin layer

Interpretive Groups

Land capability classification: Halacan soil—VIIIs, nonirrigated; Hatur soil—VIIe, nonirrigated; Rock outcrop—VIIIIs, nonirrigated
Range site: Halacan soil—024X016N; Hatur soil—028B029N; Rock outcrop—none; Inclusion 1—024X042N; Inclusion 2—028B024N

3342—Halacan-Hapgood-Granzan association

Positions on landscape: Mountains

Composition

Major components:

Halacan very gravelly loam, 30 to 50 percent slopes—35 percent
 Hapgood gravelly loam, 30 to 50 percent slopes—25 percent
 Granzan very cobbly loam, 30 to 50 percent slopes—25 percent
Contrasting inclusions:
 Cryic Lithic Rendolls, loamy-skeletal, carbonatic, 4 to 15 percent slopes—6 percent
 Rock outcrop—5 percent
 Pachic Cryoborolls, loamy-skeletal, mixed, 15 to 50 percent slopes—3 percent
 Rubble land—1 percent

Characteristics of the Halacan Soil

Classification: Cryic Lithic Rendolls, loamy-skeletal, carbonatic
Positions on landscape: Smooth to convex, broad shoulder slopes of mountains
Parent material: Residuum and colluvium derived from limestone
Slope: 30 to 50 percent
Elevation: 7,800 to 9,000 feet
Average annual precipitation: About 16 inches
Average annual air temperature: About 38 degrees F

Frost-free season: About 40 days

Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Rock fragments on surface: 50 percent pebbles

Depth: 0 to 5 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 5 to 17 inches

Texture: Extremely channery loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 17 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 1 to 2 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Concave side slopes of mountains

Parent material: Colluvium that includes loess and volcanic ash

Slope: 30 to 50 percent

Elevation: 7,800 to 9,000 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Needlegrass, mountain brome, bluegrass, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 20 percent pebbles

Depth: 0 to 17 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.8 to 7.4 inches

Water-supplying capacity: 16 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Granzan Soil

Classification: Typic Calcixerolls, loamy-skeletal, carbonatic, frigid

Positions on landscape: Convex, south-facing side slopes of mountains

Parent material: Colluvium and residuum derived from calcareous shale and limestone

Slope: 30 to 50 percent

Elevation: 7,800 to 9,000 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Bluebunch wheatgrass, mountain big sagebrush, needlegrass, snowberry

Typical Profile

Rock fragments on surface: 35 percent cobbles, 35 percent pebbles

Depth: 0 to 12 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 12 to 43 inches
Texture: Very gravelly loam, very gravelly silt loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Moderately alkaline

Depth: 43 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 40 to 60 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 5 to 7 inches
Water-supplying capacity: 12 inches
Runoff: Rapid
Hydrologic group: B
Erosion factors (upper layer): K value—0.17; T value—3; wind erodibility group—7
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Cryic Lithic Rendolls, loamy-skeletal, carbonatic
Positions on landscape: Protected crests and shoulder slopes of mountains
Distinctive present vegetation: Black sagebrush, bluegrass, Idaho fescue

Inclusion 2

Positions on landscape: Rims, severely eroded areas
Distinctive present vegetation: None

Inclusion 3

Classification: Pachic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: Windswept crests and nose slopes of mountains
Distinctive present vegetation: Low sagebrush, bluegrass

Inclusion 4

Positions on landscape: Below areas of Rock outcrop
Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Halacan Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Hapgood Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Granzan Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Halacan Soil

Range seeding: Poor—droughty, small stones
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—depth to rock, small stones, slope
Daily cover for landfill: Poor—depth to rock, small stones, slope
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—depth to rock, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—seepage, large stones
Sand: Improbable source—excess fines, large stones
Gravel: Improbable source—excess fines, large stones

Hapgood Soil

Range seeding: Poor—erodes easily
Roadfill: Poor—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Moderate—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Granzan Soil

Range seeding: Poor—large stones
Roadfill: Poor—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Moderate—thin layer, large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Halacan and Granzan soils—VIIs, nonirrigated; Hapgood soil—VIIe, nonirrigated
Range site: Halacan soil—024X016N; Hapgood soil—024X032N; Granzan soil—028B027N; Inclusion 1—024X042N; Inclusion 2—none; Inclusion 3—025X028N; Inclusion 4—none

3411—Zoesta-Robson-Softscrabble association*Positions on landscape:* Mountains**Composition***Major components:*

Zoesta cobbly loam, 15 to 30 percent slopes—40 percent

Robson very cobbly loam, 15 to 30 percent slopes—25 percent

Softscrabble very cobbly loam, 15 to 50 percent slopes—20 percent

Contrasting inclusions:

Pachic Haploxerolls, loamy-skeletal, mixed, frigid, 2 to 8 percent slopes—5 percent

Aridic Argixerolls, fine-loamy, mixed, frigid, 15 to 50 percent slopes—5 percent

Rock outcrop—4 percent

Cleavage very gravelly loam, 8 to 15 percent slopes—1 percent

Characteristics of the Zoesta Soil*Classification:* Xerollic Paleargids, fine, montmorillonitic, frigid*Positions on landscape:* The lower side slopes of mountains*Parent material:* Colluvium derived from various kinds of rock*Slope:* 15 to 30 percent*Elevation:* 6,400 to 7,600 feet*Average annual precipitation:* About 10 inches*Average annual air temperature:* About 45 degrees F*Frost-free season:* About 100 days*Dominant present vegetation:* Bluebunch wheatgrass, needlegrass, low sagebrush**Typical Profile***Rock fragments on surface:* 15 percent cobbles, 20 percent pebbles*Depth:* 0 to 7 inches*Texture:* Cobbly loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Neutral*Depth:* 7 to 23 inches*Texture:* Clay*Structure:* Prismatic*Consistence:* Very hard, very firm*Reaction:* Mildly alkaline*Depth:* 23 to 31 inches*Texture:* Gravelly clay, gravelly clay loam*Structure:* Prismatic*Consistence:* Very hard, very firm*Reaction:* Moderately alkaline*Depth:* 31 to 60 inches*Texture:* Very gravelly loam, very gravelly clay loam*Structure:* Massive*Consistence:* Very hard, very firm*Reaction:* Moderately alkaline**Soil and Water Features***Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Very slow*Available water capacity:* 9 to 11 inches*Water-supplying capacity:* 12 inches*Runoff:* Rapid*Hydrologic group:* D*Erosion factors (upper layer):* K value—0.20; T value—1; wind erodibility group—6*Hazard of erosion:* By water—moderate; by wind—slight*Shrink-swell potential:* High*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Low**Characteristics of the Robson Soil***Classification:* Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid*Positions on landscape:* Shoulder slopes of mountains*Parent material:* Residuum derived from siliceous tuff, rhyolite, and andesite*Slope:* 15 to 30 percent*Elevation:* 6,600 to 8,000 feet*Average annual precipitation:* About 12 inches*Average annual air temperature:* About 44 degrees F*Frost-free season:* About 90 days*Dominant present vegetation:* Low sagebrush, Sandberg bluegrass**Typical Profile***Rock fragments on surface:* 50 percent cobbles and stones, 30 percent pebbles*Depth:* 0 to 2 inches*Texture:* Very cobbly loam*Structure:* Platy*Consistence:* Soft, very friable*Reaction:* Neutral*Salinity:* 0 to 1 millimho per centimeter*Depth:* 2 to 5 inches*Texture:* Very cobbly clay loam*Structure:* Subangular blocky*Consistence:* Slightly hard, friable*Reaction:* Mildly alkaline*Salinity:* 0 to 1 millimho per centimeter*Depth:* 5 to 15 inches*Texture:* Very cobbly clay, extremely cobbly clay*Structure:* Angular blocky

Consistence: Hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 1 millimho per centimeter

Depth: 15 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 12 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 0.6 to 1.2 inches
Water-supplying capacity: 10 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—8
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Low

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: Concave side slopes of mountains
Parent material: Colluvium and residuum derived from volcanic rock
Slope: 15 to 50 percent
Elevation: 6,400 to 8,000 feet
Average annual precipitation: About 16 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 70 days
Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 25 percent cobbles, 30 percent pebbles
Depth: 0 to 16 inches
Texture: Very cobbly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 16 to 30 inches
Texture: Very cobbly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral
Depth: 30 to 60 inches
Texture: Very gravelly clay loam
Structure: Angular blocky

Consistence: Hard, friable
Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 6 to 8 inches
Water-supplying capacity: 14 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—8
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Pachic Haploxerolls, loamy-skeletal, mixed, frigid
Positions on landscape: Intermountain drainageways
Distinctive present vegetation: Rose, basin big sagebrush, bluegrass

Inclusion 2

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid
Positions on landscape: Convex, north-facing nose slopes of mountains
Distinctive present vegetation: Low sagebrush, Idaho fescue

Inclusion 3

Positions on landscape: Scattered peaks
Distinctive present vegetation: None

Inclusion 4

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: Crests of mountains
Distinctive present vegetation: Low sagebrush, black sagebrush, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Zoesta Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Robson Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Zoesta Soil

Range seeding: Poor—rooting depth

Roadfill: Fair—shrink-swell, slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—low strength, shrink-swell, slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Slight

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Robson Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Softscrabble Soil

Range seeding: Poor—large stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Zoesta soil—VIs, nonirrigated; Robson and Softscrabble soils—VIIs, nonirrigated

Range site: Zoesta and Robson soils—024X018N; Softscrabble soil—024X021N; Inclusion 1—028B024N; Inclusion 2—024X027N; Inclusion 3—none; Inclusion 4—024X016N

3415—Zoesta-Handy association

Positions on landscape: Mountain valley fans

Composition

Major components:

Zoesta cobbly loam, 8 to 15 percent slopes—50 percent

Handy gravelly loam, 15 to 30 percent slopes, extremely stony—35 percent

Contrasting inclusions:

Aridic Duric Haploxerolls, loamy-skeletal, mixed, frigid, 15 to 30 percent slopes—6 percent

Aridic Haploxerolls, loamy-skeletal, mixed, frigid, 4 to 15 percent slopes—5 percent

Durixerollic Haplargids, fine, montmorillonitic, frigid, 15 to 30 percent slopes—4 percent

Characteristics of the Zoesta Soil

Classification: Xerollic Paleargids, fine, montmorillonitic, frigid

Positions on landscape: Convex mountain valley fan remnants

Parent material: Alluvium derived from various kinds of rock

Slope: 8 to 15 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, low sagebrush

Typical Profile

Rock fragments on surface: 15 percent cobbles, 15 percent pebbles

Depth: 0 to 7 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 7 to 23 inches

Texture: Clay

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Mildly alkaline

Depth: 23 to 31 inches

Texture: Gravelly clay, gravelly clay loam

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Moderately alkaline

Depth: 31 to 60 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Massive

Consistence: Very hard, very firm

Reaction: Moderately alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 9 to 11 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Handy Soil

Classification: Xerollic Haplargids, fine, montmorillonitic, frigid

Positions on landscape: Convex side slopes of mountain valley fans

Parent material: Alluvium and colluvium derived from various kinds of rock

Slope: 15 to 30 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 11 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Indian ricegrass, needlegrass, western wheatgrass, big sagebrush

Typical Profile

Rock fragments on surface: 10 percent stones, 30 percent pebbles

Depth: 0 to 4 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 4 to 30 inches

Texture: Clay, gravelly clay

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Moderately alkaline

Depth: 30 to 60 inches

Texture: Gravelly loam to very gravelly loamy sand

Structure: Massive

Consistence: Hard, firm

Reaction: Moderately alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 8 to 10 inches

Water-supplying capacity: 11 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Classification: Aridic Duric Haploxerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Convex inset fan remnants

Distinctive present vegetation: Mountain big sagebrush, gray rabbitbrush

Inclusion 2

Classification: Aridic Haploxerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave inset fans

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 3

Classification: Durixerollic Haplargids, fine, montmorillonitic, frigid

Positions on landscape: Convex, lower side slopes of mountain valley fan remnants

Distinctive present vegetation: Big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Zoesta Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Handy Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Zoesta Soil**

Range seeding: Poor—rooting depth

Roadfill: Fair—shrink-swell

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey, slope

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Slight

Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Handy Soil

Range seeding: Fair—too arid, small stones
Roadfill: Fair—slope, shrink-swell
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—low strength, shrink-swell, slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Slight
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Zoesta soil—IVs, irrigated, and VIIs, nonirrigated; Handy soil—VIIe, nonirrigated
Range site: Zoesta soil—024X018N; Handy soil—025X014N; Inclusion 1—025X014N; Inclusion 2—025X003N; Inclusion 3—024X018N

3417—Zoesta-Roca-Softscrabble association

Positions on landscape: Mountains

Composition

Major components:
 Zoesta cobbly loam, 8 to 15 percent slopes—40 percent
 Roca very cobbly loam, 15 to 50 percent slopes—30 percent
 Softscrabble gravelly loam, 15 to 30 percent slopes—15 percent
Contrasting inclusions:
 Cumulic Haplaquolls, fine-loamy, mixed, frigid, drained, 4 to 8 percent slopes—8 percent
 Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid, 4 to 8 percent slopes—4 percent
 Robson gravelly loam, 2 to 4 percent slopes—3 percent

Characteristics of the Zoesta Soil

Classification: Xerollic Paleargids, fine, montmorillonitic, frigid
Positions on landscape: Convex foot slopes of mountains
Parent material: Colluvium derived from various kinds of rock
Slope: 8 to 15 percent
Elevation: 6,500 to 7,400 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 100 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, low sagebrush

Typical Profile

Rock fragments on surface: 15 percent cobbles, 15 percent pebbles
Depth: 0 to 7 inches
Texture: Cobbly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 7 to 23 inches
Texture: Clay
Structure: Prismatic
Consistence: Very hard, very firm
Reaction: Mildly alkaline
Depth: 23 to 31 inches
Texture: Gravelly clay, gravelly clay loam
Structure: Prismatic
Consistence: Very hard, very firm
Reaction: Moderately alkaline
Depth: 31 to 60 inches
Texture: Very gravelly loam, very gravelly clay loam
Structure: Massive
Consistence: Very hard, very firm
Reaction: Moderately alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Very slow
Available water capacity: 9 to 11 inches
Water-supplying capacity: 12 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Roca Soil

Classification: Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: South-facing side slopes of mountains
Parent material: Residuum derived from shale and chert
Slope: 15 to 50 percent
Elevation: 6,500 to 7,400 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Bluegrass, bluebunch wheatgrass, big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 4 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 4 to 24 inches

Texture: Very gravelly clay loam, very gravelly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 24 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 2.6 to 4.5 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: North-facing side slopes of mountains

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 15 to 30 percent

Elevation: 6,500 to 7,400 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 5 percent cobbles, 20 percent pebbles

Depth: 0 to 16 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 16 to 30 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 30 to 60 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 7.8 to 9.2 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Inclusion 2

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid

Positions on landscape: The higher crests of mountains

Distinctive present vegetation: Big sagebrush, bluebunch wheatgrass

Inclusion 3

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: The lower crests of mountains

Distinctive present vegetation: Low sagebrush, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Zoesta Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Roca Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Zoesta Soil

Range seeding: Poor—rooting depth

Roadfill: Fair—shrink-swell

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey, slope

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Slight

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Roca Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Fair—small stones

Roadfill: Fair—large stones, slope, shrink-swell

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Zoesta soil—IVs, irrigated, and VIIs, nonirrigated; Roca soil—VIIs, nonirrigated; Softscrabble soil—VIe, nonirrigated

Range site: Zoesta soil—024X018N; Roca soil—024X028N; Softscrabble soil—024X021N; Inclusion 1—028B024N; Inclusion 2—025X014N; Inclusion 3—024X018N

3421—Belate-Softscrabble-Torro association

Positions on landscape: Mountains

Composition

Major components:

Belate very gravelly loam, 15 to 30 percent slopes—50 percent

Softscrabble gravelly loam, 15 to 30 percent slopes—20 percent

Torro gravelly loam, 30 to 50 percent slopes—15 percent

Contrasting inclusions:

Cleavage very cobbly loam, 4 to 15 percent slopes—6 percent

Welch loam, drained, 2 to 8 percent slopes—4 percent

Rock outcrop—3 percent

Welch loam, 2 to 8 percent slopes—2 percent

Characteristics of the Belate Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Convex side slopes of mountains

Parent material: Colluvium and residuum derived from tuff and andesite

Slope: 15 to 30 percent

Elevation: 7,000 to 8,000 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Rock fragments on surface: 15 percent cobbles and stones, 65 percent pebbles

Depth: 0 to 14 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 14 to 60 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Angular blocky
Consistence: Hard, friable
Reaction: Mildly alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 6.7 to 7.8 inches
Water-supplying capacity: 12 inches
Runoff: Rapid
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—7
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: Concave side slopes of mountains in areas where snow accumulates, incipient drainageways
Parent material: Colluvium and residuum derived from volcanic rock
Slope: 15 to 30 percent
Elevation: 7,000 to 8,000 feet
Average annual precipitation: About 16 inches
Average annual air temperature: About 44 degrees F
Frost-free season: About 70 days
Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 5 percent cobbles, 25 percent pebbles
Depth: 0 to 16 inches
Texture: Gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 16 to 30 inches
Texture: Very cobbly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral
Depth: 30 to 60 inches
Texture: Gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 7.8 to 9.2 inches
Water-supplying capacity: 14 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Torro Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: South- and west-facing side slopes of mountains
Parent material: Colluvium and residuum derived from chert and shale
Slope: 30 to 50 percent
Elevation: 7,000 to 8,000 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 42 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Bluebunch wheatgrass, needlegrass, bluegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 20 percent pebbles
Depth: 0 to 10 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral
Depth: 10 to 34 inches
Texture: Extremely gravelly loam, extremely gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral
Depth: 34 to 60 inches
Texture: Very gravelly sandy loam, very gravelly loamy coarse sand
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.0 to 6.5 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—8

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Crests of mountains

Distinctive present vegetation: Low sagebrush, black sagebrush, bluegrass

Inclusion 2

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Entrenched parts of intermountain drainageways

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 3

Positions on landscape: Scattered peaks and eroded side slopes

Distinctive present vegetation: None

Inclusion 4

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Smooth intermountain drainageways

Distinctive present vegetation: Sedge, rush, bluegrass, iris, rose

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Belate Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Torro Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Belate Soil**

Range seeding: Poor—small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Slight

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Fair—small stones

Roadfill: Fair—large stones, slope, shrink-swell

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Torro Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Belate soil—VII_s, nonirrigated; Softscrabble soil—VI_e, nonirrigated; Torro soil—VII_e, nonirrigated

Range site: Belate soil—024X027N; Softscrabble soil—024X021N; Torro soil—024X029N; Inclusion 1—024X016N; Inclusion 2—028B024N; Inclusion 3—none; Inclusion 4—025X005N

3422—Belate-Robson-Torro association

Positions on landscape: Mountains

Composition

Major components:

Belate gravelly loam, 15 to 30 percent slopes—45 percent

Robson gravelly loam, 15 to 30 percent slopes—25 percent

Torro gravelly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Softscrabble cobbly loam, 15 to 30 percent slopes—9 percent

Rock outcrop—3 percent

Welch loam, drained, 2 to 8 percent slopes—2 percent

Welch loam, 2 to 8 percent slopes—1 percent

Characteristics of the Belate Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: North-facing side slopes of mountains

Parent material: Colluvium and residuum derived from tuff and andesite

Slope: 15 to 30 percent

Elevation: 7,000 to 8,000 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Depth: 0 to 12 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 12 to 60 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Mildly alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 7.2 to 8.4 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Robson Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Convex, south-facing crests, shoulder slopes, and side slopes of mountains

Parent material: Residuum derived from siliceous tuff, rhyolite, and andesite

Slope: 15 to 30 percent

Elevation: 7,000 to 8,000 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Low sagebrush, Sandberg bluegrass

Typical Profile

Rock fragments on surface: 5 percent cobbles, 20 percent pebbles

Depth: 0 to 2 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 2 to 15 inches

Texture: Very cobbly clay, extremely cobbly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 15 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 12 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 0.6 to 1.2 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Torro Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: South-facing side slopes of mountains
Parent material: Colluvium and residuum derived from chert and shale
Slope: 15 to 30 percent
Elevation: 7,000 to 8,000 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 42 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Bluebunch wheatgrass, needlegrass, bluegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 20 percent pebbles
Depth: 0 to 10 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral
Depth: 10 to 38 inches
Texture: Extremely gravelly loam, extremely gravelly clay loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral
Depth: 38 to 60 inches
Texture: Extremely gravelly sandy loam, extremely gravelly loamy coarse sand
Structure: Massive
Consistence: Slightly hard, very friable
Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 4.8 to 6.0 inches
Water-supplying capacity: 11 inches
Runoff: Rapid
Hydrologic group: B
Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Sheltered, lower side slopes of mountains
Distinctive present vegetation: Mountain big sagebrush, Idaho fescue

Inclusion 2

Positions on landscape: Scattered peaks and eroded side slopes
Distinctive present vegetation: None

Inclusion 3

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid
Positions on landscape: Entrenched parts of intermountain drainageways
Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 4

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid
Positions on landscape: Smooth intermountain drainageways
Distinctive present vegetation: Sedge, bluegrass, rose, hairgrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Belate Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Robson Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Torro Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Belate Soil

Range seeding: Fair—erodes easily
Roadfill: Poor—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Slight
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Robson Soil

Range seeding: Poor—droughty
Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones, thin layer

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Torro Soil

Range seeding: Fair—erodes easily

Roadfill: Fair—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—seepage, small stones, slope

Shallow excavations: Severe—cutbanks cave, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Belate soil—VIe, nonirrigated; Robson and Torro soils—VIIe, nonirrigated

Range site: Belate soil—024X027N; Robson soil—024X018N; Torro soil—024X029N; Inclusion 1—024X021N; Inclusion 2—none; Inclusion 3—028B024N; Inclusion 4—025X005N

3423—Belate-Cleavage-Softscrabble association

Positions on landscape: Mountains

Composition

Major components:

Belate very gravelly loam, 30 to 50 percent slopes—35 percent

Cleavage extremely gravelly loam, 15 to 30 percent slopes—30 percent

Softscrabble gravelly loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Torro very gravelly loam, 30 to 50 percent slopes—9 percent

Rock outcrop—3 percent

Welch loam, drained, 2 to 8 percent slopes—2 percent

Welch loam, 2 to 8 percent slopes—1 percent

Characteristics of the Belate Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Convex, lower side slopes of mountains

Parent material: Colluvium and residuum derived from tuff and andesite

Slope: 30 to 50 percent

Elevation: 6,500 to 7,800 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 40 percent pebbles

Depth: 0 to 14 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 14 to 60 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Mildly alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 6.7 to 7.8 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Cleavage Soil

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Convex, windswept crests, shoulder slopes, and upper side slopes of mountains

Parent material: Residuum derived from rhyolite and other igneous rock

Slope: 15 to 30 percent

Elevation: 6,500 to 7,800 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Low sagebrush, black sagebrush, Idaho fescue, bluegrass

