

IDAHO WATER RESOURCE BOARD



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SPECIAL SOIL SURVEY-CANYON COUNTY

MAY 1968

REPORT No. 8

Errata Sheet

Canyon County IWRB Report No. 8

Page iii, paragraph 1, line 2, change 370,000 to 370,200.

Page iii, paragraph 1, line 4, change 115,250 to 115,098 and
change 145,817 to 148,594.

Page iii, paragraph 1, line 5, change 81,014 to 80,879.

Page iii, paragraph 1, line 6, change 25,179 to 25,629.

SPECIAL SOIL SURVEY

Showing

An inventory of soils, approximate distribution, acreage and irrigability interpretations.

CANYON COUNTY, IDAHO

J. C. CHUGG¹, C. W. CASE², M. A. FOSBERG³

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This report was prepared by the University of Idaho Agricultural Experiment Station and Soil Conservation Service - USDA, in cooperation with the Idaho Water Resource Board.

MAY, 1968

IWRB REPORT NO. 8

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SPECIAL SOIL SURVEY

Showing

An inventory of soils, approximate classification, access and
irrigation facilities.

CANYON COUNTY, IDAHO

DR. C. CHASE COLEMAN, W. A. ROBERTS

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GENERAL SOIL MAP AND MAP LEGEND inside of back cover

SUMMARY

Canyon County has a total area of 382,700¹ acres of which approximately 12,500 acres is water and 370,000 acres is land area, table 4. Out of the total land area there are about 115,250 acres in irrigable class 1, 145,817 acres in irrigable class 2, 81,014 acres in irrigable class 3. The remaining 25,179 acres in the county are considered to be non-irrigable class 6 under present criteria.

Only soil characteristics were considered in determining the irrigability of soils. Climate and economic factors were not considered, but the soil inventory may be used as a guide to their consideration in later project planning.

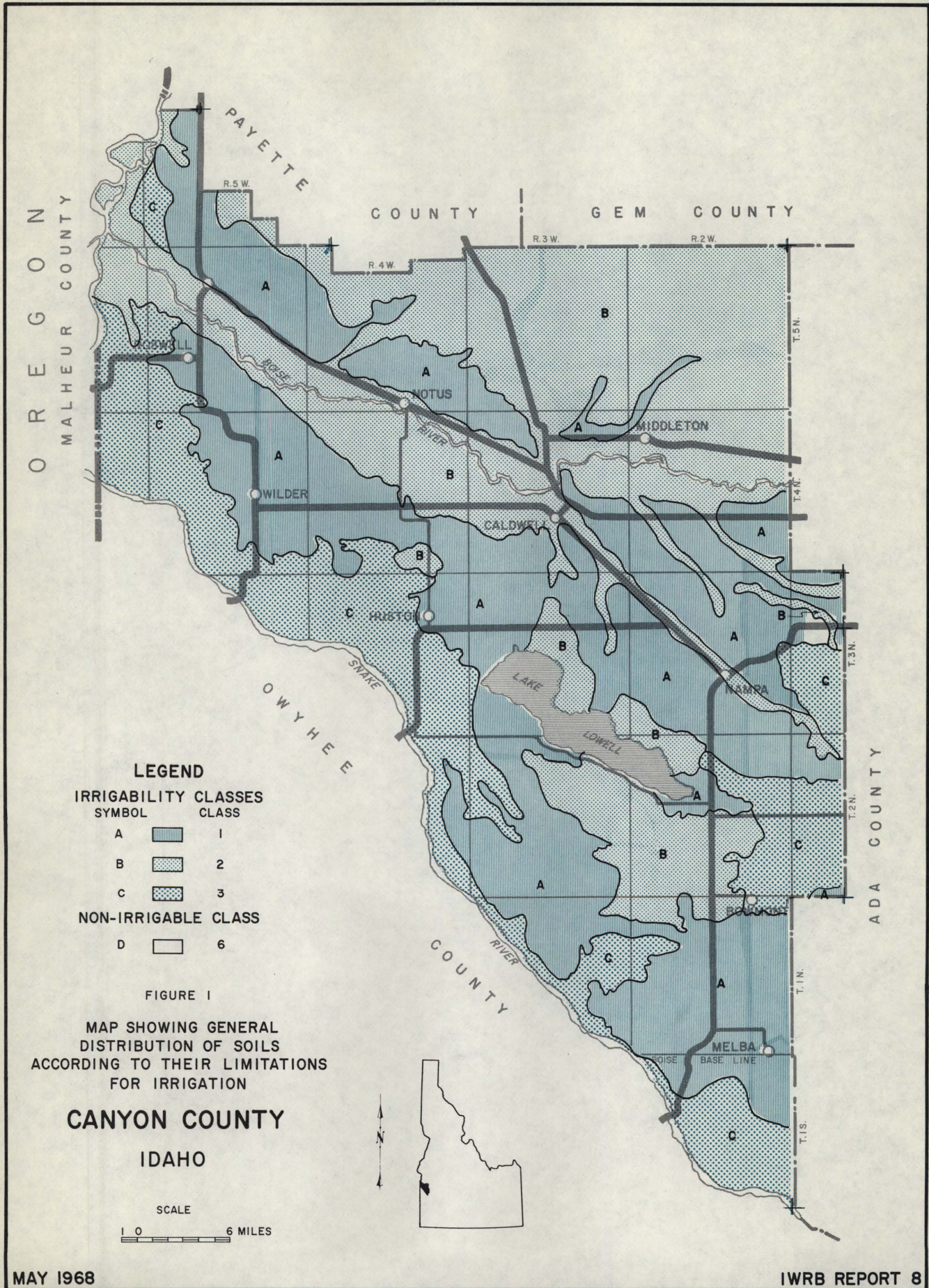
The map showing general distribution of soils according to their potential for irrigation in Canyon County, Idaho (figure 1) includes both the presently irrigated and potentially irrigable soils. This map shows the broad areas of soil suited or not suited for irrigation based on the dominant irrigable class or non-irrigable class in that area. Table 1 shows the percentage distribution of irrigable and non-irrigable classes in each delineation on the map, figure 1.

1/ CNP Comprehensive Study Table 7. -Areas by State and County, Sub-region and CNP Region, 1967.

Table 1. Percentage Distribution of Irrigable and Non-Irrigable Classes in Each Delineation on the Map, Figure 1, Canyon County, Idaho.

| Map Symbol | Irrigable Class | | | Non-Irrigable Class |
|------------|-----------------|-----------|-----------|---------------------|
| | 1 (%) | 2 (%) | 3 (%) | 6 (%) |
| A | <u>58</u> | 35 | 2 | 5 |
| B | 9 | <u>54</u> | 31 | 6 |
| C | 7 | 28 | <u>53</u> | 12 |
| D | 0 | 0 | 0 | 0 |

Climate and economic influence (not here considered) may place more restrictions on these soils for irrigation. This data is only suitable for general planning.



MAP SHOWING GENERAL DISTRIBUTION OF SOILS ACCORDING TO THEIR LIMITATIONS FOR IRRIGATION