Typical Profile

Rock fragments on surface: 10 percent cobbles, 60 percent pebbles

Depth: 0 to 4 inches

Texture: Extremely gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 15 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 15 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.5 to 2.5 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.05; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave side slopes of mountains

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 15 to 30 percent

Elevation: 6,500 to 7,800 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 16 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 16 to 30 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 30 to 60 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 7.8 to 9.2 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.20; T value—5; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: South-facing side slopes of mountains

Distinctive present vegetation: Bluebunch wheatgrass, mountain big sagebrush

Inclusion 2

Positions on landscape: Rims, severely eroded side slopes

Distinctive present vegetation: None

Inclusion 3

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Mountain drainageways

Distinctive present vegetation: Basin big sagebrush, sedge, iris, basin wildrye

Inclusion 4

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Near seeps and springs

Distinctive present vegetation: Sedge, iris, bluegrass, hairgrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Belate Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Cleavage Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Belate Soil**

Range seeding: Poor—small stones, erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Slight

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Cleavage Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Fair—erodes easily

Roadfill: Fair—large stones, slope, shrink-swell

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Belate and Cleavage soils—VIIs, nonirrigated; Softscrabble soil—VIe, nonirrigated

Range site: Belate soil—024X027N; Cleavage soil—024X016N; Softscrabble soil—024X021N; Inclusion 1—024X029N; Inclusion 2—none; Inclusion 3—028B024N; Inclusion 4—025X005N

3450—Reluctan-Robson-Cleavage association

Positions on landscape: Mountains

Composition

Major components:

Reluctan very cobbly loam, 30 to 50 percent slopes—45 percent

Robson very gravelly loam, 15 to 30 percent slopes—20 percent

Cleavage extremely gravelly loam, 4 to 15 percent slopes—20 percent

Contrasting inclusions:

Rock outcrop—4 percent

Rubble land—4 percent

Cumulic Haploxerolls, fine-loamy, mixed, frigid, 0 to 4 percent slopes—4 percent

Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid, 8 to 30 percent slopes—3 percent

Characteristics of the Reluctan Soil

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid

Positions on landscape: Concave side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic rock

Slope: 30 to 50 percent

Elevation: 6,800 to 7,800 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, Idaho fescue, mountain big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 9 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 9 to 27 inches

Texture: Gravelly clay loam, gravelly loam

Structure: Subangular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 27 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.5 to 5.5 inches

Water-supplying capacity: 12 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Robson Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Convex side slopes and shoulder slopes of mountains

Parent material: Residuum derived from siliceous tuff, rhyolite, and andesite

Slope: 15 to 30 percent

Elevation: 6,800 to 7,800 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Low sagebrush, Sandberg bluegrass

Typical Profile

Rock fragments on surface: 5 percent cobbles, 40 percent pebbles

Depth: 0 to 2 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 2 to 15 inches

Texture: Very cobbly clay, extremely cobbly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 15 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 12 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 0.6 to 1.2 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Cleavage Soil

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Crests of mountains

Parent material: Residuum derived from rhyolite and other igneous rock

Slope: 4 to 15 percent

Elevation: 6,800 to 7,800 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Low sagebrush, black sagebrush, Idaho fescue, bluegrass

Typical Profile

Rock fragments on surface: 10 percent cobbles, 60 percent pebbles

Depth: 0 to 4 inches

Texture: Extremely gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 18 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 18 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.4 to 2.0 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.05; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 2

Positions on landscape: Rock stripes below areas of Rock outcrop

Distinctive present vegetation: None

Inclusion 3

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Basin big sagebrush, bluegrass

Inclusion 4

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid

Positions on landscape: The lower, north-facing side slopes of mountains

Distinctive present vegetation: Black sagebrush, pine bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Reluctan Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Robson Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Cleavage Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Reluctan Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Robson Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones, thin layer

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Cleavage Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Reluctan, Robson, and Cleavage soils—VIIs, nonirrigated

Range site: Reluctan soil—024X021N; Robson soil—024X018N; Cleavage soil—024X016N; Inclusions 1 and 2—none; Inclusion 3—028B024N; Inclusion 4—024X031N

3453—Reluctan-Locane-Itca association

Positions on landscape: Mountains

Composition

Major components:

Reluctan very gravelly loam, 30 to 50 percent slopes—35 percent

Locane extremely gravelly sandy loam, 30 to 50 percent slopes—25 percent

Itca very cobbly loam, 15 to 30 percent slopes—25 percent

Contrasting inclusions:

Softscrabble gravelly loam, 15 to 30 percent slopes—7 percent

Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid, 15 to 30 percent slopes—5 percent

Welch loam, drained, 2 to 8 percent slopes—2 percent

Rock outcrop—1 percent

Characteristics of the Reluctan Soil

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid

Positions on landscape: North-, east-, and west-facing side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic rock

Slope: 30 to 50 percent

Elevation: 6,500 to 7,600 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, Idaho fescue, mountain big sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 35 percent pebbles

Depth: 0 to 9 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 9 to 27 inches

Texture: Gravelly clay loam, gravelly loam

Structure: Subangular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 27 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.0 to 5.6 inches

Water-supplying capacity: 12 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—2; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Locane Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: South-facing side slopes of mountains

Parent material: Residuum derived from shale and conglomerate

Slope: 30 to 50 percent

Elevation: 6,500 to 7,600 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 55 percent pebbles

Depth: 0 to 6 inches

Texture: Extremely gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 6 to 14 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 14 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.4 to 2.5 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Crests, shoulder slopes, and convex side slopes of mountains

Parent material: Residuum derived from extrusive volcanic and pyroclastic rock

Slope: 15 to 30 percent

Elevation: 6,500 to 7,600 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush

Site index for singleleaf pinyon: 70

Typical Profile

Rock fragments on surface: 25 percent cobbles, 20 percent pebbles

Depth: 0 to 9 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 9 to 17 inches

Texture: Very cobbly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 17 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.5 to 2.5 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, north-facing side slopes of mountains

Distinctive present vegetation: Mountain big sagebrush, Idaho fescue, snowberry

Inclusion 2

Classification: Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Stable, convex side slopes of mountains

Distinctive present vegetation: Low sagebrush, bluegrass

Inclusion 3

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Inset fans at the base of mountains and along canyon bottoms

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 4

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Reluctan Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Locane Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Itca Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Reluctan Soil

Range seeding: Poor—small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Locane Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Itca Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Interpretive Groups

Land capability classification: Reluctan, Locane, and Itca soils—VIIIs, nonirrigated

Range site: Reluctan soil—024X021N; Locane soil—024X035N; Itca soil—025X061N; Inclusion 1—024X021N; Inclusion 2—024X018N; Inclusion 3—028B024N; Inclusion 4—none

3455—Reluctan-Roca-Colbar association

Positions on landscape: Mountains

Composition

Major components:

Reluctan very cobbly loam, 30 to 50 percent slopes—40 percent

Roca very cobbly loam, 30 to 50 percent slopes—30 percent

Colbar cobbly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Rock outcrop—7 percent

Pachic Haploxerolls, loamy-skeletal, mixed, frigid, 30 to 50 percent slopes—4 percent

Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 8 to 30 percent slopes—4 percent

Characteristics of the Reluctan Soil

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid

Positions on landscape: North- and east-facing side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic rock

Slope: 30 to 50 percent

Elevation: 5,400 to 6,400 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, Idaho fescue, mountain big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 9 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 9 to 27 inches

Texture: Gravelly clay loam, gravelly loam

Structure: Subangular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 27 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.5 to 5.5 inches

Water-supplying capacity: 12 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Roca Soil

Classification: Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: South- and west-facing side slopes of mountains

Parent material: Residuum derived from shale and chert

Slope: 30 to 50 percent

Elevation: 5,400 to 6,400 feet

Average annual precipitation: About 10 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Bluegrass, bluebunch wheatgrass, big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 5 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Salinity: 0 to 2 millimhos per centimeter

Depth: 5 to 27 inches

Texture: Very gravelly clay loam, very gravelly clay

Structure: Angular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 27 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 2.6 to 4.5 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Colbar Soil

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: The lower side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolite and andesite

Slope: 15 to 30 percent

Elevation: 5,400 to 6,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Needlegrass, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 15 percent cobbles, 10 percent pebbles

Depth: 0 to 3 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 3 to 22 inches

Texture: Cobbly loam, gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 22 to 26 inches

Texture: Gravelly loam, cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 26 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.8 to 4.0 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.17; T value—2; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Positions on landscape: Rimrock on shoulder slopes and scattered peaks of mountains

Distinctive present vegetation: None

Inclusion 2

Classification: Pachic Haploxerolls, loamy-skeletal, mixed, frigid

Positions on landscape: North-facing snow pockets

Distinctive present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush

Inclusion 3

Classification: Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Eroded, lower shoulder slopes and nose slopes of mountains

Distinctive present vegetation: Wyoming big sagebrush, bottlebrush squirreltail, ephedra

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Reluctan Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Roca Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Colbar Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Reluctan Soil**

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Roca Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Colbar Soil

Range seeding: Fair—too arid, large stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—large stones, slope

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Reluctan and Roca soils—VIIs, nonirrigated; Colbar soil—VIe, nonirrigated

Range site: Reluctan soil—024X021N; Roca soil—024X028N; Colbar soil—024X005N; Inclusion 1—none; Inclusion 2—024X021N; Inclusion 3—024X047N

3457—Reluctan-Clanalpine-Roca association

Positions on landscape: Mountains

Composition

Major components:

Reluctan very cobbly loam, 15 to 30 percent slopes—35 percent

Clanalpine very gravelly loam, 15 to 30 percent slopes—30 percent

Roca very cobbly loam, 15 to 50 percent slopes—20 percent

Contrasting inclusions:

Lithic Xerollic Haplargids, clayey-skeletal, mixed, mesic, 15 to 50 percent slopes—8 percent

Rock outcrop—4 percent

Xerollic Haplargids, fine-loamy, mixed, frigid, 8 to 15 percent slopes—3 percent

Characteristics of the Reluctan Soil

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid

Positions on landscape: East- and west-facing side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic rock

Slope: 15 to 30 percent

Elevation: 6,000 to 7,100 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, Idaho fescue, mountain big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 9 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, friable
Reaction: Neutral
Depth: 9 to 27 inches
Texture: Gravelly clay loam, gravelly loam
Structure: Angular blocky
Consistence: Hard, firm
Reaction: Mildly alkaline
Depth: 27 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 3 to 5 inches
Water-supplying capacity: 14 inches
Runoff: Medium
Hydrologic group: C
Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Clanalpine Soil

Classification: Typic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: North-facing side slopes of mountains
Parent material: Colluvium and residuum derived from rhyolitic and andesitic tuff
Slope: 15 to 30 percent
Elevation: 6,000 to 7,100 feet
Average annual precipitation: About 15 inches
Average annual air temperature: About 41 degrees F
Frost-free season: About 70 days
Dominant present vegetation: Singleleaf pinyon, mountain big sagebrush, bluebunch wheatgrass, Utah juniper
Site index for singleleaf pinyon: 75

Typical Profile

Rock fragments on surface: 5 percent stones and boulders, 40 percent cobbles, 20 percent pebbles
Depth: 0 to 10 inches
Texture: Very gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 10 to 39 inches
Texture: Very gravelly clay loam, very cobbly loam

Structure: Angular blocky
Consistence: Hard, friable
Reaction: Mildly alkaline
Depth: 39 inches
Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 5 to 7 inches
Water-supplying capacity: 14 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.17; T value—2; wind erodibility group—7
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Roca Soil

Classification: Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: South-facing side slopes of mountains
Parent material: Residuum derived from shale and chert
Slope: 15 to 50 percent
Elevation: 6,000 to 7,100 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Bluegrass, bluebunch wheatgrass, big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles
Depth: 0 to 4 inches
Texture: Very cobbly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Depth: 4 to 24 inches
Texture: Very gravelly clay loam, very gravelly clay
Structure: Angular blocky
Consistence: Hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 24 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Very slow

Available water capacity: 2.6 to 4.5 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions**Inclusion 1**

Classification: Lithic Xerollic Haplargids, clayey-skeletal, mixed, mesic

Positions on landscape: The lower side slopes of mountains

Distinctive present vegetation: Black sagebrush, Thurber needlegrass, bluegrass

Inclusion 2

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 3

Classification: Xerollic Haplargids, fine-loamy, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Reluctan Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Clanalpine Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Roca Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Reluctan Soil**

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Clanalpine Soil

Range seeding: Poor—small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Roca Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Reluctan, Clanalpine, and Roca soils—VIIs, nonirrigated

Range site: Reluctan soil—024X021N; Clanalpine soil—025X061N; Roca soil—024X028N; Inclusion 1—024X031N; Inclusion 2—none; Inclusion 3—025X014N

3461—Torro-Rubble land-Cleavage association

Positions on landscape: Mountains

Composition

Major components:

Torro very gravelly loam, 50 to 75 percent slopes—40 percent

Rubble land—30 percent

Cleavage extremely gravelly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Reluctant very gravelly loam, 30 to 50 percent slopes—8 percent

Rock outcrop—5 percent

Aridic Haploxerolls, loamy-skeletal, mixed, frigid, 50 to 75 percent slopes—2 percent

Characteristics of the Torro Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: South- and west-facing side slopes of mountains

Parent material: Colluvium and residuum derived from chert and shale

Slope: 50 to 75 percent

Elevation: 6,400 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, bluegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 15 percent cobbles, 30 percent pebbles

Depth: 0 to 10 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 34 inches

Texture: Extremely gravelly loam, extremely gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 34 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy coarse sand

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 4 to 6 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Rubble Land

Positions on landscape: Side slopes of mountains

Kind of material: Rock stripes and talus deposits that are 95 percent stones and boulders

Distinctive present vegetation: None

Characteristics of the Cleavage Soil

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Convex, windswept crests and shoulder slopes of mountains

Parent material: Residuum derived from rhyolite and other igneous rock

Slope: 15 to 30 percent

Elevation: 7,000 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Low sagebrush, black sagebrush, Idaho fescue, bluegrass

Typical Profile

Rock fragments on surface: 10 percent cobbles, 60 percent pebbles

Depth: 0 to 4 inches

Texture: Extremely gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 15 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 15 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.5 to 2.5 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.05; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid

Positions on landscape: Concave, north-facing side slopes of mountains

Distinctive present vegetation: Mountain big sagebrush, bluebunch wheatgrass, Idaho fescue

Inclusion 2

Positions on landscape: Rims of mountains

Distinctive present vegetation: None

Inclusion 3

Classification: Aridic Haploxerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Immediately below areas of Rock outcrop and Rubble land on side slopes of mountains

Distinctive present vegetation: Chokecherry, oceanspray, currant

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Torro Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Cleavage Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Torro Soil

Range seeding: Poor—small stones, erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—seepage, small stones, slope

Shallow excavations: Severe—cutbanks cave, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Cleavage Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones, thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Torro and Cleavage soils—VIIIs, nonirrigated; Rubble land—VIIIIs, nonirrigated

Range site: Torro soil—024X029N; Rubble land—none; Cleavage soil—024X016N; Inclusion 1—024X021N; Inclusion 2—none; Inclusion 3—024X034N

3462—Torro-Reluctan-Cleavage association

Positions on landscape: Mountains

Composition

Major components:

Torro extremely gravelly loam, 30 to 50 percent slopes—40 percent

Reluctan very cobbly loam, 30 to 50 percent slopes—30 percent

Cleavage extremely gravelly loam, 8 to 30 percent slopes—15 percent

Contrasting inclusions:

Rock outcrop—4 percent

Softscrabble gravelly loam, 15 to 30 percent slopes—4 percent

Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid, 15 to 50 percent slopes—4 percent

Fluventic Haploxerolls, loamy-skeletal, mixed, frigid, 4 to 15 percent slopes—3 percent

Characteristics of the Torro Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: South-facing side slopes of mountains

Parent material: Colluvium and residuum derived from chert and shale

Slope: 30 to 50 percent

Elevation: 6,500 to 7,500 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, bluegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 20 percent cobbles, 45 percent pebbles

Depth: 0 to 10 inches

Texture: Extremely gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 34 inches

Texture: Extremely gravelly loam, extremely gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 34 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy coarse sand

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 4 to 6 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Reluctan Soil

Classification: Aridic Argixerolls, fine-loamy, mixed, frigid

Positions on landscape: North-facing side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic rock

Slope: 30 to 50 percent

Elevation: 6,500 to 7,500 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, Idaho fescue, mountain big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 9 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 9 to 27 inches

Texture: Gravelly clay loam, gravelly loam

Structure: Subangular blocky

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 27 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.5 to 6.0 inches

Water-supplying capacity: 12 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Cleavage Soil

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Crests and ridges of mountains

Parent material: Residuum derived from rhyolite and other igneous rock

Slope: 8 to 30 percent

Elevation: 7,000 to 7,500 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Low sagebrush, black sagebrush, Idaho fescue, bluegrass

Typical Profile

Rock fragments on surface: 10 percent cobbles, 60 percent pebbles

Depth: 0 to 4 inches

Texture: Extremely gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 15 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 15 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.5 to 2.0 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.05; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 2

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, north-facing snow pockets

Distinctive present vegetation: Mountain big sagebrush, bluebunch wheatgrass

Inclusion 3

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid

Positions on landscape: Convex shoulder slopes and upper side slopes of mountains

Distinctive present vegetation: Utah juniper, singleleaf pinyon, big sagebrush

Inclusion 4

Classification: Fluventic Haploxerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Basin big sagebrush, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Torro Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Reluctan Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Cleavage Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Torro Soil

Range seeding: Poor—small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—seepage, small stones, slope

Shallow excavations: Severe—cutbanks cave, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Reluctan Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Cleavage Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones, thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Torro, Reluctan, and Cleavage soils—VII, nonirrigated

Range site: Torro soil—024X029N; Reluctan soil—024X021N; Cleavage soil—024X016N; Inclusion

1—none; Inclusion 2—024X021N; Inclusion 3—024X029N; Inclusion 4—025X003N

3463—Torro-Clanalpine-Itca association

Positions on landscape: Mountains

Composition

Major components:

Torro extremely gravelly loam, 30 to 50 percent slopes—50 percent

Clanalpine very cobbly loam, 30 to 50 percent slopes—20 percent

Itca very cobbly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Durixerollic Camborthids, loamy-skeletal, mixed, frigid, 8 to 15 percent slopes—5 percent

Roca very gravelly loam, 15 to 30 percent slopes—5 percent

Rock outcrop—3 percent

Rubble land—2 percent

Characteristics of the Torro Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: South- and west-facing side slopes of mountains

Parent material: Colluvium and residuum derived from chert and shale

Slope: 30 to 50 percent

Elevation: 6,500 to 7,500 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, bluegrass, mountain big sagebrush

Typical Profile

Depth: 0 to 10 inches

Texture: Extremely gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 34 inches

Texture: Extremely gravelly loam, extremely gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 34 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy coarse sand

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate over rapid

Available water capacity: 4.3 to 5.6 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Clanalpine Soil

Classification: Typic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: North-facing side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic and andesitic tuff

Slope: 30 to 50 percent

Elevation: 6,500 to 7,500 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 41 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Singleleaf pinyon, mountain big sagebrush, bluebunch wheatgrass, Utah juniper

Site index for singleleaf pinyon: 75

Typical Profile

Rock fragments on surface: 5 percent stones and boulders, 40 percent cobbles, 20 percent pebbles

Depth: 0 to 10 inches

Texture: Very cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 10 to 39 inches

Texture: Very gravelly clay loam, very cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Mildly alkaline

Depth: 39 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 4 to 6 inches
Water-supplying capacity: 13 inches
Runoff: Rapid
Hydrologic group: C
Erosion factors (upper layer): K value—0.17; T value—2; wind erodibility group—8
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: Crests and shoulder slopes of mountains
Parent material: Residuum derived from extrusive volcanic and pyroclastic rock
Slope: 15 to 30 percent
Elevation: 7,200 to 7,700 feet
Average annual precipitation: About 14 inches
Average annual air temperature: About 43 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush
Site index for singleleaf pinyon: 70

Typical Profile

Rock fragments on surface: 20 percent cobbles, 30 percent pebbles
Depth: 0 to 2 inches
Texture: Very cobbly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 2 to 14 inches
Texture: Very cobbly clay, very gravelly clay loam
Structure: Prismatic
Consistence: Hard, firm
Reaction: Mildly alkaline
Depth: 14 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow

Available water capacity: 1.5 to 3.0 inches
Water-supplying capacity: 10 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, loamy-skeletal, mixed, frigid
Positions on landscape: Narrow intermountain drainageways
Distinctive present vegetation: Wyoming big sagebrush, Indian ricegrass

Inclusion 2

Classification: Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: The lower, south-facing side slopes of mountains
Distinctive present vegetation: Mountain big sagebrush, bluebunch wheatgrass

Inclusion 3

Positions on landscape: Scattered peaks
Distinctive present vegetation: None

Inclusion 4

Positions on landscape: Rock stripes below areas of Rock outcrop
Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Torro Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Clanalpine Soil

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Itca Soil

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Torro Soil

Range seeding: Poor—small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—seepage, small stones, slope

Shallow excavations: Severe—cutbanks cave, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Clanalpine Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Itca Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Interpretive Groups

Land capability classification: Torro, Clanalpine, and Itca soils—VII_s, nonirrigated

Range site: Torro soil—024X029N; Clanalpine and Itca soils—025X061N; Inclusion 1—028B010N; Inclusion 2—024X028N; Inclusions 3 and 4—none

3464—Torro-Itca-Softscrabble association

Positions on landscape: Mountains

Composition

Major components:

Torro extremely gravelly loam, 30 to 50 percent slopes—50 percent

Itca very cobbly loam, 30 to 50 percent slopes—20 percent

Softscrabble gravelly loam, 15 to 50 percent slopes—15 percent

Contrasting inclusions:

Rock outcrop—5 percent

Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid, 15 to 50 percent slopes—4 percent

Welch loam, drained, 2 to 8 percent slopes—3 percent

Rubble land—3 percent

Characteristics of the Torro Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Convex, south- and west-facing side slopes of mountains

Parent material: Colluvium and residuum derived from chert and shale

Slope: 30 to 50 percent

Elevation: 6,800 to 8,000 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, bluegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 15 percent cobbles, 65 percent pebbles

Depth: 0 to 10 inches

Texture: Extremely gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 34 inches

Texture: Extremely gravelly loam, extremely gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 34 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy coarse sand

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 4.3 to 5.6 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—5;
wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal,
montmorillonitic, frigid

Positions on landscape: Convex, north-facing side
slopes of mountains

Parent material: Residuum derived from extrusive
volcanic and pyroclastic rock

Slope: 30 to 50 percent

Elevation: 6,800 to 8,000 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass,
singleleaf pinyon, Utah juniper, mountain big
sagebrush

Site index for singleleaf pinyon: 70

Typical Profile

Depth: 0 to 2 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 2 to 14 inches

Texture: Very cobbly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 14 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60
inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.8 to 2.3 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1;
wind erodibility group—8

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed,
frigid

Positions on landscape: Concave side slopes of
mountains

Parent material: Colluvium and residuum derived from
volcanic rock

Slope: 15 to 50 percent

Elevation: 6,800 to 8,000 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch
wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Depth: 0 to 16 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 16 to 30 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 30 to 60 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60
inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 7.8 to 9.2 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.20; T value—5;
wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 2

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, frigid

Positions on landscape: Convex, broad crests and shoulder slopes of mountains

Distinctive present vegetation: Low sagebrush

Inclusion 3

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Canyon bottoms, mountain drainageways

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 4

Positions on landscape: Side slopes of mountains

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Torro Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Itca Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Torro Soil**

Range seeding: Poor—small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—seepage, small stones, slope

Shallow excavations: Severe—cutbanks cave, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Itca Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, large stones, slope

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Softscrabble Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Torro and Itca soils—VIIs, nonirrigated; Softscrabble soil—VIIe, nonirrigated

Range site: Torro soil—024X029N; Itca soil—024X061N; Softscrabble soil—024X021N; Inclusion 1—none; Inclusion 2—024X018N; Inclusion 3—028B024N; Inclusion 4—none

3465—Torro-Clanalpine-Softscrabble association

Positions on landscape: Mountains

Composition

Major components:

Torro extremely gravelly loam, 30 to 50 percent slopes—35 percent

Clanalpine extremely cobbly loam, 30 to 50 percent slopes—30 percent

Softscrabble loam, 30 to 50 percent slopes—20 percent

Contrasting inclusions:

Rock outcrop—6 percent

Itca very cobbly loam, 30 to 50 percent slopes—6 percent

Lithic Argixerolls, loamy-skeletal, mixed, frigid, 15 to 50 percent slopes—3 percent

Characteristics of the Torro Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, south- and west-facing side slopes of mountains

Parent material: Colluvium and residuum derived from chert and shale

Slope: 30 to 50 percent

Elevation: 6,800 to 8,000 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, needlegrass, bluegrass, mountain big sagebrush

Typical Profile

Depth: 0 to 10 inches

Texture: Extremely gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 10 to 34 inches

Texture: Extremely gravelly loam, extremely gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 34 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy coarse sand

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 4.3 to 5.6 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Clanalpine Soil

Classification: Typic Argixerolls, loamy-skeletal, mixed

Positions on landscape: Concave, east-facing and upper, north-facing side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic and andesitic tuff

Slope: 30 to 50 percent

Elevation: 6,800 to 8,000 feet

Average annual precipitation: About 15 inches

Average annual air temperature: About 41 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Singleleaf pinyon,

mountain big sagebrush, bluebunch wheatgrass, Utah juniper

Site index for singleleaf pinyon: 75

Typical Profile

Rock fragments on surface: 5 percent stones and boulders, 40 percent cobbles, 20 percent pebbles

Depth: 0 to 10 inches

Texture: Extremely cobbly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 10 to 39 inches

Texture: Very gravelly clay loam, very cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Mildly alkaline

Depth: 39 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 4 to 6 inches

Water-supplying capacity: 13 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Softscrabble Soil

Classification: Pachic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, lower, north-facing side slopes of mountains

Parent material: Colluvium and residuum derived from volcanic rock

Slope: 30 to 50 percent

Elevation: 6,800 to 8,000 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 70 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, snowberry

Typical Profile

Depth: 0 to 16 inches

Texture: Loam

Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral

Depth: 16 to 30 inches
Texture: Very cobbly clay loam

Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral

Depth: 30 to 60 inches
Texture: Very gravelly clay loam

Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 7 to 9 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—5

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Positions on landscape: Scattered peaks and cliffs

Distinctive present vegetation: None

Inclusion 2

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Near areas of Rock outcrop on crests of mountains

Distinctive present vegetation: Singleleaf pinyon, mountain big sagebrush, bluegrass

Inclusion 3

Classification: Lithic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Crests of mountains

Distinctive present vegetation: Low sagebrush, black sagebrush, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Torro Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Clanalpine Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Softscrabble Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Torro Soil

Range seeding: Poor—small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—seepage, small stones, slope

Shallow excavations: Severe—cutbanks cave, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Clanalpine Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Softscrabble Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Torro and Clanalpine soils—VII, nonirrigated; Softscrabble soil—VIIe, nonirrigated

Range site: Torro soil—024X029N; Clanalpine soil—025X061N; Softscrabble soil—028B049N; Inclusion

1—none; Inclusion 2—025X061N; Inclusion 3—028B037N

3562—Locane-Coztur-Punchbowl association

Positions on landscape: Mountains

Composition

Major components:

Locane gravelly loam, 8 to 15 percent slopes—35 percent

Coztur gravelly loam, 8 to 15 percent slopes—25 percent

Punchbowl gravelly loam, 15 to 30 percent slopes—25 percent

Contrasting inclusions:

Xerollic Haplargids, fine, montmorillonitic, frigid, 4 to 15 percent slopes—8 percent

Robson very cobbly loam, 15 to 30 percent slopes—5 percent

Rock outcrop—2 percent

Characteristics of the Locane Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Summits, crests, and concave side slopes of mountains

Parent material: Residuum derived from shale and conglomerate

Slope: 8 to 15 percent

Elevation: 6,400 to 7,300 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 40 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 6 to 14 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 14 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.5 to 2.5 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Characteristics of the Coztur Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid

Positions on landscape: Convex, north-facing side slopes of mountains

Parent material: Residuum derived from volcanic rock

Slope: 8 to 15 percent

Elevation: 6,400 to 7,300 feet

Average annual precipitation: About 11 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Mountain big sagebrush, Wyoming big sagebrush, needlegrass, bluegrass

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 11 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 11 to 17 inches

Texture: Loam, clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Depth: 17 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.1 to 3.5 inches

Water-supplying capacity: 10 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1;
wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Punchbowl Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed,
frigid

Positions on landscape: Convex, south- and west-facing
side slopes of mountains

Parent material: Residuum derived from andesite,
dacite, rhyolite, and tuff

Slope: 15 to 30 percent

Elevation: 6,400 to 7,300 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Black sagebrush,
bluegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 3 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 7 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 7 to 11 inches

Texture: Gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 11 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches

Depth to a seasonal high water table: More than 60
inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.3 to 2.0 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1;
wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Haplargids, fine, montmorillonitic,
frigid

Positions on landscape: Toe slopes of mountains

Distinctive present vegetation: Mountain big sagebrush,
Wyoming big sagebrush, needlegrass

Inclusion 2

Classification: Lithic Xerollic Haplargids, clayey-skeletal,
montmorillonitic, frigid

Positions on landscape: Convex, lower, north-facing side
slopes of mountains

Distinctive present vegetation: Low sagebrush, bluegrass

Inclusion 3

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Locane Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Coztur Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Punchbowl Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Locane Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small
stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Coztur Soil*Range seeding:* Poor—droughty*Roadfill:* Poor—depth to rock*Topsoil:* Poor—depth to rock, small stones*Daily cover for landfill:* Poor—depth to rock*Shallow excavations:* Severe—depth to rock*Local roads and streets:* Severe—depth to rock*Pond reservoir areas:* Severe—depth to rock, slope*Embankments, dikes, and levees:* Severe—thin layer*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Punchbowl Soil***Range seeding:* Poor—droughty*Roadfill:* Poor—depth to rock*Topsoil:* Poor—depth to rock, small stones, slope*Daily cover for landfill:* Poor—depth to rock, small stones, slope*Shallow excavations:* Severe—depth to rock, slope*Local roads and streets:* Severe—depth to rock, slope*Pond reservoir areas:* Severe—depth to rock, slope*Embankments, dikes, and levees:* Severe—thin layer*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Interpretive Groups***Land capability classification:* Locane and Coztur soils—VIIs, nonirrigated; Punchbowl soil—VIIe, nonirrigated*Range site:* Locane soil—024X005N; Coztur soil—025X014N; Punchbowl soil—028B016N; Inclusion 1—025X014N; Inclusion 2—024X018N; Inclusion 3—none**3563—Locane-Muni association***Positions on landscape:* Mountains, fan piedmonts**Composition***Major components:*

Locane gravelly sandy loam, 2 to 8 percent slopes—35 percent

Muni gravelly sandy loam, 2 to 8 percent slopes—30 percent

Locane very gravelly loam, eroded, 4 to 15 percent slopes—20 percent

Contrasting inclusions:

Akerue cobbly loam, 2 to 8 percent slopes—8 percent

Durixerollic Camborthids, coarse-loamy, mixed, frigid, 2 to 8 percent slopes—4 percent

Rock outcrop—3 percent

Characteristics of the Locane Soil*Classification:* Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid*Positions on landscape:* Concave side slopes of mountains*Parent material:* Residuum derived from shale and conglomerate*Slope:* 2 to 8 percent*Elevation:* 6,300 to 7,000 feet*Average annual precipitation:* About 12 inches*Average annual air temperature:* About 45 degrees F*Frost-free season:* About 80 days*Dominant present vegetation:* Indian ricegrass, needlegrass, Wyoming big sagebrush**Typical Profile***Depth:* 0 to 6 inches*Texture:* Gravelly sandy loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Neutral*Depth:* 6 to 14 inches*Texture:* Very gravelly clay loam*Structure:* Angular blocky*Consistence:* Hard, friable*Reaction:* Neutral*Depth:* 14 inches*Kind of material:* Unweathered bedrock**Soil and Water Features***Depth to bedrock:* 10 to 20 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Slow*Available water capacity:* 1.2 to 2.2 inches*Water-supplying capacity:* 8 inches*Runoff:* Rapid*Hydrologic group:* D*Erosion factors (upper layer):* K value—0.24; T value—1; wind erodibility group—5*Hazard of erosion:* By water—slight; by wind—slight*Shrink-swell potential:* Moderate*Corrosivity:* To steel—moderate; to concrete—low*Potential for frost action:* Low**Characteristics of the Muni Soil***Classification:* Haploxerollic Durargids, loamy, mixed, mesic, shallow*Positions on landscape:* Fan piedmont remnants*Parent material:* Mixed alluvium that includes loess and volcanic ash*Slope:* 2 to 8 percent*Elevation:* 6,300 to 7,000 feet*Average annual precipitation:* About 10 inches*Average annual air temperature:* About 45 degrees F*Frost-free season:* About 100 days

Dominant present vegetation: Needlegrass, bluegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 3 inches

Texture: Gravelly sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 3 to 18 inches

Texture: Sandy clay loam, clay loam, loam

Structure: Prismatic

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 18 to 49 inches

Kind of material: Cemented hardpan

Depth: 49 to 60 inches

Texture: Very gravelly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Strongly alkaline

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.0 to 3.5 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.28; T value—1; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Locane Soil, Eroded

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Convex, rilled side slopes of mountains

Parent material: Residuum derived from shale and conglomerate

Slope: 4 to 15 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Indian ricegrass,

needlegrass, Wyoming big sagebrush, singleleaf pinyon

Site index for common trees: Utah juniper—22; singleleaf pinyon—22

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 2 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 2 to 10 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Neutral

Depth: 10 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.0 to 2.8 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Durargids, clayey-skeletal, montmorillonitic, frigid, shallow

Positions on landscape: Summits of hills

Distinctive present vegetation: Black sagebrush

Inclusion 2

Classification: Durixerollic Camborthids, coarse-loamy, mixed, frigid

Positions on landscape: Inset fans

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Positions on landscape: Scattered peaks, severely eroded areas

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Locane Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Muni Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Locane Soil, Eroded

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Poor

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Locane Soil**

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Muni Soil

Range seeding: Poor—droughty

Roadfill: Poor—cemented pan

Topsoil: Poor—cemented pan, area reclaim

Daily cover for landfill: Poor—cemented pan, small stones

Shallow excavations: Severe—cemented pan, cutbanks cave

Local roads and streets: Severe—cemented pan

Pond reservoir areas: Severe—cemented pan

Embankments, dikes, and levees: Severe—seepage

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Locane Soil, Eroded

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Locane soils—VII_s, nonirrigated; Muni soil—IV_e, irrigated, and VII_s, nonirrigated

Range site: Locane soil—024X005N; Muni soil—028B010N; Locane soil, eroded—025X062N; Inclusion 1—028B016N; Inclusion 2—024X041N; Inclusion 3—none

3625—Minat-Coztur-Belate association

Positions on landscape: Mountains

Composition

Major components:

Minat very gravelly very fine sandy loam, 30 to 50 percent slopes—40 percent

Coztur extremely gravelly loam, 15 to 30 percent slopes—30 percent

Belate very cobbly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Xerollic Haplargids, loamy-skeletal, mixed, frigid, 30 to 50 percent slopes—8 percent

Rock outcrop—5 percent

Welch clay loam, drained, 2 to 8 percent slopes—2 percent

Characteristics of the Minat Soil

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Concave, south-facing side slopes of mountains

Parent material: Mixed colluvium that includes some volcanic ash

Slope: 30 to 50 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 46 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Wyoming big sagebrush, bottlebrush squirreltail, bluebunch wheatgrass

Typical Profile

Rock fragments on surface: 10 percent cobbles, 35 percent pebbles

Depth: 0 to 9 inches

Texture: Very gravelly fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Mildly alkaline

Depth: 9 to 27 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 27 to 60 inches

Texture: Very gravelly loam, very gravelly fine sandy loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.5 to 6.5 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.10; T value—5; wind erodibility group—5

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Coztur Soil

Classification: Lithic Xerollic Haplargids, loamy, mixed, frigid

Positions on landscape: Crests and shoulder slopes of mountains

Parent material: Residuum derived from volcanic rock

Slope: 15 to 30 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 11 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Mountain big sagebrush, Wyoming big sagebrush, needlegrass, bluegrass

Typical Profile

Rock fragments on surface: 5 percent cobbles, 60 percent pebbles

Depth: 0 to 11 inches

Texture: Extremely gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Mildly alkaline

Depth: 11 to 17 inches

Texture: Loam, clay loam

Structure: Subangular blocky

Consistence: Hard, friable

Depth: 17 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.4 to 2.5 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.05; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Belate Soil

Classification: Aridic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Convex, north-facing side slopes of mountains

Parent material: Colluvium and residuum derived from tuff and andesite

Slope: 15 to 30 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush

Typical Profile

Rock fragments on surface: 25 percent cobbles, 20 percent pebbles

Depth: 0 to 12 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 12 to 60 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Mildly alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 6 to 8 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Haplargids, loamy-skeletal, mixed, frigid

Positions on landscape: The lower, north-facing side slopes of mountains

Distinctive present vegetation: Mountain big sagebrush, serviceberry

Inclusion 2

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 3

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Minat Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Coztur Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Belate Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Minat Soil

Range seeding: Poor—small stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Slight

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Coztur Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Belate Soil

Range seeding: Poor—large stones

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Minat, Coztur, and Belate soils—VIIs, nonirrigated

Range site: Minat soil—024X005N; Coztur soil—025X014N; Belate soil—024X027N; Inclusion 1—025X014N; Inclusion 2—none; Inclusion 3—028B024N

3690—Izod-Koynik-Rock outcrop association

Positions on landscape: Foothills

Composition

Major components:

Izod cobbly loam, 15 to 50 percent slopes—40 percent
Koynik extremely gravelly sandy loam, 15 to 30 percent slopes—30 percent

Rock outcrop—15 percent

Contrasting inclusions:

Xeric Torriorthents, loamy, mixed, nonacid, mesic, shallow, 4 to 15 percent slopes—8 percent

Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic, 8 to 15 percent slopes—7 percent

Characteristics of the Izod Soil

Classification: Lithic Xeric Torriorthents, loamy-skeletal, carbonatic, mesic

Positions on landscape: Convex, east- and north-facing crests, shoulder slopes, and side slopes of foothills

Parent material: Residuum and colluvium derived from limestone

Slope: 15 to 50 percent

Elevation: 5,500 to 6,100 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 20 percent cobbles, 10 percent pebbles

Depth: 0 to 4 inches

Texture: Cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Depth: 4 to 10 inches

Texture: Very gravelly loam, extremely gravelly loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Depth: 10 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 7 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 0.5 to 1.5 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Koynik Soil

Classification: Lithic Torriorthents, loamy-skeletal, carbonatic, mesic

Positions on landscape: South-facing side slopes of foothills

Parent material: Residuum and colluvium derived from limestone

Slope: 15 to 30 percent

Elevation: 5,500 to 6,100 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, needlegrass, bud sagebrush, shadscale, ephedra

Typical Profile

Rock fragments on surface: 15 percent cobbles, 50 percent pebbles

Depth: 0 to 6 inches

Texture: Extremely gravelly sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Depth: 6 to 8 inches

Texture: Very gravelly loam, very gravelly very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Depth: 8 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 8 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 0.5 to 1.3 inches

Water-supplying capacity: 6 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Rock Outcrop

Positions on landscape: Ledges, broad bedding planes

Dominant present vegetation: None

Contrasting Inclusions

Inclusion 1

Classification: Xeric Torriorthents, loamy, mixed, nonacid, mesic, shallow

Positions on landscape: Concave inset fans and interhill channels

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage

Inclusion 2

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Convex, higher crests of foothills

Distinctive present vegetation: Black sagebrush, Indian ricegrass, small rabbitbrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Izod Soil**

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Koynik Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses**Izod Soil**

Range seeding: Poor—droughty, erodes easily, depth to rock

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Koynik Soil

Range seeding: Poor—too arid, droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Izod and Koynik soils—VIIIs, nonirrigated; Rock outcrop—VIIIs, nonirrigated

Range site: Izod soil—024X030N; Koynik soil—024X025N; Rock outcrop—none; Inclusion 1—024X005N; Inclusion 2—028B016N

3740—Kelk silt loam, saline

Positions on landscape: Inset fans

Composition

Major component:

Kelk silt loam, saline, 0 to 2 percent slopes—85 percent

Contrasting inclusions:

Kelk very fine sandy loam, occasionally flooded, 0 to 2 percent slopes—7 percent

Broyles very fine sandy loam, 0 to 4 percent slopes—5 percent

Durorthidic Torriorthents, coarse-silty, mixed, mesic, 0 to 4 percent slopes—3 percent

Characteristics of the Kelk Soil

Classification: Durixerollic Camborthids, fine-silty, mixed, mesic

Positions on landscape: Inset fan remnants

Parent material: Loess that includes volcanic ash, mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,100 to 5,400 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Basin big sagebrush, basin wildrye, black greasewood

Typical Profile

Depth: 0 to 3 inches

Texture: Silt loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 3 to 18 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 18 to 42 inches

Texture: Silt loam

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 42 to 60 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 4 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 9 to 11 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.55; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, fine-silty, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Basin big sagebrush, black greasewood, rubber rabbitbrush

Inclusion 2

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fan skirts

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 3

Classification: Durorthidic Torriorthents, coarse-silty, mixed, mesic

Positions on landscape: Adjacent to channels and drainageways

Distinctive present vegetation: Big saltbush, black greasewood, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Range seeding: Poor—excess salt

Roadfill: Fair—low strength, shrink-swell

Topsoil: Poor—thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—low strength, frost action, shrink-swell

Pond reservoir areas: Slight

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Kelk soil—IIs, irrigated; VIIs, nonirrigated

Range site: Kelk soil—024X022N; Inclusion 1—024X006N; Inclusion 2—024X002N; Inclusion 3—024X015N

3741—Kelk-Settlemyer association

Positions on landscape: Inset fans

Composition

Major components:

Kelk very fine sandy loam, occasionally flooded, 0 to 2 percent slopes—55 percent

Settlemyer fine sandy loam, drained, 0 to 2 percent slopes—30 percent

Contrasting inclusions:

Xerollic Camborthids, fine-loamy, mixed, mesic, 0 to 4 percent slopes—10 percent

Duric Camborthids, fine-loamy, mixed, mesic, 0 to 4 percent slopes—3 percent

Aeric Fluvaquents, loamy-skeletal, mixed, mesic, 0 to 4 percent slopes—2 percent

Characteristics of the Kelk Soil

Classification: Durixerollic Camborthids, fine-silty, mixed, mesic

Positions on landscape: The lower inset fan remnants

Parent material: Loess that includes volcanic ash, mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,200 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Basin big sagebrush, basin wildrye, rubber rabbitbrush, black greasewood

Typical Profile

Depth: 0 to 14 inches

Texture: Very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 14 to 51 inches

Texture: Silt loam

Structure: Massive

Consistence: Hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 51 to 60 inches

Texture: Silt loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 5 to 13

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Occasional for brief to long periods in February through June

Permeability: Slow

Available water capacity: 10 to 12 inches

Water-supplying capacity: 8 inches

Runoff: Slow

Hydrologic group: C

Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Settlemyer Soil

Classification: Fluvaquentic Haplaquolls, fine-loamy, mixed, mesic

Positions on landscape: Recently dissected upper inset fan remnants

Parent material: Mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,200 to 6,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Basin wildrye, basin big sagebrush

Typical Profile

Depth: 0 to 16 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 16 to 36 inches

Texture: Silty clay loam, clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 36 to 60 inches

Texture: Stratified very gravelly loamy sand to silty clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: Rare

Permeability: Moderately slow

Available water capacity: 6 to 8 inches

Water-supplying capacity: 10 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Camborthids, fine-loamy, mixed, mesic

Positions on landscape: The higher recent inset fans

Distinctive present vegetation: Big saltbrush, black greasewood

Inclusion 2

Classification: Duric Camborthids, fine-loamy, mixed, mesic

Positions on landscape: Smooth, lower recent inset fans

Distinctive present vegetation: Spiny hopsage, black greasewood, shadscale

Inclusion 3

Classification: Aeric Fluvaquents, loamy-skeletal, mixed, mesic

Positions on landscape: Irregularly shaped, broad areas adjacent to channels

Distinctive present vegetation: Saltcedar, willow, rose

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Kelk Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Settlemeier Soil*Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair***Suitability and Limitations for Selected Uses*****Kelk Soil***Range seeding:* Fair—too arid*Roadfill:* Poor—low strength*Topsoil:* Good*Daily cover for landfill:* Good*Shallow excavations:* Moderate—flooding*Local roads and streets:* Severe—low strength, flooding*Pond reservoir areas:* Moderate—seepage*Embankments, dikes, and levees:* Severe—piping*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Settlemeier Soil***Range seeding:* Fair—too arid*Roadfill:* Good*Topsoil:* Fair—too clayey, small stones, area reclaim*Daily cover for landfill:* Fair—too clayey, too sandy, small stones*Shallow excavations:* Severe—cutbanks cave*Local roads and streets:* Severe—low strength*Pond reservoir areas:* Moderate—seepage*Embankments, dikes, and levees:* Severe—piping*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines***Interpretive Groups****Land capability classification:* Kelk soil—IIw, irrigated, and VIw, nonirrigated; Settlemeier soil—IIc, irrigated, and VIc, nonirrigated*Range site:* Kelk soil—024X006N; Settlemeier soil—028B003N; Inclusion 1—024X015N; Inclusion 2—024X003N; Inclusion 3—028B033N**3742—Kelk-Ocala association***Positions on landscape:* Inset fans, alluvial flats***Composition****Major components:*

Kelk very fine sandy loam, occasionally flooded, 0 to 4 percent slopes—55 percent

Ocala silt loam, occasionally flooded, 0 to 2 percent slopes—30 percent

Contrasting inclusions:

Batan silt loam, 0 to 2 percent slopes—5 percent

Aeric Halaquepts, fine-loamy, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Aquic Torriorthents, fine-silty, mixed (calcareous), mesic, 0 to 2 percent slopes—5 percent

Characteristics of the Kelk Soil*Classification:* Durixerollic Camborthids, fine-silty, mixed, mesic*Positions on landscape:* Broad inset fans dissecting alluvial flats*Parent material:* Loess that includes volcanic ash, mixed alluvium*Slope:* 0 to 2 percent*Elevation:* 5,200 to 5,400 feet*Average annual precipitation:* About 8 inches*Average annual air temperature:* About 48 degrees F*Frost-free season:* About 110 days*Dominant present vegetation:* Basin big sagebrush, basin wildrye, rubber rabbitbrush, black greasewood***Typical Profile****Depth:* 0 to 14 inches*Texture:* Very fine sandy loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Moderately alkaline*Salinity:* 0 to 4 millimhos per centimeter*Sodicity (SAR):* 0 to 5*Depth:* 14 to 51 inches*Texture:* Silt loam*Structure:* Massive*Consistence:* Hard, very friable*Reaction:* Moderately alkaline*Salinity:* 0 to 4 millimhos per centimeter*Sodicity (SAR):* 5 to 13*Depth:* 51 to 60 inches*Texture:* Silt loam*Structure:* Massive*Consistence:* Slightly hard, very friable*Reaction:* Strongly alkaline*Salinity:* 4 to 8 millimhos per centimeter*Sodicity (SAR):* 5 to 13***Soil and Water Features****Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* Occasional for brief to long periods in February through June*Permeability:* Slow*Available water capacity:* 10 to 12 inches*Water-supplying capacity:* 8 inches*Runoff:* Slow*Hydrologic group:* C*Erosion factors (upper layer):* K value—0.49; T value—5; wind erodibility group—3*Hazard of erosion:* By water—slight; by wind—severe*Shrink-swell potential:* Moderate*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Moderate

Characteristics of the Ocala Soil

Classification: Aeric Halaquepts, fine-silty, mixed (calcareous), mesic
Positions on landscape: Dissected alluvial flats
Parent material: Mixed silty alluvium that includes volcanic ash
Slope: 0 to 2 percent
Elevation: 5,200 to 5,400 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Black greasewood, rubber rabbitbrush, basin wildrye, alkali sacaton

Typical Profile

Depth: 0 to 4 inches
Texture: Silt loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Very strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 30 to 46

Depth: 4 to 36 inches
Texture: Silt loam, silty clay loam
Structure: Massive
Consistence: Hard, brittle
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 20 to 35

Depth: 36 to 60 inches
Texture: Silt loam, silty clay loam
Structure: Massive
Consistence: Very hard, very firm
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 20 to 35

Soil and Water Features

Depth to a seasonal high water table: 42 to 60 inches
Frequency of flooding: Occasional for brief to long periods in February through May
Permeability: Slow
Available water capacity: 10 to 12 inches
Water-supplying capacity: 7 inches
Runoff: Very slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—4L
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Durorthidic Torriorthents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Alluvial flat remnants
Distinctive present vegetation: Black greasewood, shadscale

Inclusion 2

Classification: Aeric Halaquepts, fine-loamy, mixed (calcareous), mesic
Positions on landscape: Poned areas on alluvial flats
Distinctive present vegetation: Black greasewood, basin wildrye, inland saltgrass, Nuttall saltbush

Inclusion 3

Classification: Aquic Torriorthents, fine-silty, mixed (calcareous), mesic
Positions on landscape: Overwashed areas of alluvial flats
Distinctive present vegetation: Basin big sagebrush, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Kelk Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Ocala Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Kelk Soil

Range seeding: Fair—too arid
Roadfill: Poor—low strength
Topsoil: Good
Daily cover for landfill: Good
Shallow excavations: Moderate—flooding
Local roads and streets: Severe—low strength, flooding
Pond reservoir areas: Moderate—seepage
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Ocala Soil

Range seeding: Poor—excess salt, excess sodium
Roadfill: Poor—low strength
Topsoil: Poor—excess salt, excess sodium
Daily cover for landfill: Poor—excess salt, excess sodium
Shallow excavations: Moderate—wetness, flooding
Local roads and streets: Severe—low strength, flooding, frost action

Pond reservoir areas: Slight
Embankments, dikes, and levees: Severe—excess salt, excess sodium
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Kelk soil—IIw, irrigated, and VIw, nonirrigated; Ocala soil—VIIw, nonirrigated
Range site: Kelk soil—024X006N; Ocala soil—024X007N; Inclusion 1—024X003N; Inclusion 2—024X011N; Inclusion 3—028B003N

3840—Jung-Newpass association

Positions on landscape: Mountains

Composition

Major components:
 Jung very cobbly loam, 15 to 30 percent slopes—45 percent
 Newpass very gravelly fine sandy loam, 15 to 30 percent slopes—25 percent
 Jung very cobbly fine sandy loam, 8 to 15 percent slopes—15 percent
Contrasting inclusions:
 Haplic Durargids, clayey-skeletal, montmorillonitic, mesic, 8 to 30 percent slopes—7 percent
 Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 4 to 15 percent slopes—6 percent
 Rock outcrop—2 percent

Characteristics of the Jung Soil, Moderately Steep

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic
Positions on landscape: Convex side slopes of mountains
Parent material: Residuum derived from volcanic and metavolcanic rock
Slope: 15 to 30 percent
Elevation: 5,500 to 7,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 40 percent pebbles
Depth: 0 to 8 inches
Texture: Very cobbly loam
Structure: Platy
Consistence: Soft, very friable

Reaction: Neutral
Depth: 8 to 19 inches
Texture: Very cobbly clay
Structure: Prismatic
Consistence: Very hard, firm
Reaction: Moderately alkaline
Depth: 19 inches
Kind of material: Unweathered bedrock
Soil and Water Features
Depth to bedrock: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.4 to 2.5 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Newpass Soil

Classification: Haploxerollic Nadurargids, fine, montmorillonitic, mesic
Positions on landscape: Concave side slopes of mountains
Parent material: Residuum derived from volcanic and metavolcanic rock
Slope: 15 to 30 percent
Elevation: 5,500 to 7,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Thurber needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 75 percent pebbles
Depth: 0 to 4 inches
Texture: Very gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 4 to 14 inches
Texture: Clay
Structure: Prismatic

Consistence: Hard, firm

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 13 to 25

Depth: 14 to 24 inches

Texture: Very cobbly silty clay, very gravelly clay, gravelly clay

Structure: Subangular blocky

Consistence: Hard, firm

Reaction: Strongly alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 24 to 26 inches

Texture: Cemented hardpan

Depth: 26 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 20 to 29 inches

Depth to bedrock: 21 to 36 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 2.4 to 3.5 inches

Water-supplying capacity: 9 inches

Runoff: Medium

Hydrologic group: C

Erosion factors (upper layer): K value—0.15; T value—2; wind erodibility group—5

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Jung Soil, Strongly Sloping

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Convex, south-facing shoulder slopes and upper back slopes of mountains

Parent material: Residuum derived from volcanic and metavolcanic rock

Slope: 8 to 15 percent

Elevation: 5,500 to 7,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 20 percent cobbles, 20 percent pebbles

Depth: 0 to 8 inches

Texture: Very cobbly fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 8 to 19 inches

Texture: Very cobbly clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Moderately alkaline

Depth: 19 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.4 to 2.5 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Haplic Durargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Side slopes of mountains

Distinctive present vegetation: Shadscale, small rabbitbrush

Inclusion 2

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans, colluvial fans

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage, pine bluegrass

Inclusion 3

Positions on landscape: Rimrock

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Jung Soil, Moderately Steep

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Newpass Soil*Wild herbaceous plants (nonirrigated):* Very poor*Shrubs (nonirrigated):* Very poor**Jung Soil, Strongly Sloping***Wild herbaceous plants (nonirrigated):* Fair*Shrubs (nonirrigated):* Fair***Suitability and Limitations for Selected Uses*****Jung Soil, Moderately Steep***Range seeding:* Poor—large stones, droughty*Roadfill:* Poor—depth to rock*Topsoil:* Poor—depth to rock, small stones, too clayey*Daily cover for landfill:* Poor—depth to rock, small stones, slope*Shallow excavations:* Severe—depth to rock, slope*Local roads and streets:* Severe—depth to rock, slope*Pond reservoir areas:* Severe—depth to rock, slope*Embankments, dikes, and levees:* Severe—thin layer, large stones*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Newpass Soil***Range seeding:* Poor—rooting depth, small stones, excess sodium*Roadfill:* Poor—depth to rock, shrink-swell, low strength*Topsoil:* Poor—too clayey, small stones, excess sodium*Daily cover for landfill:* Poor—depth to rock, hard to pack, large stones*Shallow excavations:* Severe—depth to rock, slope*Local roads and streets:* Severe—shrink-swell, low strength, slope*Pond reservoir areas:* Severe—slope*Embankments, dikes, and levees:* Severe—excess sodium*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines**Jung Soil, Strongly Sloping***Range seeding:* Poor—large stones, droughty*Roadfill:* Poor—depth to rock*Topsoil:* Poor—depth to rock, small stones, too clayey*Daily cover for landfill:* Poor—depth to rock, small stones, slope*Shallow excavations:* Severe—depth to rock, slope*Local roads and streets:* Severe—depth to rock, slope*Pond reservoir areas:* Severe—depth to rock, slope*Embankments, dikes, and levees:* Severe—thin layer, large stones*Sand:* Improbable source—excess fines*Gravel:* Improbable source—excess fines***Interpretive Groups****Land capability classification:* Jung and Newpass soils—Vlls, nonirrigated*Range site:* Jung soils—027X032N; Newpass soil—027X008N; Inclusion 1—024X002N; Inclusion 2—027X008N; Inclusion 3—none**3841—Jung-Itca-Roca association***Positions on landscape:* Mountains***Composition****Major components:*

Jung very cobbly loam, 15 to 30 percent slopes—35 percent

Itca very cobbly loam, 15 to 30 percent slopes—25 percent

Roca very cobbly loam, 30 to 50 percent slopes—25 percent

Contrasting inclusions:

Lithic Xerollic Haplargids, clayey-skeletal, mixed, mesic, 15 to 30 percent slopes—9 percent

Durixerollic Haplargids, fine-loamy, mixed, mesic, 4 to 15 percent slopes—3 percent

Rock outcrop—3 percent

Characteristics of the Jung Soil*Classification:* Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic*Positions on landscape:* Convex, south- and west-facing lower side slopes of mountains*Parent material:* Residuum derived from volcanic and metavolcanic rock*Slope:* 15 to 30 percent*Elevation:* 6,000 to 7,000 feet*Average annual precipitation:* About 9 inches*Average annual air temperature:* About 48 degrees F*Frost-free season:* About 110 days*Dominant present vegetation:* Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush***Typical Profile****Rock fragments on surface:* 20 percent cobbles, 20 percent pebbles*Depth:* 0 to 8 inches*Texture:* Very cobbly loam*Structure:* Platy*Consistence:* Soft, very friable*Reaction:* Neutral*Depth:* 8 to 19 inches*Texture:* Very cobbly clay*Structure:* Prismatic*Consistence:* Very hard, firm*Reaction:* Moderately alkaline*Depth:* 19 inches*Kind of material:* Unweathered bedrock

Soil and Water Features*Depth to bedrock:* 14 to 20 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Slow*Available water capacity:* 1.4 to 2.5 inches*Water-supplying capacity:* 8 inches*Runoff:* Rapid*Hydrologic group:* D*Erosion factors (upper layer):* K value—0.15; T value—1; wind erodibility group—9*Hazard of erosion:* By water—slight; by wind—slight*Shrink-swell potential:* Moderate*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Low**Characteristics of the Itca Soil***Classification:* Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid*Positions on landscape:* North- and east-facing side slopes of mountains*Parent material:* Residuum derived from extrusive volcanic and pyroclastic rock*Slope:* 15 to 30 percent*Elevation:* 6,000 to 7,200 feet*Average annual precipitation:* About 14 inches*Average annual air temperature:* About 43 degrees F*Frost-free season:* About 80 days*Dominant present vegetation:* Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush*Site index for singleleaf pinyon:* 70**Typical Profile***Rock fragments on surface:* 20 percent cobbles, 20 percent pebbles*Depth:* 0 to 9 inches*Texture:* Very cobbly loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Neutral*Depth:* 9 to 17 inches*Texture:* Very cobbly clay, very gravelly clay loam*Structure:* Prismatic*Consistence:* Hard, firm*Reaction:* Mildly alkaline*Depth:* 17 inches*Kind of material:* Unweathered bedrock**Soil and Water Features***Depth to bedrock:* 10 to 20 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Slow*Available water capacity:* 1.2 to 2.5 inches*Water-supplying capacity:* 10 inches*Runoff:* Rapid*Hydrologic group:* D*Erosion factors (upper layer):* K value—0.10; T value—1; wind erodibility group—8*Hazard of erosion:* By water—slight; by wind—slight*Shrink-swell potential:* Moderate*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Moderate**Characteristics of the Roca Soil***Classification:* Xerollic Haplargids, clayey-skeletal, montmorillonitic, frigid*Positions on landscape:* The upper, south-facing side slopes of mountains*Parent material:* Residuum derived from shale and chert*Slope:* 30 to 50 percent*Elevation:* 6,500 to 7,200 feet*Average annual precipitation:* About 10 inches*Average annual air temperature:* About 45 degrees F*Frost-free season:* About 100 days*Dominant present vegetation:* Bluegrass, bluebunch wheatgrass, big sagebrush**Typical Profile***Rock fragments on surface:* 30 percent cobbles, 20 percent pebbles*Depth:* 0 to 5 inches*Texture:* Very cobbly loam*Structure:* Subangular blocky*Consistence:* Slightly hard, very friable*Reaction:* Neutral*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 5 to 27 inches*Texture:* Very gravelly clay loam, very gravelly clay*Structure:* Angular blocky*Consistence:* Hard, firm*Reaction:* Mildly alkaline*Salinity:* 0 to 2 millimhos per centimeter*Depth:* 27 inches*Kind of material:* Unweathered bedrock**Soil and Water Features***Depth to bedrock:* 20 to 40 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Very slow*Available water capacity:* 2.5 to 4.5 inches*Water-supplying capacity:* 11 inches*Runoff:* Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—2;
wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xerollic Haplargids, clayey-skeletal, mixed, mesic

Positions on landscape: The lower side slopes of mountains

Distinctive present vegetation: Mountain big sagebrush, Wyoming big sagebrush, bluegrass

Inclusion 2

Classification: Durixerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Concave toe slopes of mountains

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Positions on landscape: Rimrock, scattered peaks

Distinctive present vegetation: None

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Cordwood production

Suitability for Wildlife Habitat Elements

Jung Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Itca Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Roca Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Jung Soil

Range seeding: Poor—large stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones, thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Itca Soil

Range seeding: Poor—droughty, large stones

Roadfill: Poor—depth to rock, large stones

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, large stones, slope

Local roads and streets: Severe—depth to rock, large stones, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Roca Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Jung, Itca, and Roca soils—VIIs, nonirrigated

Range site: Jung soil—028B016N; Itca soil—025X061N; Roca soil—024X028N; Inclusion 1—025X014N; Inclusion 2—027X007N; Inclusion 3—none

3842—Jung-Hooplite association

Positions on landscape: Foothills

Composition

Major components:

Jung very gravelly loam, 15 to 30 percent slopes—50 percent

Hooplite very gravelly loam, 15 to 30 percent slopes—35 percent

Contrasting inclusions:

Xerollic Haplargids, loamy-skeletal, mixed, mesic, 8 to 15 percent slopes—8 percent

Rock outcrop—5 percent

Typic Haplargids, clayey-skeletal, montmorillonitic, mesic, 8 to 15 percent slopes—2 percent

Characteristics of the Jung Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Convex crests and south-facing slopes of foothills

Parent material: Residuum derived from volcanic and metavolcanic rock

Slope: 15 to 30 percent

Elevation: 5,900 to 6,600 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 8 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 8 to 19 inches

Texture: Very cobbly clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Moderately alkaline

Depth: 19 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.4 to 2.5 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Hooplite Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: North-facing side slopes of foothills

Parent material: Residuum derived from rhyolitic rock

Slope: 15 to 30 percent

Elevation: 5,900 to 6,600 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 45 percent pebbles

Depth: 0 to 4 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, firm

Reaction: Mildly alkaline

Depth: 4 to 8 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 8 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 6 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 0.5 to 1.5 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Convex toe slopes of foothills

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 2

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 3

Classification: Typic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Jung Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Hooplite Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Jung Soil

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Hooplite Soil

Range seeding: Poor—droughty, small stones, depth to rock

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Jung and Hooplite soils—VIIs, nonirrigated

Range site: Jung and Hooplite soils—028B016N;

Inclusion 1—024X002N; Inclusion 2—none;

Inclusion 3—024X002N

3843—Jung-Newpass-Teguro association

Positions on landscape: Mountains

Composition

Major components:

Jung very cobbly loam, 15 to 30 percent slopes—40 percent

Newpass very gravelly fine sandy loam, 15 to 50 percent slopes—25 percent

Teguro very gravelly loam, 30 to 50 percent slopes—20 percent

Contrasting inclusions:

Itca very cobbly loam, 15 to 50 percent slopes—7 percent

Rock outcrop—5 percent

Lithic Xeric Torriorthents, loamy-skeletal, mixed, mesic, 30 to 50 percent slopes—3 percent

Characteristics of the Jung Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Convex, south-facing and lower, east-facing side slopes of mountains

Parent material: Residuum derived from volcanic and metavolcanic rock

Slope: 15 to 30 percent

Elevation: 6,300 to 7,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 25 percent cobbles, 20 percent pebbles

Depth: 0 to 8 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 8 to 19 inches

Texture: Very cobbly clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Moderately alkaline

Depth: 19 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.4 to 2.5 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Newpass Soil

Classification: Haploxerollic Nadurargids, fine, montmorillonitic, mesic
Positions on landscape: The lower, north-facing and higher, east-facing side slopes of mountains
Parent material: Residuum derived from volcanic and metavolcanic rock
Slope: 15 to 50 percent
Elevation: 6,300 to 7,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Thurber needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 3 percent stones and boulders, 75 percent pebbles

Depth: 0 to 4 inches
Texture: Very gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5

Depth: 4 to 14 inches
Texture: Clay
Structure: Prismatic
Consistence: Hard, firm
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 13 to 25

Depth: 14 to 24 inches
Texture: Very cobbly silty clay, very gravelly clay, gravelly clay

Structure: Subangular blocky
Consistence: Hard, firm
Reaction: Strongly alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 5 to 13

Depth: 24 to 26 inches
Kind of material: Cemented hardpan
Depth: 26 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 20 to 29 inches
Depth to bedrock: 21 to 36 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None
Permeability: Slow
Available water capacity: 2.6 to 3.2 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: C
Erosion factors (upper layer): K value—0.15; T value—2; wind erodibility group—5
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Teguro Soil

Classification: Lithic Argixerolls, loamy, mixed, frigid
Positions on landscape: The higher, north-facing, convex side slopes of mountains
Parent material: Residuum derived from tuff
Slope: 30 to 50 percent
Elevation: 7,000 to 8,000 feet
Average annual precipitation: About 12 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 80 days
Dominant present vegetation: Bluegrass, needlegrass, mountain big sagebrush, singleleaf pinyon, Utah juniper
Site index for common trees: Singleleaf pinyon—30; Utah juniper—30

Typical Profile

Rock fragments on surface: 20 percent stones and boulders, 55 percent pebbles

Depth: 0 to 6 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Neutral

Depth: 6 to 16 inches
Texture: Gravelly loam, gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Neutral

Depth: 16 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow

Available water capacity: 1.9 to 2.4 inches
Water-supplying capacity: 10 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—1;
 wind erodibility group—7
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid
Positions on landscape: High-lying, north-facing side slopes of mountains
Distinctive present vegetation: Mountain big sagebrush, singleleaf pinyon, Utah juniper, bluegrass

Inclusion 2

Positions on landscape: Rimrock
Distinctive present vegetation: None

Inclusion 3

Classification: Lithic Xeric Torriorthents, loamy-skeletal, mixed, mesic
Positions on landscape: Eroded, south-facing side slopes of mountains
Distinctive present vegetation: Wyoming big sagebrush, small rabbitbrush, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Jung Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Newpass Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Teguro Soil

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Poor
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Jung Soil

Range seeding: Poor—stones, droughty
Roadfill: Poor—depth to rock
Topsoil: Poor—depth to rock, small stones, too clayey
Daily cover for landfill: Poor—depth to rock, small stones, slope
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—large stones, thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Newpass Soil

Range seeding: Poor—rooting depth, large stones, excess sodium

Roadfill: Poor—depth to rock, shrink-swell, low strength

Topsoil: Poor—too clayey, small stones, excess sodium

Daily cover for landfill: Poor—depth to rock, hard to pack, large stones

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—shrink-swell, low strength, slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Teguro Soil

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Jung, Newpass, and Teguro soils—VIIs, nonirrigated

Range site: Jung soil—027X032N; Newpass soil—027X008N; Teguro soil—025X062N; Inclusion 1—025X061N; Inclusion 2—none; Inclusion 3—024X054N

3845—Jung-Stingdorn-Atlow association

Positions on landscape: Foothills

Composition

Major components:

Jung very gravelly loam, 8 to 15 percent slopes—30 percent

Stingdorn extremely cobbly loam, 30 to 50 percent slopes—30 percent

Atlow very gravelly loam, 30 to 50 percent slopes—25 percent

Contrasting inclusions:

Xerollic Haplargids, loamy-skeletal, mixed, mesic, 15 to 30 percent slopes—5 percent
 Haplic Nadurargids, clayey-skeletal, montmorillonitic, mesic, shallow, 4 to 30 percent slopes—4 percent
 Rock outcrop—3 percent
 Rubble land—3 percent

Characteristics of the Jung Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic
Positions on landscape: Shoulder slopes and summits of foothills
Parent material: Residuum derived from volcanic and metavolcanic rock
Slope: 8 to 15 percent
Elevation: 5,100 to 6,100 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 40 percent pebbles
Depth: 0 to 8 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral
Depth: 8 to 19 inches
Texture: Very cobbly clay
Structure: Prismatic
Consistence: Very hard, firm
Reaction: Moderately alkaline
Depth: 19 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.9 to 2.5 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Stingdorn Soil

Classification: Typic Durargids, loamy-skeletal, mixed, mesic, shallow
Positions on landscape: Slightly concave, south- and west-facing side slopes of foothills below areas of Rock outcrop
Parent material: Residuum derived from rhyolite, tuff, and andesite
Slope: 30 to 50 percent
Elevation: 5,100 to 6,100 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 40 percent cobbles, 30 percent pebbles
Depth: 0 to 7 inches
Texture: Extremely cobbly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Moderately alkaline
Depth: 7 to 15 inches
Texture: Very cobbly clay loam
Structure: Angular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Depth: 15 to 20 inches
Kind of material: Indurated hardpan
Depth: 20 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 8 to 20 inches
Depth to bedrock: 8 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.3 to 2.0 inches
Water-supplying capacity: 7 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—8
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Atlow Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Concave, north-facing side slopes of foothills

Parent material: Residuum derived from chert, argillite, shale, and altered tuff

Slope: 30 to 50 percent

Elevation: 5,800 to 6,200 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 46 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Black sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 10 percent cobbles, 40 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 3 to 14 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 14 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.1 to 1.8 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Concave, east-facing, lower side slopes of foothills

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Haplic Nadurargids, clayey-skeletal, montmorillonitic, mesic, shallow

Positions on landscape: Convex, lower side slopes of foothills

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Inclusion 3

Positions on landscape: Scattered peaks and rimrock

Distinctive present vegetation: None

Inclusion 4

Positions on landscape: Rock stripes below areas of Rock outcrop

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Jung Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Stingdorn Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Atlow Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Jung Soil

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Stingdorn Soil

Range seeding: Poor—too arid, droughty, large stones

Roadfill: Poor—depth to rock, large stones, slope

Topsoil: Poor—depth to rock, cemented pan, large stones

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, cemented pan, large stones

Local roads and streets: Severe—depth to rock, slope, large stones

Pond reservoir areas: Severe—depth to rock, cemented pan, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Atlow Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Jung, Stingdorn, and Atlow soils—VIIIs, nonirrigated

Range site: Jung and Atlow soils—024X030N; Stingdorn soil—024X002N; Inclusion 1—024X005N; Inclusion 2—024X002N; Inclusions 3 and 4—none

3846—Jung-Atlow-McVegas association

Positions on landscape: Foothills

Composition

Major components:

Jung very cobbly loam, 15 to 30 percent slopes—40 percent

Atlow very gravelly loam, 15 to 50 percent slopes—25 percent

McVegas very gravelly loam, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Rock outcrop—7 percent

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 8 to 15 percent slopes—5 percent

Jung very cobbly fine sandy loam, 4 to 15 percent slopes—3 percent

Characteristics of the Jung Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Convex, broad side slopes of foothills

Parent material: Residuum derived from volcanic and metavolcanic rock

Slope: 15 to 30 percent

Elevation: 6,100 to 6,700 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 8 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 8 to 19 inches

Texture: Very cobbly clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Moderately alkaline

Depth: 19 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.9 to 2.5 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Atlow Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: North-facing side slopes of foothills

Parent material: Residuum derived from chert, argillite, and altered rhyolitic tuff

Slope: 15 to 50 percent

Elevation: 6,100 to 6,700 feet

Average annual precipitation: About 10 inches

Average annual air temperature: About 46 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Black sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 10 percent cobbles, 40 percent pebbles

Depth: 0 to 6 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 6 to 15 inches

Texture: Very gravelly clay loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Depth: 15 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 1.1 to 1.3 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the McVegas Soil

Classification: Haplic Nadurargids, clayey-skeletal, montmorillonitic, mesic, shallow

Positions on landscape: South-facing side slopes of foothills

Parent material: Residuum derived from volcanic and metavolcanic rock

Slope: 15 to 30 percent

Elevation: 6,100 to 6,700 feet

Average annual precipitation: About 7 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 50 percent pebbles

Depth: 0 to 5 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 5 to 19 inches

Texture: Very cobbly clay

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 15 to 30

Depth: 19 to 22 inches

Kind of material: Cemented hardpan

Depth: 22 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to bedrock: 15 to 23 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.4 to 3.0 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.20; T value—1; wind erodibility group—8

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 2

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Concave toe slopes of foothills

Distinctive present vegetation: Wyoming big sagebrush, bluegrass

Inclusion 3

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Crests and shoulder slopes of foothills

Distinctive present vegetation: Black sagebrush, snakeweed, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Jung Soil**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Atlow Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

McVegas Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses**Jung Soil**

Range seeding: Poor—large stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones, thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Atlow Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

McVegas Soil

Range seeding: Poor—too arid, small stones, droughty

Roadfill: Poor—depth to rock, low strength

Topsoil: Poor—depth to rock, cemented pan, too clayey

Daily cover for landfill: Poor—depth to rock, hard to pack, large stones

Shallow excavations: Severe—depth to rock, cemented pan, slope

Local roads and streets: Severe—depth to rock, low strength, slope

Pond reservoir areas: Severe—depth to rock, cemented pan, slope

Embankments, dikes, and levees: Severe—excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Jung, Atlow, and McVegas soils—VIIs, nonirrigated

Range site: Jung soil—028B016N; Atlow soil—024X030N; McVegas soil—028B017N; Inclusion 1—none; Inclusion 2—024X005N; Inclusion 3—027X032N

3847—Jung-Old Camp-Clanalpine association

Positions on landscape: Mountains

Composition

Major components:

Jung very gravelly loam, 30 to 50 percent slopes—35 percent

Old Camp very cobbly loam, 30 to 50 percent slopes—30 percent

Clanalpine very gravelly loam, 30 to 50 percent slopes—20 percent

Contrasting inclusions:

Rock outcrop—6 percent

Colbar cobbly loam, 30 to 50 percent slopes—5 percent

McVegas stony loam, 15 to 30 percent slopes—4 percent

Characteristics of the Jung Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Convex, south-facing side slopes of mountains

Parent material: Residuum derived from volcanic and metavolcanic rock

Slope: 30 to 50 percent

Elevation: 6,300 to 6,700 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 8 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Neutral

Depth: 8 to 19 inches
Texture: Very cobbly clay
Structure: Prismatic
Consistence: Very hard, firm
Reaction: Moderately alkaline

Depth: 19 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 1.9 to 2.5 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Old Camp Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: Convex, lower side slopes of mountains
Parent material: Residuum derived from basalt and andesite
Slope: 30 to 50 percent
Elevation: 6,300 to 6,700 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Thurber needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles
Depth: 0 to 2 inches
Texture: Very cobbly loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Depth: 2 to 14 inches

Texture: Very gravelly loam, very cobbly clay loam
Structure: Angular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline

Depth: 14 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 0.9 to 1.2 inches
Water-supplying capacity: 9 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—8
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Clanalpine Soil

Classification: Typic Argixerolls, loamy-skeletal, mixed, frigid
Positions on landscape: Slightly concave, north-facing side slopes of mountains
Parent material: Colluvium and residuum derived from rhyolite and andesitic tuff
Slope: 30 to 50 percent
Elevation: 6,300 to 6,700 feet
Average annual precipitation: About 15 inches
Average annual air temperature: About 41 degrees F
Frost-free season: About 70 days
Dominant present vegetation: Singleleaf pinyon, mountain big sagebrush, bluebunch wheatgrass, Utah juniper
Site index for singleleaf pinyon: 75

Typical Profile

Rock fragments on surface: 5 percent stones and boulders, 10 percent cobbles, 35 percent pebbles
Depth: 0 to 10 inches
Texture: Very gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 10 to 39 inches
Texture: Very gravelly clay loam, very cobbly loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Mildly alkaline

Depth: 39 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3 to 6 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.17; T value—2; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 2

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Concave, south-facing side slopes of mountains

Distinctive present vegetation: Wyoming big sagebrush, needlegrass, bluegrass

Inclusion 3

Classification: Haplic Nadurargids, clayey-skeletal, montmorillonitic, mesic, shallow

Positions on landscape: Convex, south-facing intermediate side slopes of mountains

Distinctive present vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Jung Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Old Camp Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Clanalpine Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Jung Soil

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Old Camp Soil

Range seeding: Poor—large stones, droughty

Roadfill: Poor—depth to rock, large stones, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope, large stones

Local roads and streets: Severe—depth to rock, slope, large stones

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Clanalpine Soil

Range seeding: Poor—small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Jung, Old Camp, and Clanalpine soils—VIIs, nonirrigated

Range site: Jung soil—027X032N; Old Camp soil—.027X007N; Clanalpine soil—025X061N; Inclusion 1—none; Inclusion 2—027X011N; Inclusion 3—027X028N

3848—Jung-McVegas-Enko association

Positions on landscape: Foothills

Composition

Major components:

Jung very gravelly loam, 15 to 30 percent slopes—50 percent

McVegas very gravelly loam, 8 to 15 percent slopes—20 percent

Enko gravelly fine sandy loam, 2 to 8 percent slopes—15 percent

Contrasting inclusions:

Duric Natrargids, fine-loamy, mixed, mesic, 4 to 15 percent slopes—5 percent

Durixerollic Haplargids, loamy-skeletal, mixed, mesic, 4 to 15 percent slopes—5 percent

Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic, 8 to 30 percent slopes—4 percent

Rock outcrop—1 percent

Characteristics of the Jung Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: North- and east-facing side slopes of foothills

Parent material: Residuum derived from volcanic and metavolcanic rock

Slope: 15 to 30 percent

Elevation: 6,200 to 6,700 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 8 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 8 to 19 inches

Texture: Very cobbly clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Moderately alkaline

Depth: 19 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.4 to 2.5 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the McVegas Soil

Classification: Haplic Nadurargids, clayey-skeletal, montmorillonitic, mesic, shallow

Positions on landscape: South-facing side slopes of foothills

Parent material: Residuum derived from volcanic and metavolcanic rock

Slope: 8 to 15 percent

Elevation: 6,200 to 6,700 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 5 percent cobbles, 50 percent pebbles

Depth: 0 to 5 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 2 to 10

Depth: 5 to 19 inches

Texture: Very cobbly clay

Structure: Prismatic

Consistence: Very hard, very firm

Reaction: Strongly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 15 to 30

Depth: 19 to 22 inches

Kind of material: Cemented hardpan

Depth: 22 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 14 to 20 inches

Depth to bedrock: 15 to 23 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.4 to 2.6 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.20; T value—1;
 wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Characteristics of the Enko Soil

Classification: Durixerollic Camborthids, coarse-loamy,
 mixed, mesic
Positions on landscape: Toe slopes, inset fan remnants
 between foothills
Parent material: Mixed alluvium that includes loess and
 ash
Slope: 2 to 8 percent
Elevation: 6,200 to 6,700 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush,
 Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 6 inches
Texture: Gravelly fine sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Depth: 6 to 18 inches
Texture: Loam, sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 18 to 60 inches
Texture: Fine sandy loam, loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60
 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 6.1 to 8.2 inches
Water-supplying capacity: 8 inches

Runoff: Slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.10; T value—5;
 wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Duric Natrargids, fine-loamy, mixed,
 mesic
Positions on landscape: Fan piedmont remnants
 bordering foothills
Distinctive present vegetation: Shadscale, bud
 sagebrush

Inclusion 2

Classification: Durixerollic Haplargids, loamy-skeletal,
 mixed, mesic
Positions on landscape: Fan aprons bordering foothills
Distinctive present vegetation: Black sagebrush,
 bottlebrush squirreltail

Inclusion 3

Classification: Lithic Xerollic Haplargids, loamy-skeletal,
 mixed, mesic
Positions on landscape: Crests and shoulder slopes of
 foothills
Distinctive present vegetation: Wyoming big sagebrush,
 needlegrass

Inclusion 4

Positions on landscape: Scattered peaks
Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Jung Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

McVegas Soil

Wild herbaceous plants (nonirrigated): Very poor
Shrubs (nonirrigated): Very poor

Enko Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Jung Soil

Range seeding: Poor—small stones, droughty
Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Poor—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

McVegas Soil

Range seeding: Poor—too arid, small stones, droughty

Roadfill: Poor—depth to rock, low strength

Topsoil: Poor—depth to rock, cemented pan, too clayey

Daily cover for landfill: Poor—depth to rock, hard to pack, large stones

Shallow excavations: Severe—depth to rock, cemented pan

Local roads and streets: Severe—depth to rock, low strength

Pond reservoir areas: Severe—depth to rock, cemented pan, slope

Embankments, dikes, and levees: Severe—excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Enko Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Jung and McVegas soils—VIIIs, nonirrigated; Enko soil—IVe, irrigated, and VIs, nonirrigated

Range site: Jung soil—024X030N; McVegas soil—024X002N; Enko soil—028B010N; Inclusion 1—024X002N; Inclusion 2—024X030N; Inclusion 3—028B010N; Inclusion 4—none

3851—Decram-Hapgood association

Positions on landscape: Mountains

Composition

Major components:

Decram extremely gravelly loam, 15 to 30 percent slopes—30 percent

Decram very gravelly loam, 30 to 50 percent slopes—30 percent

Hapgood gravelly loam, 30 to 50 percent slopes—25 percent

Contrasting inclusions:

Aridic Haploxerolls, loamy-skeletal, mixed, frigid—9 percent

Rock outcrop—3 percent

Rubble land—2 percent

Entic Cryumbrepts, loamy-skeletal, mixed—1 percent

Characteristics of the Decram Soil, Moderately Steep

Classification: Typic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Crests and the upper side slopes of mountains

Parent material: Residuum derived from quartzite, chert, and volcanic rock

Slope: 15 to 30 percent

Elevation: 7,800 to 8,600 feet

Average annual precipitation: About 18 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 40 days

Dominant present vegetation: Low sagebrush, bluegrass, Idaho fescue

Typical Profile

Rock fragments on surface: 10 percent cobbles, 60 percent pebbles

Depth: 0 to 11 inches

Texture: Extremely gravelly loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Neutral

Depth: 11 to 28 inches

Texture: Very gravelly loam, very cobbly loam

Structure: Angular blocky

Consistence: Slightly hard, firm

Depth: 28 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 0.8 to 2.4 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.05; T value—2; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Decram Soil, Steep

Classification: Typic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: The lower side slopes of mountains

Parent material: Residuum derived from quartzite, chert, and volcanic rock

Slope: 30 to 50 percent

Elevation: 7,800 to 8,600 feet

Average annual precipitation: About 18 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Low sagebrush, bluegrass, Idaho fescue

Typical Profile

Rock fragments on surface: 10 percent cobbles, 40 percent pebbles

Depth: 0 to 11 inches

Texture: Very gravelly loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Neutral

Depth: 11 to 28 inches

Texture: Very gravelly loam, very cobbly loam

Structure: Angular blocky

Consistence: Slightly hard, firm

Depth: 28 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.2 to 3.5 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: North-facing side slopes of mountains

Parent material: Colluvium that includes loess and volcanic ash

Slope: 30 to 50 percent

Elevation: 7,800 to 8,600 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, mountain brome, bluegrass, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 17 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.8 to 7.4 inches

Water-supplying capacity: 16 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Aridic Haploxerolls, loamy-skeletal, mixed, frigid

Positions on landscape: South-facing, lower side slopes of mountains

Distinctive present vegetation: Bluebunch wheatgrass, mountain big sagebrush

Inclusion 2

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 3

Positions on landscape: Side slopes of mountains

Distinctive present vegetation: None

Inclusion 4

Classification: Entic Cryumbrepts, loamy-skeletal, mixed

Positions on landscape: North-facing snow pockets
below areas of Rock outcrop

Distinctive present vegetation: Needlegrass, bluebunch
wheatgrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Decram Soil, Moderately Steep**

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Decram Soil, Steep

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Hapgood Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Decram Soil, Moderately Steep**

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small
stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Decram Soil, Steep

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small
stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Hapgood Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large
stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Decram soils—VIIIs,
nonirrigated; Hapgood soil—VIIe, nonirrigated

Range site: Decram soil, moderately steep—024X016N;
Decram soil, steep—024X027N; Hapgood soil—
024X032N; Inclusion 1—024X029N; Inclusions 2
and 3—none; Inclusion 4—024X028N

3852—Decram-Hapgood-Chad association

Positions on landscape: Mountains

Composition

Major components:

Decram very gravelly loam, 15 to 30 percent slopes, 40
percent

Hapgood gravelly loam, 15 to 30 percent slopes—30
percent

Chad cobbly loam, 30 to 50 percent slopes—15 percent

Contrasting inclusions:

Argic Pachic Cryoborolls, loamy-skeletal, mixed, 8 to 30
percent slopes—7 percent

Rock outcrop—4 percent

Cumulic Cryaquolls, loamy-skeletal, mixed, 2 to 8
percent slopes, drained—3 percent

Cumulic Cryaquolls, loamy-skeletal, mixed, 2 to 8
percent slopes—1 percent

Characteristics of the Decram Soil

Classification: Typic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Crests and the upper side
slopes of mountains

Parent material: Residuum derived from quartzite, chert,
and volcanic rock

Slope: 15 to 30 percent

Elevation: 7,000 to 9,000 feet

Average annual precipitation: About 18 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 40 days

Dominant present vegetation: Low sagebrush,
bluegrass, Idaho fescue

Typical Profile

Rock fragments on surface: 10 percent stones, 10 percent cobbles, 40 percent pebbles

Depth: 0 to 11 inches

Texture: Very gravelly loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Neutral

Depth: 11 to 28 inches

Texture: Very gravelly loam, very cobbly loam

Structure: Angular blocky

Consistence: Slightly hard, firm

Depth: 28 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.2 to 3.5 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.10; T value—2; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: North-facing side slopes of mountains

Parent material: Colluvium that includes loess and volcanic ash

Slope: 15 to 30 percent

Elevation: 7,000 to 9,000 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, mountain brome, bluegrass, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 17 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.8 to 7.4 inches

Water-supplying capacity: 16 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Chad Soil

Classification: Aridic Argixerolls, fine, mixed, frigid

Positions on landscape: South-facing side slopes of mountains

Parent material: Residuum derived from chert and shale

Slope: 30 to 50 percent

Elevation: 7,000 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Bluebunch wheatgrass, Thurber needlegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 20 percent cobbles, 10 percent pebbles

Depth: 0 to 17 inches

Texture: Cobbly loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Neutral

Depth: 17 to 42 inches

Texture: Gravelly clay, clay

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 42 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 40 to 60 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 4.5 to 7.0 inches

Water-supplying capacity: 13 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.28; T value—3; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: High

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Argic Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Concave, north-facing, upper side slopes of mountains

Distinctive present vegetation: Chokecherry, serviceberry

Inclusion 2

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 3

Classification: Cumulic Cryaquolls, loamy-skeletal, mixed

Positions on landscape: Entrenched areas of intermountain drainageways

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 4

Classification: Cumulic Cryaquolls, loamy-skeletal, mixed

Positions on landscape: Narrow, smooth intermountain drainageways

Distinctive present vegetation: Willow, sedge, tufted hairgrass, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Decram Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Hapgood Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Chad Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Decram Soil

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Hapgood Soil

Range seeding: Fair—erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Chad Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—slope, shrink-swell

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—too clayey, hard to pack, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—hard to pack

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Decram soil—VII_s, nonirrigated; Hapgood soil—VI_e, nonirrigated; Chad soil—VII_e, nonirrigated

Range site: Decram soil—028B038N; Hapgood soil—028B029N; Chad soil—028B027N; Inclusion 1—028B026N; Inclusion 2—none; Inclusion 3—028B024N; Inclusion 4—025X005N

3861—Duco-Itca-Roca association

Positions on landscape: Mountains

Composition

Major components:

Duco very cobbly loam, 30 to 50 percent slopes—45 percent

Itca very gravelly loam, 30 to 50 percent slopes—25 percent

Roca very cobbly loam, 30 to 50 percent slopes—15 percent

Contrasting inclusions:

Rock outcrop—6 percent

Typic Argixerolls, loamy-skeletal, mixed, frigid, 15 to 50 percent slopes—5 percent

Cumulic Haploxerolls, fine-loamy, mixed, frigid, 2 to 8 percent slopes—4 percent

Characteristics of the Duco Soil

Classification: Lithic Argixerolls, loamy-skeletal, mixed, mesic

Positions on landscape: Convex crests and the upper side slopes of mountains

Parent material: Residuum derived from rhyolite and andesite

Slope: 30 to 50 percent

Elevation: 5,800 to 7,500 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Singleleaf pinyon, Utah juniper, antelope bitterbrush, mountain big sagebrush

Site index for common trees: Singleleaf pinyon—35; Utah juniper—35

Typical Profile

Rock fragments on surface: 20 percent cobbles, 20 percent pebbles

Depth: 0 to 6 inches

Texture: Very cobbly loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Neutral

Depth: 6 to 15 inches

Texture: Very gravelly clay loam, very cobbly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 15 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 0.8 to 2.2 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—8

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Itca Soil

Classification: Lithic Argixerolls, clayey-skeletal, montmorillonitic, frigid

Positions on landscape: Convex, north- and east-facing side slopes of mountains

Parent material: Residuum derived from extrusive volcanic and pyroclastic rock

Slope: 30 to 50 percent

Elevation: 5,800 to 8,000 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Idaho fescue, bluegrass, singleleaf pinyon, Utah juniper, mountain big sagebrush

Site index for singleleaf pinyon: 70

Typical Profile

Rock fragments on surface: 5 percent cobbles, 40 percent pebbles

Depth: 0 to 9 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 9 to 17 inches

Texture: Very cobbly clay, very gravelly clay loam

Structure: Prismatic

Consistence: Hard, firm

Reaction: Mildly alkaline

Depth: 17 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 0.9 to 2.2 inches

Water-supplying capacity: 10 inches

Runoff: Rapid

Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—1;
 wind erodibility group—8
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Roca Soil

Classification: Xerollic Haplargids, clayey-skeletal,
 montmorillonitic, frigid
Positions on landscape: South-facing side slopes of
 mountains
Parent material: Residuum derived from shale and chert
Slope: 30 to 50 percent
Elevation: 5,800 to 7,500 feet
Average annual precipitation: About 10 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Bluegrass, bluebunch
 wheatgrass, big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20
 percent pebbles
Depth: 0 to 4 inches
Texture: Very cobbly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Depth: 4 to 24 inches
Texture: Very gravelly clay loam, very gravelly clay
Structure: Angular blocky
Consistence: Hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 24 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches
Depth to a seasonal high water table: More than 60
 inches
Frequency of flooding: None
Permeability: Very slow
Available water capacity: 2.1 to 4.6 inches
Water-supplying capacity: 11 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.10; T value—2;
 wind erodibility group—8
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Positions on landscape: Scattered peaks
Distinctive present vegetation: None

Inclusion 2

Classification: Typic Argixerolls, loamy-skeletal, mixed,
 frigid
Positions on landscape: Concave snow pockets on north
 aspects of mountains
Distinctive present vegetation: Idaho fescue, mountain
 big sagebrush, needlegrass

Inclusion 3

Classification: Cumulic Haplaquolls, fine-loamy, mixed,
 frigid
Positions on landscape: Intermountain drainageways
Distinctive present vegetation: Basin big sagebrush,
 basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat, cordwood production

Suitability for Wildlife Habitat Elements

Duco Soil

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Poor
Shrubs (nonirrigated): Fair

Itca Soil

Wild herbaceous plants (nonirrigated): Fair
Coniferous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Roca Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Duco Soil

Range seeding: Poor—large stones, droughty
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—depth to rock, small stones, slope
Daily cover for landfill: Poor—depth to rock, small
 stones, slope
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—depth to rock, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—large stones,
 thin layer
Sand: Improbable source—excess fines, large stones
Gravel: Improbable source—excess fines, large stones

Itca Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, too clayey, small stones

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Roca Soil

Range seeding: Poor—large stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Duco, Itca, and Roca soils—VIIIs, nonirrigated

Range site: Duco soil—025X062N; Itca soil—025X061N; Roca soil—024X028N; Inclusion 1—none; Inclusion 2—028B030N; Inclusion 3—028B024N

3863—Duco-Clan Alpine-Jung association

Positions on landscape: Mountains

Composition

Major components:

Duco stony loam, 15 to 30 percent slopes—45 percent

Clan Alpine very gravelly loam, 30 to 50 percent slopes—25 percent

Jung very gravelly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Rock outcrop—7 percent

Aridic Haploxerolls, loamy-skeletal, mixed, frigid, 2 to 8 percent slopes—5 percent

Old Camp very stony loam, 15 to 30 percent slopes—3 percent

Characteristics of the Duco Soil

Classification: Lithic Argixerolls, loamy-skeletal, mixed, mesic

Positions on landscape: Concave, lower side slopes and south-facing, upper side slopes and crests of mountains

Parent material: Residuum derived from rhyolite and andesite

Slope: 15 to 30 percent

Elevation: 6,500 to 7,500 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Singleleaf pinyon, Utah juniper, antelope bitterbrush, mountain big sagebrush

Site index for common trees: Singleleaf pinyon—35; Utah juniper—35

Typical Profile

Rock fragments on surface: 10 percent stones and boulders, 15 percent cobbles, 20 percent pebbles

Depth: 0 to 7 inches

Texture: Stony loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Neutral

Depth: 7 to 19 inches

Texture: Very gravelly clay loam, very cobbly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 19 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 0.8 to 2.0 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.28; T value—1; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Clan Alpine Soil

Classification: Typic Argixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: The upper side slopes of mountains

Parent material: Colluvium and residuum derived from rhyolitic and andesitic tuff

Slope: 30 to 50 percent

Elevation: 6,500 to 7,600 feet
Average annual precipitation: About 15 inches
Average annual air temperature: About 41 degrees F
Frost-free season: About 70 days

Dominant present vegetation: Singleleaf pinyon,
 mountain big sagebrush, bluebunch wheatgrass,
 Utah juniper

Site index for singleleaf pinyon: 75

Typical Profile

Rock fragments on surface: 10 percent cobbles, 40 percent pebbles

Depth: 0 to 10 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 10 to 39 inches

Texture: Very gravelly clay loam, very cobbly loam

Structure: Angular blocky

Consistence: Hard, friable

Reaction: Mildly alkaline

Depth: 39 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 2.6 to 5.0 inches

Water-supplying capacity: 14 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.17; T value—2; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Jung Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Convex, lower side slopes of mountains

Parent material: Residuum derived from volcanic and metavolcanic rock

Slope: 15 to 30 percent

Elevation: 6,500 to 7,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 8 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 8 to 19 inches

Texture: Very cobbly clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Moderately alkaline

Depth: 19 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.4 to 2.5 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Inclusion 2

Classification: Aridic Haploxerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Wyoming big sagebrush, needlegrass

Inclusion 3

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: The lower, north-facing side slopes of mountains

Distinctive present vegetation: Wyoming big sagebrush, needlegrass, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat, cordwood production

Suitability for Wildlife Habitat Elements**Duco Soil**

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Poor

Shrubs (nonirrigated): Fair

Clanalpine Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Jung Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Duco Soil**

Range seeding: Poor—large stones, droughty

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones, thin layer

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Clanalpine Soil

Range seeding: Poor—small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Jung Soil

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Duco soil—VIIIe, nonirrigated; Clanalpine and Jung soils—VIIIs, nonirrigated

Range site: Duco soil—025X062N; Clanalpine soil—025X061N; Jung soil—027X032N; Inclusion 1—none; Inclusion 2—027X008N; Inclusion 3—027X007N

3881—Layview-Packer-Hapgood association

Positions on landscape: Mountains

Composition

Major components:

Layview extremely cobbly loam, 4 to 15 percent slopes—40 percent

Packer gravelly loam, 15 to 30 percent slopes—30 percent

Hapgood gravelly loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Packer very cobbly loam, 8 to 15 percent slopes—7 percent

Argic Lithic Cryoborolls, loamy-skeletal, mixed, 15 to 30 percent slopes—5 percent

Rock outcrop—2 percent

Rubble land—1 percent

Characteristics of the Layview Soil

Classification: Argic Lithic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Windswept crests and shoulder slopes of mountains

Parent material: Residuum derived from andesite, rhyolite, and tuff

Slope: 4 to 15 percent

Elevation: 8,000 to 10,000 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush, black sagebrush

Typical Profile

Rock fragments on surface: 35 percent cobbles, 25 percent pebbles

Depth: 0 to 3 inches

Texture: Extremely cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 3 to 12 inches
Texture: Very gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral

Depth: 12 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 14 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 0.8 to 1.4 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: D
Erosion factors (upper layer): K value—0.05; T value—1; wind erodibility group—8
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Packer Soil

Classification: Argic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: Convex side slopes of mountains
Parent material: Mixed residuum that includes loess and volcanic ash
Slope: 15 to 30 percent
Elevation: 8,000 to 10,000 feet
Average annual precipitation: About 15 inches
Average annual air temperature: About 42 degrees F
Frost-free season: About 50 days
Dominant present vegetation: Idaho fescue, bluegrass, low sagebrush

Typical Profile

Rock fragments on surface: 25 percent pebbles
Depth: 0 to 10 inches
Texture: Gravelly loam
Structure: Subangular blocky
Consistence: Soft, very friable
Reaction: Neutral
Depth: 10 to 21 inches
Texture: Extremely cobbly clay loam, extremely cobbly loam
Structure: Angular blocky
Consistence: Hard, friable
Reaction: Neutral
Depth: 21 to 60 inches

Texture: Extremely cobbly sandy loam, extremely cobbly loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 6 to 8 inches
Water-supplying capacity: 12 inches
Runoff: Rapid
Hydrologic group: B
Erosion factors (upper layer): K value—0.20; T value—3; wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: Concave side slopes of mountains
Parent material: Colluvium that includes loess and volcanic ash
Slope: 15 to 30 percent
Elevation: 8,000 to 10,000 feet
Average annual precipitation: About 16 inches
Average annual air temperature: About 42 degrees F
Frost-free season: About 50 days
Dominant present vegetation: Idaho fescue, needlegrass, snowberry, bluegrass, mountain big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles
Depth: 0 to 17 inches
Texture: Gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 17 to 40 inches
Texture: Very gravelly loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Depth: 40 to 60 inches
Texture: Very cobbly loam, very gravelly loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 6.0 to 7.5 inches
Water-supplying capacity: 16 inches
Runoff: Rapid
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Argic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: Convex, windswept crests and shoulder slopes of mountains
Distinctive present vegetation: Black sagebrush, low sagebrush, bluegrass

Inclusion 2

Classification: Argic Lithic Cryoborolls, loamy-skeletal, mixed
Positions on landscape: Sheltered crests, shoulder slopes, and back slopes of mountains
Distinctive present vegetation: Black sagebrush, Idaho fescue

Inclusion 3

Positions on landscape: Scattered peaks
Distinctive present vegetation: None

Inclusion 4

Positions on landscape: Rock stripes below areas of Rock outcrop
Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Layview Soil**

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Packer Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Hapgood Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Layview Soil**

Range seeding: Poor—droughty, small stones
Roadfill: Poor—depth to rock
Topsoil: Poor—depth to rock, small stones
Daily cover for landfill: Poor—depth to rock, small stones
Shallow excavations: Severe—depth to rock
Local roads and streets: Severe—depth to rock
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—thin layer
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Packer Soil

Range seeding: Fair—erodes easily, small stones
Roadfill: Poor—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—seepage, slope
Embankments, dikes, and levees: Severe—seepage, large stones
Sand: Improbable source—excess fines, large stones
Gravel: Improbable source—excess fines, large stones

Hapgood Soil

Range seeding: Fair—erodes easily, small stones
Roadfill: Poor—slope
Topsoil: Poor—small stones, area reclaim, slope
Daily cover for landfill: Poor—small stones, slope
Shallow excavations: Severe—slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—slope
Embankments, dikes, and levees: Moderate—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Layview soil—VII_s, nonirrigated; Packer and Hapgood soils—VI_e, nonirrigated
Range site: Layview soil—024X016N; Packer soil—028B037N; Hapgood soil—024X032N; Inclusion 1—024X016N; Inclusion 2—024X042N; Inclusions 3 and 4—none

3891—Labshaft-Hapgood-Rock outcrop association

Positions on landscape: Mountains

Composition

Major components:

Labshaft extremely stony loam, 30 to 50 percent slopes—45 percent

Hapgood gravelly loam, 30 to 50 percent slopes—25 percent

Rock outcrop—15 percent

Contrasting inclusions:

Layview very cobbly loam, 8 to 15 percent slopes—7 percent

Pachic Cryoborolls, loamy-skeletal, mixed, 15 to 30 percent slopes—5 percent

Cumulic Haploxerolls, fine-loamy, mixed, frigid, 4 to 15 percent slopes—3 percent

Characteristics of the Labshaft Soil

Classification: Lithic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: The upper side slopes of mountains

Parent material: Residuum derived from siliceous rock

Slope: 30 to 50 percent

Elevation: 7,800 to 8,500 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 43 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Curleaf

mountainmahogany, mountain big sagebrush, needlegrass

Typical Profile

Rock fragments on surface: 30 percent stones and boulders, 30 percent cobbles, 10 percent pebbles

Depth: 0 to 8 inches

Texture: Extremely stony loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Neutral

Depth: 8 to 15 inches

Texture: Extremely gravelly loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Neutral

Depth: 15 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 0.8 to 2.0 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.10; T value—1; wind erodibility group—8

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Hapgood Soil

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: The intermediate and lower side slopes of mountains

Parent material: Colluvium that includes loess and volcanic ash

Slope: 30 to 50 percent

Elevation: 7,800 to 8,500 feet

Average annual precipitation: About 16 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 50 days

Dominant present vegetation: Idaho fescue, mountain brome, mountain big sagebrush, serviceberry

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 17 inches

Texture: Gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 17 to 40 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Neutral

Depth: 40 to 60 inches

Texture: Very cobbly loam, very gravelly loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Neutral

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 5.8 to 7.4 inches

Water-supplying capacity: 16 inches

Runoff: Rapid

Hydrologic group: B

Erosion factors (upper layer): K value—0.24; T value—5; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Rock Outcrop

Positions on landscape: Scattered peaks and cliffs

Dominant present vegetation: None

Contrasting Inclusions

Inclusion 1

Classification: Argic Lithic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: Crests of mountains

Distinctive present vegetation: Low sagebrush, black sagebrush, bluegrass

Inclusion 2

Classification: Pachic Cryoborolls, loamy-skeletal, mixed

Positions on landscape: The lower, north-facing side slopes of mountains

Distinctive present vegetation: Chokecherry, snowberry, currant

Inclusion 3

Classification: Cumulic Haploxerolls, fine-loamy, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Aspen, willow, rose, iris, sedge, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Labshaft Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Hapgood Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Labshaft Soil

Range seeding: Poor—large stones, droughty

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Hapgood Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—slope

Topsoil: Poor—small stones, area reclaim, slope

Daily cover for landfill: Poor—small stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Labshaft soil—VIIIs, nonirrigated; Hapgood soil—VIIe, nonirrigated; Rock outcrop—VIIIIs, nonirrigated

Range site: Labshaft soil—028B043N; Hapgood soil—024X032N; Rock outcrop—none; Inclusion 1—024X016N; Inclusion 2—024X032N; Inclusion 3—none

3950—Hooplite-Jung-Izod association

Positions on landscape: Mountains

Composition

Major components:

Hooplite very gravelly loam, 30 to 50 percent slopes—50 percent

Jung very gravelly loam, 4 to 15 percent slopes—20 percent

Izod very cobbly loam, 30 to 75 percent slopes—15 percent

Contrasting inclusions:

Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic, 30 to 50 percent slopes—5 percent

Xerollic Haplargids, fine, montmorillonitic, mesic, 15 to 30 percent slopes—4 percent

Lithic Torriorthents, clayey-skeletal, montmorillonitic (calcareous), mesic, 30 to 75 percent slopes—3 percent

Rock outcrop—3 percent

Characteristics of the Hooplite Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: South-facing side slopes of mountains

Parent material: Residuum derived from rhyolitic rock

Slope: 30 to 50 percent

Elevation: 6,200 to 6,600 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 45 percent pebbles

Depth: 0 to 4 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Slightly hard, firm

Reaction: Mildly alkaline

Depth: 4 to 8 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 8 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 6 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 0.5 to 1.5 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Jung Soil

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Crests and convex side slopes of mountains

Parent material: Residuum derived from volcanic and metavolcanic rock

Slope: 4 to 15 percent

Elevation: 6,200 to 6,600 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Indian ricegrass, black sagebrush, small rabbitbrush

Typical Profile

Rock fragments on surface: 40 percent pebbles

Depth: 0 to 8 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Neutral

Depth: 8 to 19 inches

Texture: Very cobbly clay

Structure: Prismatic

Consistence: Very hard, firm

Reaction: Moderately alkaline

Depth: 19 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Slow

Available water capacity: 1.9 to 2.5 inches

Water-supplying capacity: 8 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—7

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Characteristics of the Izod Soil

Classification: Lithic Xeric Torriorthents, loamy-skeletal, carbonatic, mesic

Positions on landscape: Convex, east-facing, eroded side slopes of mountains

Parent material: Residuum and colluvium derived from limestone

Slope: 30 to 75 percent

Elevation: 6,200 to 6,600 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 20 percent pebbles

Depth: 0 to 4 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Depth: 4 to 10 inches

Texture: Very gravelly loam, extremely gravelly loam

Structure: Massive

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Depth: 10 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 7 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 0.7 to 2.0 inches

Water-supplying capacity: 7 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—8

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Slightly convex, north-facing side slopes of mountains

Distinctive present vegetation: Singleleaf pinyon, black sagebrush, bluegrass

Inclusion 2

Classification: Xerollic Haplargids, fine, montmorillonitic, mesic

Positions on landscape: Toe slopes of mountains

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Lithic Torriorthents, clayey-skeletal, montmorillonitic (calcareous), mesic

Positions on landscape: Eroded, lower side slopes of mountains

Distinctive present vegetation: Spiny hopsage, black sagebrush

Inclusion 4

Positions on landscape: Scattered peaks

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Hooplite Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Jung Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Izod Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Hooplite Soil

Range seeding: Poor—droughty, small stones, depth to rock

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Jung Soil

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, too clayey

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Izod Soil

Range seeding: Poor—droughty, large stones, depth to rock

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Hooplite, Jung, and Izod soils—VIIIs, nonirrigated

Range site: Hooplite, Jung, and Izod soils—024X030N;

Inclusion 1—025X063N; Inclusion 2—024X005N;

Inclusion 3—025X025N; Inclusion 4—none

3951—Hooplite-Old Camp-Puett association*Positions on landscape:* Foothills**Composition***Major components:*

Hooplite very gravelly fine sandy loam, 15 to 50 percent slopes, extremely stony—45 percent

Old Camp very gravelly loam, 15 to 30 percent slopes—25 percent

Puett fine sandy loam, 30 to 50 percent slopes—20 percent

Contrasting inclusions:

Jung very gravelly loam; 8 to 15 percent slopes—5 percent

Xerollic Haplargids, fine-loamy, mixed, mesic, 4 to 8 percent slopes—3 percent

Puett gravelly loam, 4 to 15 percent slopes—2 percent

Characteristics of the Hooplite Soil*Classification:* Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic*Positions on landscape:* Convex crests and shoulder slopes of foothills*Parent material:* Residuum derived from rhyolitic rock*Slope:* 15 to 50 percent*Elevation:* 6,300 to 6,700 feet*Average annual precipitation:* About 8 inches*Average annual air temperature:* About 49 degrees F*Frost-free season:* About 110 days*Dominant present vegetation:* Bottlebrush squirreltail, black sagebrush**Typical Profile***Rock fragments on surface:* 20 percent stones and boulders, 10 percent cobbles, 45 percent pebbles*Depth:* 0 to 4 inches*Texture:* Very gravelly fine sandy loam*Structure:* Platy*Consistence:* Slightly hard, firm*Reaction:* Mildly alkaline*Depth:* 4 to 8 inches*Texture:* Very gravelly loam, very gravelly clay loam*Structure:* Subangular blocky*Consistence:* Slightly hard, friable*Reaction:* Moderately alkaline*Depth:* 8 inches*Kind of material:* Unweathered bedrock**Soil and Water Features***Depth to bedrock:* 6 to 14 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderate*Available water capacity:* 0.5 to 1.5 inches*Water-supplying capacity:* 8 inches*Runoff:* Rapid*Hydrologic group:* D*Erosion factors (upper layer):* K value—0.10; T value—1; wind erodibility group—5*Hazard of erosion:* By water—moderate; by wind—slight*Shrink-swell potential:* Low*Corrosivity:* To steel—high; to concrete—low*Potential for frost action:* Moderate**Characteristics of the Old Camp Soil***Classification:* Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic*Positions on landscape:* Concave, lower side slopes of foothills*Parent material:* Residuum that is derived from basalt and andesite and includes volcanic ash*Slope:* 15 to 30 percent*Elevation:* 6,300 to 6,700 feet*Average annual precipitation:* About 9 inches*Average annual air temperature:* About 48 degrees F*Frost-free season:* About 110 days*Dominant present vegetation:* Bluegrass, Thurber needlegrass, Wyoming big sagebrush**Typical Profile***Rock fragments on surface:* 30 percent cobbles, 20 percent pebbles*Depth:* 0 to 2 inches*Texture:* Very gravelly loam*Structure:* Platy*Consistence:* Slightly hard, very friable*Reaction:* Mildly alkaline*Depth:* 2 to 14 inches*Texture:* Very gravelly loam, very cobbly clay loam*Structure:* Angular blocky*Consistence:* Slightly hard, friable*Reaction:* Mildly alkaline*Depth:* 14 inches*Kind of material:* Unweathered bedrock**Soil and Water Features***Depth to bedrock:* 10 to 20 inches*Depth to a seasonal high water table:* More than 60 inches*Frequency of flooding:* None*Permeability:* Moderately slow*Available water capacity:* 0.9 to 2.0 inches*Water-supplying capacity:* 9 inches*Runoff:* Medium*Hydrologic group:* D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Puett Soil

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Eroded scarps and side slopes of foothills

Parent material: Residuum derived from tuff and sandstone

Slope: 30 to 50 percent

Elevation: 6,300 to 6,700 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bluegrass, Wyoming big sagebrush, Indian ricegrass, black sagebrush

Typical Profile

Rock fragments on surface: 5 percent pebbles

Depth: 0 to 3 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 3 to 13 inches

Texture: Coarse sandy loam, sandy loam

Structure: Massive

Consistence: Soft, friable

Reaction: Moderately alkaline

Depth: 13 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 1.3 to 3.0 inches

Water-supplying capacity: 7 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.28; T value—1; wind erodibility group—3

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Lithic Xerollic Haplargids, clayey-skeletal, montmorillonitic, mesic

Positions on landscape: Crests of foothills

Distinctive present vegetation: Black sagebrush, bluegrass

Inclusion 2

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: Fan piedmont remnants and toe slopes of foothills

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Eroded, lowest crests of foothills

Distinctive present vegetation: Wyoming big sagebrush, black sagebrush, rabbitbrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Hooplite Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Old Camp Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Puett Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Hooplite Soil

Range seeding: Poor—droughty, small stones, depth to rock

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Old Camp Soil

Range seeding: Poor—small stones, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—depth to rock, slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—large stones
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Puett Soil

Range seeding: Poor—droughty, erodes easily
Roadfill: Poor—depth to rock, slope
Topsoil: Poor—depth to rock, slope
Daily cover for landfill: Poor—depth to rock, slope
Shallow excavations: Severe—depth to rock, slope
Local roads and streets: Severe—slope
Pond reservoir areas: Severe—depth to rock, slope
Embankments, dikes, and levees: Severe—seepage, piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Hooplite and Old Camp soils—VIIIs, nonirrigated; Puett soil—VIIe, nonirrigated
Range site: Hooplite soil—027X032N; Old Camp soil—024X005N; Puett soil—025X025N; Inclusion 1—027X032N; Inclusion 2—027X008N; Inclusion 3—025X025N

3952—Hooplite-Stingdorn association

Positions on landscape: Foothills

Composition

Major components:
 Hooplite very gravelly fine sandy loam, 4 to 15 percent slopes—55 percent
 Stingdorn gravelly loam, 2 to 8 percent slopes—30 percent
Contrasting inclusions:
 Typic Haplargids, loamy-skeletal, mixed, mesic, 15 to 30 percent slopes—7 percent
 Rock outcrop—3 percent
 Lithic Camborthids, loamy-skeletal, mixed, mesic, 15 to 30 percent slopes—3 percent
 Rubble land—2 percent

Characteristics of the Hooplite Soil

Classification: Lithic Xerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: Side slopes of foothills
Parent material: Residuum derived from rhyolitic rock
Slope: 4 to 15 percent

Elevation: 5,900 to 6,600 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bottlebrush squirreltail, black sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 45 percent pebbles
Depth: 0 to 4 inches
Texture: Very gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, firm
Reaction: Mildly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 4 to 8 inches
Texture: Very gravelly loam, very gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 8 inches
Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 6 to 14 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 0.5 to 1.4 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Stingdorn Soil

Classification: Typic Durargids, loamy-skeletal, mixed, mesic, shallow
Positions on landscape: Crests of foothills
Parent material: Residuum derived from rhyolite, tuff, and andesite
Slope: 2 to 8 percent
Elevation: 5,900 to 6,600 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Bottlebrush squirreltail, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 30 percent pebbles

Depth: 0 to 7 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 7 to 15 inches

Texture: Very cobbly clay loam

Structure: Angular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 5 to 15

Depth: 15 to 20 inches

Kind of material: Indurated hardpan

Depth: 20 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to the hardpan: 8 to 20 inches

Depth to bedrock: 8 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 0.8 to 2.2 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.17; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Typic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: The lower side slopes of foothills

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 2

Positions on landscape: Rimrock

Distinctive present vegetation: None

Inclusion 3

Classification: Lithic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Slightly convex, upper, north-facing side slopes of foothills

Distinctive present vegetation: Indian ricegrass, needleandthread, black sagebrush

Inclusion 4

Positions on landscape: Rock stripes below areas of Rock outcrop

Distinctive present vegetation: None

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Hooplite Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Stingdorn Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Hooplite Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock

Shallow excavations: Severe—depth to rock

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Stingdorn Soil

Range seeding: Poor—droughty, too arid

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, cemented pan, large stones

Daily cover for landfill: Poor—depth to rock, large stones

Shallow excavations: Severe—depth to rock, cemented pan

Local roads and streets: Severe—depth to rock

Pond reservoir areas: Severe—depth to rock, cemented pan

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Hooplite and Stingdorn soils—VII, nonirrigated

Range site: Hooplite soil—028B016N; Stingdorn soil—

024X002N; Inclusion 1—024X002N; Inclusion 2—none; Inclusion 3—028B011N; Inclusion 4—none

3960—Pineval gravelly loam, 2 to 4 percent slopes

Positions on landscape: Fan piedmonts

Composition

Major component:

Pineval gravelly loam, 2 to 4 percent slopes—85 percent

Contrasting inclusions:

Xerollic Natrargids, fine-loamy, mixed, mesic, 0 to 4 percent slopes—8 percent

Typic Haplargids, loamy-skeletal, mixed, mesic, 0 to 4 percent slopes—5 percent

Xerollic Camborthids, loamy-skeletal, mixed, mesic, occasionally flooded, 0 to 4 percent slopes—2 percent

Characteristics of the Pineval Soil

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan piedmonts

Parent material: Mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,900 to 6,600 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent cobbles, 60 percent pebbles

Depth: 0 to 5 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 5 to 11 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 11 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.2 to 4.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Natrargids, fine-loamy, mixed, mesic

Positions on landscape: The lower margins of fan piedmonts

Distinctive present vegetation: Wyoming big sagebrush, black greasewood

Inclusion 2

Classification: Typic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan piedmont remnants

Distinctive present vegetation: Shadscale, bud sagebrush

Inclusion 3

Classification: Xerollic Camborthids, loamy-skeletal, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Black greasewood, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Interpretive Groups

Land capability classification: Pineval soil—IVe, irrigated; VIs, nonirrigated

Range site: Pineval soil—028B010N; Inclusion 1—024X022N; Inclusion 2—024X002N; Inclusion 3—024X022N

3961—Pineval-Orovada-Beoska association

Positions on landscape: Fan piedmonts

Composition

Major components:

Pineval very cobbly loam, 2 to 8 percent slopes—35 percent

Orovada cobbly fine sandy loam, 2 to 8 percent slopes—30 percent

Beoska very fine sandy loam, 2 to 8 percent slopes—25 percent

Contrasting inclusions:

Typic Camborthids, loamy-skeletal, mixed, mesic, 15 to 30 percent slopes—4 percent

Xerollic Haplargids, fine-loamy, mixed, mesic, 15 to 30 percent slopes—4 percent

Settlemyer fine sandy loam, drained, 0 to 4 percent slopes—2 percent

Characteristics of the Pineval Soil

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: The upper part of fan piedmont remnants

Parent material: Mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,200 to 5,900 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 30 percent cobbles, 10 percent pebbles

Depth: 0 to 5 inches

Texture: Very cobbly loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 5 to 11 inches

Texture: Very gravelly loam, very gravelly clay loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 11 to 60 inches

Texture: Extremely gravelly sandy loam, extremely gravelly loamy sand

Structure: Single grain

Consistence: Loose

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 3.2 to 4.4 inches

Water-supplying capacity: 8 inches

Runoff: Medium

Hydrologic group: B

Erosion factors (upper layer): K value—0.15; T value—5; wind erodibility group—8

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,200 to 5,900 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 48 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Rock fragments on surface: 15 percent cobbles, 10 percent pebbles

Depth: 0 to 8 inches
Texture: Cobbly fine sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 8 to 26 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 26 to 60 inches
Texture: Stratified fine sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 9 to 11 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—4
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Beoska Soil

Classification: Duric Natrargids, fine-loamy, mixed, mesic
Positions on landscape: The lower part of fan piedmont remnants
Parent material: Loess over loamy and gravelly mixed alluvium
Slope: 2 to 8 percent
Elevation: 5,200 to 5,900 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bottlebrush squirreltail

Typical Profile

Depth: 0 to 13 inches
Texture: Very fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 2 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 13 to 24 inches
Texture: Silty clay loam, silt loam
Structure: Prismatic
Consistence: Hard, very friable
Reaction: Strongly alkaline
Salinity: 8 to 16 millimhos per centimeter
Sodicity (SAR): 25 to 46
Depth: 24 to 55 inches
Texture: Gravelly very fine sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60

Depth: 55 to 60 inches
Texture: Very gravelly fine sandy loam
Structure: Massive
Consistence: Soft, very friable
Reaction: Strongly alkaline
Salinity: 16 to 30 millimhos per centimeter
Sodicity (SAR): 46 to 60

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 7.8 to 9.7 inches
Water-supplying capacity: 7 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.49; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—high
Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Typic Camborthids, loamy-skeletal, mixed, mesic
Positions on landscape: South-facing side slopes of fan piedmont remnants

Distinctive present vegetation: Shadscale, Wyoming big sagebrush

Inclusion 2

Classification: Xerollic Haplargids, fine-loamy, mixed, mesic

Positions on landscape: North-facing side slopes of fan piedmont remnants

Distinctive present vegetation: Wyoming big sagebrush, pine bluegrass

Inclusion 3

Classification: Fluvaquentic Haplaquolls, fine-loamy, mixed, mesic

Positions on landscape: Inset fans dissecting fan piedmont remnants near the front of mountains

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Pineval Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Beoska Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Suitability and Limitations for Selected Uses

Pineval Soil

Range seeding: Poor—large stones

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Orovada Soil

Range seeding: Fair—too arid, large stones

Roadfill: Good

Topsoil: Poor—small stones

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Beoska Soil

Range seeding: Poor—too arid, excess salt, excess sodium

Roadfill: Good

Topsoil: Poor—small stones, excess salt, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Slight

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—excess salt, excess sodium

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Pineval and Orovada soils—VIIs, nonirrigated; Beoska soil—IIIe, irrigated, and VIIs, nonirrigated

Range site: Pineval soil—028B010N; Orovada soil—024X005N; Beoska soil—024X002N; Inclusion 1—024X026N; Inclusion 2—024X005N; Inclusion 3—025X003N

3964—Pineval-Orovada association

Positions on landscape: Fan piedmonts

Composition

Major components:

Pineval gravelly fine sandy loam, 2 to 8 percent slopes—65 percent

Orovada fine sandy loam, 2 to 4 percent slopes—20 percent

Contrasting inclusions:

Xerollic Camborthids, loamy-skeletal, mixed, mesic, 0 to 4 percent slopes—8 percent

Xerollic Camborthids, coarse-loamy, mixed, mesic, 2 to 4 percent slopes—5 percent

Aquic Duric Haploxerolls, coarse-loamy, mixed, mesic, 0 to 2 percent slopes—2 percent

Characteristics of the Pineval Soil

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Fan piedmont remnants

Parent material: Mixed alluvium

Slope: 2 to 8 percent

Elevation: 5,700 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 49 degrees F

Frost-free season: About 120 days
Dominant present vegetation: Indian ricegrass,
 bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles
Depth: 0 to 5 inches
Texture: Gravelly fine sandy loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 5 to 11 inches
Texture: Very gravelly loam, very gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 11 to 60 inches
Texture: Extremely gravelly sandy loam, extremely
 gravelly loamy sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60
 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 3.0 to 4.4 inches
Water-supplying capacity: 8 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.24; T value—5;
 wind erodibility group—4
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy,
 mixed, mesic
Positions on landscape: Inset fans
Parent material: Loess mantle that is high in content of
 volcanic ash over mixed alluvium
Slope: 2 to 4 percent
Elevation: 5,700 to 6,000 feet

Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush,
 bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches
Texture: Fine sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 8 to 20 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 20 to 65 inches
Texture: Stratified fine sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60
 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 8.4 to 9.6 inches
Water-supplying capacity: 8 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.43; T value—5;
 wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Camborthids, loamy-skeletal,
 mixed, mesic
Positions on landscape: Fan drainageways
Distinctive present vegetation: Wyoming big sagebrush

Inclusion 2

Classification: Xerollic Camborthids, coarse-loamy,
 mixed, mesic

Positions on landscape: Fan aprons

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Aquic Duric Haploxerolls, coarse-loamy, mixed, mesic

Positions on landscape: Adjacent to active channels on inset fans

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Pineval Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Pineval Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—seepage, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—seepage

Sand: Probable source

Gravel: Probable source

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Pineval soil—I_{Ve}, irrigated, and V_ls, nonirrigated; Orovada soil—I_{le}, irrigated, and V_{lc}, nonirrigated

Range site: Pineval and Orovada soils—028B010N; Inclusions 1 and 2—028B010N; Inclusion 3—028B003N

3990—Settlemeier fine sandy loam, drained, 0 to 2 percent slopes

Positions on landscape: Flood plains

Composition

Major component:

Settlemeier fine sandy loam, drained, 0 to 2 percent slopes—85 percent

Contrasting inclusions:

Xeric Torriorthents, fine-loamy, mixed, mesic, 0 to 4 percent slopes—7 percent

Xerollic Camborthids, coarse-loamy, mixed, mesic, 2 to 8 percent slopes—7 percent

Settlemeier fine sandy loam, frequently flooded, 0 to 2 percent slopes—1 percent

Characteristics of the Settlemeier Soil

Classification: Fluvaquentic Haplaquolls, fine-loamy, mixed, mesic

Positions on landscape: Flood plains

Parent material: Mixed alluvium

Slope: 0 to 2 percent

Elevation: 5,100 to 6,300 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Basin wildrye, basin big sagebrush

Typical Profile

Depth: 0 to 16 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 16 to 36 inches

Texture: Silty clay loam, clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 36 to 60 inches

Texture: Stratified very gravelly loamy sand to silty clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately slow

Available water capacity: 9 to 11 inches

Water-supplying capacity: 10 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.28; T value—5;
 wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xeric Torriorthents, fine-loamy, mixed, mesic

Positions on landscape: Adjacent to stream channel banks

Distinctive present vegetation: Basin big sagebrush, Wyoming big sagebrush, black greasewood

Inclusion 2

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Fanlettes extending from adjacent fan piedmonts

Distinctive present vegetation: Wyoming big sagebrush

Inclusion 3

Classification: Fluvaquentic Haplaquolls, fine-loamy, mixed, mesic

Positions on landscape: Concave to smooth, long and narrow flood plains

Distinctive present vegetation: Sedge, rush, bluegrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Range seeding: Good

Roadfill: Good

Topsoil: Fair—too clayey, small stones, area reclaim

Daily cover for landfill: Fair—too clayey, too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Severe—low strength

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Settlemeier soil—IIIc, irrigated, and VIc, nonirrigated

Range site: Settlemeier soil—028B003N; Inclusion 1—024X006N; Inclusion 2—024X005N; Inclusion 3—025X001N

3991—Settlemeier-Pineval association

Positions on landscape: Inset fans, fan skirts

Composition

Major components:

Settlemeier loam, drained, 2 to 4 percent slopes—70 percent

Pineval gravelly loam, 2 to 8 percent slopes—15 percent

Contrasting inclusions:

Xerollic Camborthids, fine-loamy, mixed, mesic, 2 to 8 percent slopes—8 percent

Xerollic Camborthids, coarse-loamy, mixed, mesic, 2 to 8 percent slopes—5 percent

Typic Camborthids, fine-silty, mixed, mesic, 2 to 8 percent slopes—2 percent

Characteristics of the Settlemeier Soil

Classification: Fluvaquentic Haplaquolls, fine-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Mixed alluvium

Slope: 2 to 4 percent

Elevation: 5,400 to 6,300 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Basin wildrye, basin big sagebrush

Typical Profile

Depth: 0 to 16 inches

Texture: Loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Depth: 16 to 36 inches

Texture: Silty clay loam, clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 36 to 60 inches

Texture: Stratified very gravelly loamy sand to silty clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderately slow
Available water capacity: 9 to 11 inches
Water-supplying capacity: 11 inches
Runoff: Slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.37; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Pineval Soil

Classification: Durixerollic Haplargids, loamy-skeletal, mixed, mesic
Positions on landscape: Fan skirts adjacent to inset fans
Parent material: Mixed alluvium
Slope: 2 to 8 percent
Elevation: 5,400 to 6,500 feet
Average annual precipitation: About 8 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Indian ricegrass, bluegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 40 percent pebbles
Depth: 0 to 5 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 5 to 11 inches
Texture: Very gravelly loam, very gravelly clay loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 11 to 60 inches
Texture: Extremely gravelly sandy loam, extremely gravelly loamy sand
Structure: Single grain
Consistence: Loose
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderately slow
Available water capacity: 3.2 to 4.4 inches
Water-supplying capacity: 9 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.28; T value—5; wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions**Inclusion 1**

Classification: Xerollic Camborthids, fine-loamy, mixed, mesic
Positions on landscape: Inset fan remnants
Distinctive present vegetation: Black greasewood, basin big sagebrush

Inclusion 2

Classification: Xerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Gullied parts of inset fan remnants
Distinctive present vegetation: Spiny hopsage, Wyoming big sagebrush

Inclusion 3

Classification: Typic Camborthids, fine-silty, mixed, mesic
Positions on landscape: The lower parts of inset fan remnants
Distinctive present vegetation: Black greasewood, rubber rabbitbrush, inland saltgrass

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements**Settlemeier Soil**

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Pineval Soil

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses**Settlemeier Soil**

Range seeding: Good
Roadfill: Good

Topsoil: Fair—too clayey, area reclaim
Daily cover for landfill: Fair—too clayey, too sandy, small stones

Shallow excavations: Severe—cutbanks cave
Local roads and streets: Severe—low strength
Pond reservoir areas: Moderate—seepage, slope
Embankments, dikes, and levees: Severe—piping
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Pineval Soil

Range seeding: Fair—too arid
Roadfill: Good
Topsoil: Poor—small stones, area reclaim
Daily cover for landfill: Poor—seepage, too sandy, small stones
Shallow excavations: Severe—cutbanks cave
Local roads and streets: Moderate—frost action, flooding
Pond reservoir areas: Moderate—seepage, slope
Embankments, dikes, and levees: Severe—seepage
Sand: Probable source
Gravel: Probable source

Interpretive Groups

Land capability classification: Settlemeier soil—IIIc, irrigated, and VIc, nonirrigated; Pineval soil—IVe, irrigated, and VIs, nonirrigated
Range site: Settlemeier soil—028B003N; Pineval soil—028B010N; Inclusion 1—024X022N; Inclusion 2—028B052N; Inclusion 3—028B004N

3992—Settlemeier complex

Positions on landscape: Intermountain drainageways

Composition

Major components:
 Settlemeier loam, drained, 2 to 4 percent slopes—65 percent
 Settlemeier loam, frequently flooded, 0 to 2 percent slopes—20 percent
Contrasting inclusions:
 Xerollic Haplargids, loamy-skeletal, mixed, mesic, 2 to 8 percent slopes—9 percent
 Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic, 0 to 4 percent slopes—6 percent

Characteristics of the Settlemeier Soil, Drained

Classification: Fluvaquentic Haplaquolls, fine-loamy, mixed, mesic
Positions on landscape: Concave, entrenched inset fans and flood plains of intermountain drainageways
Parent material: Mixed alluvium
Slope: 2 to 4 percent
Elevation: 5,200 to 6,300 feet

Average annual precipitation: About 9 inches
Average annual air temperature: About 45 degrees F
Frost-free season: About 100 days
Dominant present vegetation: Thurber needlegrass, bluebunch wheatgrass, Wyoming big sagebrush

Typical Profile

Depth: 0 to 16 inches
Texture: Loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 16 to 40 inches
Texture: Silty clay loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Depth: 40 to 60 inches
Texture: Fine sandy loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2

Soil and Water Features

Depth to a seasonal high water table: 36 to 48 inches
Frequency of flooding: Rare
Permeability: Moderately slow
Available water capacity: 9.4 to 11.0 inches
Water-supplying capacity: 10 inches
Runoff: Slow
Hydrologic group: C
Erosion factors (upper layer): K value—0.37; T value—5; wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—high; to concrete—low
Potential for frost action: High

Characteristics of the Settlemeier Soil, Frequently Flooded

Classification: Fluvaquentic Haplaquolls, fine-loamy, mixed, mesic
Positions on landscape: Undissected parts of flood plains
Parent material: Mixed alluvium
Slope: 0 to 2 percent
Elevation: 5,200 to 6,300 feet
Average annual precipitation: About 9 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 100 days

Dominant present vegetation: Basin wildrye, western wheatgrass, basin big sagebrush

Typical Profile

Depth: 0 to 15 inches

Texture: Loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 15 to 35 inches

Texture: Silty clay loam, clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 10

Depth: 35 to 60 inches

Texture: Stratified very gravelly loamy sand to silty clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Salinity: 4 to 8 millimhos per centimeter

Sodicity (SAR): 0 to 10

Soil and Water Features

Depth to a seasonal high water table: 12 to 36 inches

Frequency of flooding: Frequent for brief periods in December through March

Permeability: Moderately slow

Available water capacity: 8 to 10 inches

Water-supplying capacity: 12 inches

Runoff: Slow

Hydrologic group: D

Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Haplargids, loamy-skeletal, mixed, mesic

Positions on landscape: Fanlettes extending from the front of adjacent mountains, along the outer margin of drainageways

Distinctive present vegetation: Wyoming big sagebrush, bluegrass

Inclusion 2

Classification: Xeric Torriorthents, loamy-skeletal, mixed (calcareous), mesic

Positions on landscape: Adjacent to stream channels

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Settlemeier Soil, Drained

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Settlemeier Soil, Frequently Flooded

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Settlemeier Soil, Drained

Range seeding: Good

Roadfill: Poor—low strength

Topsoil: Fair—small stones

Daily cover for landfill: Fair—too clayey, wetness

Shallow excavations: Moderate—wetness

Local roads and streets: Severe—low strength, frost action

Pond reservoir areas: Moderate—slope

Embankments, dikes, and levees: Moderate—wetness

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Settlemeier Soil, Frequently Flooded

Range seeding: Fair—excess salt

Roadfill: Fair—wetness

Topsoil: Fair—too clayey, small stones, area reclaim

Daily cover for landfill: Poor—wetness

Shallow excavations: Severe—cutbanks cave, wetness

Local roads and streets: Severe—low strength, flooding, frost action

Pond reservoir areas: Moderate—seepage

Embankments, dikes, and levees: Severe—piping, wetness

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Settlemeier soil, drained—IIw, irrigated, and VIw, nonirrigated; Settlemeier soil, frequently flooded—IIIw, irrigated, and Vw, nonirrigated

Range site: Settlemeier soil, drained—025X003N; Settlemeier soil, frequently flooded—025X001N; Inclusion 1—024X005N; Inclusion 2—024X006N

4041—Hymas-Xine-Attella association

Positions on landscape: Mountains

Composition

Major components:

Hymas gravelly loam, 30 to 50 percent slopes—35 percent

Xine gravelly loam, 30 to 50 percent slopes—30 percent

Attella very gravelly loam, 30 to 50 percent slopes—20 percent

Contrasting inclusions:

Aridic Calcixerolls, loamy-skeletal, carbonatic, frigid, 30 to 50 percent slopes—7 percent

Aridic Calcixerolls, loamy-skeletal, carbonatic, frigid, 15 to 50 percent slopes—3 percent

Rock outcrop—3 percent

Welch clay loam, drained, 0 to 4 percent slopes—2 percent

Characteristics of the Hymas Soil

Classification: Lithic Haploxerolls, loamy-skeletal, carbonatic, frigid

Positions on landscape: Convex, east- and west-facing side slopes of mountains

Parent material: Residuum and colluvium derived from limestone

Slope: 30 to 50 percent

Elevation: 6,300 to 7,800 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 45 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Singleleaf pinyon, bluebunch wheatgrass, mountain big sagebrush, Utah juniper

Site index for common trees: Singleleaf pinyon—40; Utah juniper—40

Typical Profile

Rock fragments on surface: 5 percent cobbles, 20 percent pebbles

Depth: 0 to 9 inches

Texture: Gravelly loam

Structure: Granular

Consistence: Soft, friable

Reaction: Moderately alkaline

Depth: 9 to 15 inches

Texture: Very cobbly loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Depth: 15 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.0 to 2.8 inches

Water-supplying capacity: 11 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.28; T value—1; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—moderate; to concrete—low

Potential for frost action: Moderate

Characteristics of the Xine Soil

Classification: Aridic Calcixerolls, loamy-skeletal, mixed, frigid

Positions on landscape: Concave, north-facing side slopes of mountains

Parent material: Residuum derived from limestone

Slope: 30 to 50 percent

Elevation: 6,300 to 7,800 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 44 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Mountain big sagebrush, bluebunch wheatgrass, bluegrass, snowberry

Typical Profile

Rock fragments on surface: 15 percent pebbles

Depth: 0 to 10 inches

Texture: Gravelly loam

Structure: Granular

Consistence: Soft, very friable

Reaction: Mildly alkaline

Depth: 10 to 33 inches

Texture: Very cobbly loam, very cobbly sandy loam

Structure: Massive

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 33 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 20 to 40 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 2 to 4 inches

Water-supplying capacity: 12 inches

Runoff: Rapid

Hydrologic group: C

Erosion factors (upper layer): K value—0.24; T value—2; wind erodibility group—6

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Attella Soil

Classification: Lithic Xeric Torriorthents, loamy-skeletal, mixed (calcareous), frigid

Positions on landscape: Slightly rilled, south-facing side slopes and crests of mountains

Parent material: Residuum derived from dolostone

Slope: 30 to 50 percent

Elevation: 6,300 to 7,800 feet

Average annual precipitation: About 12 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 90 days

Dominant present vegetation: Singleleaf pinyon, mountain big sagebrush, bluegrass

Site index for common trees: Singleleaf pinyon—40; Utah juniper—40

Typical Profile

Rock fragments on surface: 5 percent flagstones, 80 percent pebbles

Depth: 0 to 3 inches

Texture: Very gravelly loam

Structure: Platy

Consistence: Soft, very friable

Reaction: Moderately alkaline

Depth: 3 to 7 inches

Texture: Very gravelly loam

Structure: Subangular blocky

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Depth: 7 inches

Kind of material: Unweathered bedrock

Soil and Water Features

Depth to bedrock: 6 to 10 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 0.7 to 1.5 inches

Water-supplying capacity: 9 inches

Runoff: Rapid

Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—7

Hazard of erosion: By water—severe; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Aridic Calcixerolls, loamy-skeletal, carbonatic, frigid

Positions on landscape: The lower, south-facing side slopes of mountains

Distinctive present vegetation: Bluebunch wheatgrass, mountain big sagebrush

Inclusion 2

Classification: Aridic Calcixerolls, loamy-skeletal, carbonatic, frigid

Positions on landscape: Convex, rounded, highest, east- and west-facing side slopes of mountains

Distinctive present vegetation: Black sagebrush, bluebunch wheatgrass

Inclusion 3

Positions on landscape: Scattered peaks and bedding planes

Distinctive present vegetation: None

Inclusion 4

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Intermountain drainageways

Distinctive present vegetation: Basin wildrye, basin big sagebrush

Major Uses

Current uses: Livestock grazing, wildlife habitat

Potential foreseeable use: Cordwood production

Suitability for Wildlife Habitat Elements

Hymas Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Poor

Shrubs (nonirrigated): Fair

Xine Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Attella Soil

Wild herbaceous plants (nonirrigated): Poor

Coniferous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Hymas Soil

Range seeding: Poor—erodes easily, droughty

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, large stones, slope

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines, large stones

Gravel: Improbable source—excess fines, large stones

Xine Soil

Range seeding: Poor—erodes easily

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—small stones, slope

Daily cover for landfill: Poor—depth to rock, large stones, slope

Shallow excavations: Severe—slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—seepage, slope

Embankments, dikes, and levees: Severe—large stones

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Attella Soil

Range seeding: Poor—droughty, depth to rock, small stones

Roadfill: Poor—depth to rock, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Hymas and Xine soils—VIIe, nonirrigated; Attella soil—VIIs, nonirrigated

Range site: Hymas and Attella soils—025X062N; Xine soil—024X021N; Inclusion 1—024X029N; Inclusion 2—024X031N; Inclusion 3—none; Inclusion 4—028B024N

4070—Genaw-Wieland-Grina association

Positions on landscape: Hills, fan piedmonts

Composition

Major components:

Genaw gravelly loam, 15 to 30 percent slopes—35 percent

Wieland gravelly loam, 4 to 15 percent slopes—30 percent

Grina very gravelly loam, eroded, 15 to 30 percent slopes—20 percent

Contrasting inclusions:

Durixerollic Camborthids, fine-loamy, mixed, mesic, 2 to 8 percent slopes—8 percent

Typic Natrargids, fine, montmorillonitic, mesic, 8 to 15 percent slopes—4 percent

Durixerollic Camborthids, fine-loamy, mixed, mesic, 2 to 4 percent slopes—3 percent

Characteristics of the Genaw Soil

Classification: Xerollic Haplargids, loamy, mixed, mesic, shallow

Positions on landscape: Convex side slopes of hills

Parent material: Loess mantle over residuum derived from tuffaceous sediment

Slope: 15 to 30 percent

Elevation: 5,700 to 6,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 25 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 11 inches

Texture: Gravelly loam, gravelly clay loam

Structure: Angular blocky

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 11 to 16 inches

Texture: Very gravelly loam

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 16 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.9 to 3.0 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.24; T value—1;
 wind erodibility group—6
Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Wieland Soil

Classification: Durixerollic Haplargids, fine, montmorillonitic, mesic
Positions on landscape: Summits of fan piedmont remnants over low hills
Parent material: Mixed alluvium that includes loess and volcanic ash
Slope: 4 to 15 percent
Elevation: 5,700 to 6,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Indian ricegrass, needlegrass, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 20 percent pebbles
Depth: 0 to 8 inches
Texture: Gravelly loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 8 to 20 inches
Texture: Gravelly clay
Structure: Prismatic
Consistence: Hard, firm
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Depth: 20 to 60 inches
Texture: Gravelly loam, gravelly sandy loam
Structure: Massive
Consistence: Hard, firm
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Slow
Available water capacity: 6 to 9 inches
Water-supplying capacity: 9 inches

Runoff: Medium
Hydrologic group: C
Erosion factors (upper layer): K value—0.32; T value—5;
 wind erodibility group—6
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: High
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Grina Soil

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow
Positions on landscape: Eroded hills along the edge of fan piedmont remnants
Parent material: Residuum derived from sedimentary rock
Slope: 15 to 30 percent
Elevation: 5,700 to 6,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Wyoming big sagebrush, Utah juniper, black sagebrush
Site index for Utah juniper: 18

Typical Profile

Rock fragments on surface: 55 percent pebbles
Depth: 0 to 3 inches
Texture: Very gravelly loam
Structure: Platy
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 3 to 14 inches
Texture: Silt loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 14 inches
Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately slow
Available water capacity: 1.7 to 2.8 inches
Water-supplying capacity: 6 inches
Runoff: Rapid
Hydrologic group: D

Erosion factors (upper layer): K value—0.15; T value—1; wind erodibility group—6

Hazard of erosion: By water—moderate; by wind—slight

Shrink-swell potential: Moderate

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Durixerollic Camborthids, fine-loamy, mixed, mesic

Positions on landscape: Inset fans

Distinctive present vegetation: Basin big sagebrush, basin wildrye

Inclusion 2

Classification: Typic Natrargids, fine, montmorillonitic, mesic

Positions on landscape: Concave side slopes of hills

Distinctive present vegetation: Small rabbitbrush, shadscale, Wyoming big sagebrush

Inclusion 3

Classification: Durixerollic Camborthids, fine-loamy, mixed, mesic

Positions on landscape: The lower inset fans

Distinctive present vegetation: Basin big sagebrush, black greasewood, basin wildrye

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Genaw Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Wieland Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Grina Soil

Wild herbaceous plants (nonirrigated): Fair

Coniferous plants (nonirrigated): Poor

Shrubs (nonirrigated): Fair

Suitability and Limitations for Selected Uses

Genaw Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, small stones, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Wieland Soil

Range seeding: Poor—rooting depth

Roadfill: Good

Topsoil: Poor—small stones, area reclaim

Daily cover for landfill: Poor—small stones

Shallow excavations: Moderate—too clayey, slope

Local roads and streets: Severe—low strength, shrink-swell

Pond reservoir areas: Severe—slope

Embankments, dikes, and levees: Moderate—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Grina Soil

Range seeding: Poor—droughty, small stones

Roadfill: Poor—depth to rock, low strength, slope

Topsoil: Poor—depth to rock, small stones, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—low strength, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Genaw soil—VIIe, nonirrigated; Wieland soil—VI, nonirrigated; Grina soil—VII, nonirrigated

Range site: Genaw and Wieland soils—024X005N; Grina soil—025X059N; Inclusion 1—025X003N; Inclusion 2—024X045N; Inclusion 3—024X006N

4072—Genaw-Orovada-Puett association

Positions on landscape: Rolling hills

Composition

Major components:

Genaw very fine sandy loam, 4 to 15 percent slopes—40 percent

Orovada fine sandy loam, 2 to 8 percent slopes—30 percent

Puett fine sandy loam, 15 to 30 percent slopes—15 percent

Contrasting inclusions:

Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow, 15 to 50 percent slopes—6 percent

Xerollic Haplargids, loamy-skeletal, mixed, mesic, shallow, 15 to 50 percent slopes—5 percent

Xeric Torriorthents, sandy, mixed, mesic, 4 to 15 percent slopes—4 percent

Characteristics of the Genaw Soil

Classification: Xerollic Haplargids, loamy, mixed, mesic, shallow
Positions on landscape: Summits and shoulder slopes of hills
Parent material: Loess mantle over residuum derived from tuffaceous sediment
Slope: 4 to 15 percent
Elevation: 5,600 to 6,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 47 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, Wyoming big sagebrush

Typical Profile

Rock fragments on surface: 25 percent pebbles
Depth: 0 to 6 inches
Texture: Very fine sandy loam
Structure: Platy
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 6 to 11 inches
Texture: Gravelly loam, gravelly clay loam
Structure: Angular blocky
Consistence: Slightly hard, very friable
Reaction: Moderately alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 11 to 16 inches
Texture: Very gravelly loam
Structure: Massive
Consistence: Hard, friable
Reaction: Strongly alkaline
Salinity: 0 to 4 millimhos per centimeter
Sodicity (SAR): 0 to 5
Depth: 16 inches
Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderate
Available water capacity: 1.9 to 2.4 inches
Water-supplying capacity: 8 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.49; T value—1; wind erodibility group—3

Hazard of erosion: By water—moderate; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Orovada Soil

Classification: Durixerollic Camborthids, coarse-loamy, mixed, mesic
Positions on landscape: Inset fans
Parent material: Loess mantle that is high in content of volcanic ash over mixed alluvium
Slope: 2 to 8 percent
Elevation: 5,600 to 6,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Wyoming big sagebrush, bluegrass, Indian ricegrass

Typical Profile

Depth: 0 to 8 inches
Texture: Fine sandy loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Neutral
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 8 to 20 inches
Texture: Fine sandy loam, loam
Structure: Subangular blocky
Consistence: Slightly hard, very friable
Reaction: Mildly alkaline
Salinity: 0 to 2 millimhos per centimeter
Sodicity (SAR): 0 to 2
Depth: 20 to 60 inches
Texture: Stratified fine sandy loam to silt loam
Structure: Massive
Consistence: Slightly hard, friable
Reaction: Moderately alkaline
Salinity: 4 to 8 millimhos per centimeter
Sodicity (SAR): 0 to 5

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: Rare
Permeability: Moderate
Available water capacity: 8.4 to 9.6 inches
Water-supplying capacity: 4 inches
Runoff: Medium
Hydrologic group: B
Erosion factors (upper layer): K value—0.43; T value—5; wind erodibility group—3
Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Characteristics of the Puett Soil

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow
Positions on landscape: Convex side slopes of hills
Parent material: Residuum derived from tuff and sandstone
Slope: 15 to 30 percent
Elevation: 5,600 to 6,000 feet
Average annual precipitation: About 9 inches
Average annual air temperature: About 48 degrees F
Frost-free season: About 110 days
Dominant present vegetation: Bluegrass, Wyoming big sagebrush, Indian ricegrass, black sagebrush

Typical Profile

Rock fragments on surface: 5 percent pebbles
Depth: 0 to 4 inches
Texture: Fine sandy loam
Structure: Platy
Consistence: Soft, very friable
Reaction: Moderately alkaline
Depth: 4 to 15 inches
Texture: Coarse sandy loam, sandy loam
Structure: Massive
Consistence: Soft, friable
Reaction: Moderately alkaline
Depth: 15 inches
Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 20 inches
Depth to a seasonal high water table: More than 60 inches
Frequency of flooding: None
Permeability: Moderately rapid
Available water capacity: 1.3 to 3.0 inches
Water-supplying capacity: 6 inches
Runoff: Rapid
Hydrologic group: D
Erosion factors (upper layer): K value—0.28; T value—1; wind erodibility group—3
Hazard of erosion: By water—severe; by wind—slight
Shrink-swell potential: Low
Corrosivity: To steel—high; to concrete—low
Potential for frost action: Moderate

Contrasting Inclusions

Inclusion 1

Classification: Xeric Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: Convex, eroded side slopes of hills

Distinctive present vegetation: Wyoming big sagebrush, purple sage, Indian ricegrass

Inclusion 2

Classification: Xerollic Haplargids, loamy-skeletal, mixed, mesic, shallow

Positions on landscape: Concave side slopes of hills

Distinctive present vegetation: Black sagebrush, rabbitbrush, bluegrass

Inclusion 3

Classification: Xeric Torriorthents, sandy, mixed, mesic

Positions on landscape: Sand dunes along the lower margin of hills

Distinctive present vegetation: Spiny hopsage, Wyoming big sagebrush, needleandthread

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Genaw Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Orovada Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Puett Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Genaw Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Moderate—slope, depth to rock, frost action

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Orovada Soil

Range seeding: Fair—too arid

Roadfill: Good

Topsoil: Fair—small stones, thin layer

Daily cover for landfill: Good

Shallow excavations: Slight

Local roads and streets: Moderate—frost action

Pond reservoir areas: Moderate—seepage, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Puett Soil

Range seeding: Poor—droughty, erodes easily

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, slope

Daily cover for landfill: Poor—depth to rock, slope

Shallow excavations: Severe—depth to rock, slope

Local roads and streets: Severe—slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—seepage, piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Genaw soil—VII_s, nonirrigated; Orovada soil—III_e, irrigated, and VI_c, nonirrigated; Puett soil—VII_e, nonirrigated

Range site: Genaw and Orovada soils—028B010N; Puett soil—025X025N; Inclusion 1—024X045N; Inclusion 2—024X030N; Inclusion 3—024X017N

4073—Genaw-Broyles-Perlor association

Positions on landscape: Low, rolling hills

Composition

Major components:

Genaw gravelly loam, 4 to 8 percent slopes—30 percent

Broyles gravelly very fine sandy loam, 4 to 8 percent slopes—30 percent

Perlor fine sandy loam, 8 to 15 percent slopes—25 percent

Contrasting inclusions:

Xerollic Haplargids, loamy, mixed, mesic, shallow, 0 to 2 percent slopes—7 percent

Xerollic Camborthids, loamy, mixed, mesic, shallow, 15 to 30 percent slopes—4 percent

Duric Camborthids, coarse-loamy, mixed, mesic, 2 to 4 percent slopes—4 percent

Characteristics of the Genaw Soil

Classification: Xerollic Haplargids, loamy, mixed, mesic, shallow

Positions on landscape: Summits and side slopes of hills

Parent material: Loess mantle over residuum derived from tuffaceous sediment

Slope: 4 to 8 percent

Elevation: 5,600 to 6,000 feet

Average annual precipitation: About 9 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 110 days

Dominant present vegetation: Indian ricegrass, bottlebrush squirreltail, Wyoming big sagebrush, spiny hopsage

Typical Profile

Rock fragments on surface: 25 percent pebbles

Depth: 0 to 6 inches

Texture: Gravelly loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 2 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 6 to 11 inches

Texture: Gravelly loam, gravelly clay loam

Structure: Angular blocky

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 2

Depth: 11 to 16 inches

Texture: Very gravelly loam

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 16 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 14 to 20 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.9 to 2.4 inches

Water-supplying capacity: 7 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.24; T value—1; wind erodibility group—6

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Moderate

Characteristics of the Broyles Soil

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: Inset fans

Parent material: Thin loess mantle over mixed alluvium

Slope: 4 to 8 percent

Elevation: 5,600 to 6,000 feet
Average annual precipitation: About 7 inches
Average annual air temperature: About 49 degrees F
Frost-free season: About 120 days
Dominant present vegetation: Shadscale, bud sagebrush, Indian ricegrass, bluegrass

Typical Profile

Rock fragments on surface: 25 percent pebbles

Depth: 0 to 13 inches

Texture: Gravelly very fine sandy loam

Structure: Platy

Consistence: Slightly hard, very friable

Reaction: Moderately alkaline

Salinity: 2 to 4 millimhos per centimeter

Sodicity (SAR): 5 to 13

Depth: 13 to 60 inches

Texture: Stratified loam to gravelly loamy sand

Structure: Massive

Consistence: Hard, friable

Reaction: Strongly alkaline

Salinity: 8 to 16 millimhos per centimeter

Sodicity (SAR): 25 to 46

Soil and Water Features

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderately rapid

Available water capacity: 6.2 to 7.4 inches

Water-supplying capacity: 7 inches

Runoff: Slow

Hydrologic group: B

Erosion factors (upper layer): K value—0.32; T value—5; wind erodibility group—4

Hazard of erosion: By water—slight; by wind—severe

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—moderate

Potential for frost action: Low

Characteristics of the Perlor Soil

Classification: Typic Torriorthents, loamy, mixed (calcareous), mesic, shallow

Positions on landscape: South-facing side slopes of hills

Parent material: Loess cap over residuum derived from tuffaceous sediment

Slope: 8 to 15 percent

Elevation: 5,600 to 6,000 feet

Average annual precipitation: About 8 inches

Average annual air temperature: About 47 degrees F

Frost-free season: About 120 days

Dominant present vegetation: Indian ricegrass, bluegrass, shadscale, bud sagebrush

Typical Profile

Rock fragments on surface: 10 percent pebbles

Depth: 0 to 7 inches

Texture: Fine sandy loam

Structure: Platy

Consistence: Slightly hard, friable

Reaction: Moderately alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 4

Depth: 7 to 14 inches

Texture: Loam, sandy loam, gravelly sandy loam

Structure: Subangular blocky

Consistence: Slightly hard, friable

Reaction: Strongly alkaline

Salinity: 0 to 4 millimhos per centimeter

Sodicity (SAR): 0 to 5

Depth: 14 inches

Kind of material: Weathered bedrock

Soil and Water Features

Depth to bedrock: 10 to 14 inches

Depth to a seasonal high water table: More than 60 inches

Frequency of flooding: None

Permeability: Moderate

Available water capacity: 1.6 to 2.3 inches

Water-supplying capacity: 6 inches

Runoff: Medium

Hydrologic group: D

Erosion factors (upper layer): K value—0.32; T value—1; wind erodibility group—3

Hazard of erosion: By water—slight; by wind—slight

Shrink-swell potential: Low

Corrosivity: To steel—high; to concrete—low

Potential for frost action: Low

Contrasting Inclusions

Inclusion 1

Classification: Xerollic Haplargids, loamy, mixed, mesic, shallow

Positions on landscape: Summits of hills

Distinctive present vegetation: Wyoming big sagebrush, spiny hopsage

Inclusion 2

Classification: Xerollic Camborthids, loamy, mixed, mesic, shallow

Positions on landscape: The lower, south-facing side slopes of hills

Distinctive present vegetation: Wyoming big sagebrush, galleta, Indian ricegrass

Inclusion 3

Classification: Duric Camborthids, coarse-loamy, mixed, mesic

Positions on landscape: The lower parts of inset fans

Distinctive present vegetation: Black greasewood, shadscale, bud sagebrush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Genaw Soil

Wild herbaceous plants (nonirrigated): Fair

Shrubs (nonirrigated): Fair

Broyles Soil

Wild herbaceous plants (nonirrigated): Very poor

Shrubs (nonirrigated): Very poor

Perlor Soil

Wild herbaceous plants (nonirrigated): Poor

Shrubs (nonirrigated): Poor

Suitability and Limitations for Selected Uses

Genaw Soil

Range seeding: Poor—droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock, small stones

Shallow excavations: Severe—depth to rock

Local roads and streets: Moderate—depth to rock, frost action

Pond reservoir areas: Severe—depth to rock

Embankments, dikes, and levees: Severe—thin layer

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Broyles Soil

Range seeding: Poor—too arid, excess salt

Roadfill: Good

Topsoil: Poor—small stones, excess salt

Daily cover for landfill: Fair—too sandy, small stones

Shallow excavations: Severe—cutbanks cave

Local roads and streets: Slight

Pond reservoir areas: Severe—seepage

Embankments, dikes, and levees: Severe—piping, excess salt

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Perlor Soil

Range seeding: Poor—too arid, droughty

Roadfill: Poor—depth to rock

Topsoil: Poor—depth to rock, small stones

Daily cover for landfill: Poor—depth to rock

Shallow excavations: Severe—depth to rock

Local roads and streets: Moderate—depth to rock, slope

Pond reservoir areas: Severe—depth to rock, slope

Embankments, dikes, and levees: Severe—piping

Sand: Improbable source—excess fines

Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Genaw and Perlor soils—VIIIs, nonirrigated; Broyles soil—IIIe, irrigated, and VIIc, nonirrigated

Range site: Genaw soil—024X020N; Broyles and Perlor soils—024X002N; Inclusion 1—024X020N; Inclusion 2—024X045N; Inclusion 3—024X003N

4140—Welch loam, drained, 2 to 8 percent slopes

Positions on landscape: Intermountain drainageways

Composition

Major component:

Welch loam, drained, 2 to 8 percent slopes—90 percent

Contrasting inclusions:

Cumulic Haploxerolls, fine-loamy, mixed, frigid, 2 to 8 percent slopes—6 percent

Welch loam, 2 to 8 percent slopes—4 percent

Characteristics of the Welch Soil

Classification: Cumulic Haplaquolls, fine-loamy, mixed, frigid

Positions on landscape: Inset fans in narrow mountain drainageways

Parent material: Mixed alluvium

Slope: 2 to 8 percent

Elevation: 6,500 to 8,200 feet

Average annual precipitation: About 14 inches

Average annual air temperature: About 42 degrees F

Frost-free season: About 80 days

Dominant present vegetation: Basin wildrye, basin big sagebrush, wheatgrass, bluegrass

Typical Profile

Depth: 0 to 4 inches

Texture: Loam

Structure: Subangular blocky

Consistence: Soft, very friable

Reaction: Neutral

Depth: 4 to 60 inches

Texture: Stratified sandy loam to silty clay loam

Structure: Massive

Consistence: Slightly hard, friable

Reaction: Mildly alkaline

Soil and Water Features

Depth to a seasonal high water table: 48 to 72 inches

Frequency of flooding: Rare

Permeability: Moderately slow

Available water capacity: 9.5 to 12.0 inches
Water-supplying capacity: 14 inches
Runoff: Very slow
Hydrologic group: B
Erosion factors (upper layer): K value—0.32; T value—5;
 wind erodibility group—5
Hazard of erosion: By water—slight; by wind—slight
Shrink-swell potential: Moderate
Corrosivity: To steel—moderate; to concrete—low
Potential for frost action: High

Contrasting Inclusions

Inclusion 1

Classification: Cumulic Haploxerolls, fine-loamy, mixed,
 frigid
Positions on landscape: Concave side slopes adjacent
 to channels
Distinctive present vegetation: Aspen, willow, rose,
 sedge, basin big sagebrush, basin wildrye

Inclusion 2

Classification: Cumulic Haplaquolls, fine-loamy, mixed,
 frigid
Positions on landscape: Adjacent to seeps, springs, and
 unchanneled streambeds
Distinctive present vegetation: Iris, sedge, bluegrass,
 alpine timothy, hairgrass, rush

Major Current Uses

Livestock grazing, wildlife habitat

Suitability for Wildlife Habitat Elements

Wild herbaceous plants (nonirrigated): Fair
Shrubs (nonirrigated): Fair
Wetland plants: Poor
Shallow water areas: Very poor

Suitability and Limitations for Selected Uses

Range seeding: Good
Roadfill: Poor—low strength
Topsoil: Fair—small stones
Daily cover for landfill: Fair—too clayey
Shallow excavations: Moderate—wetness
Local roads and streets: Severe—low strength, frost
 action
Pond reservoir areas: Moderate—slope
Embankments, dikes, and levees: Slight
Sand: Improbable source—excess fines
Gravel: Improbable source—excess fines

Interpretive Groups

Land capability classification: Welch soil—IIIw, irrigated;
 VIw, nonirrigated
Range site: Welch soil—025X003N; Inclusion 1—
 028B025N; Inclusion 2—025X005N

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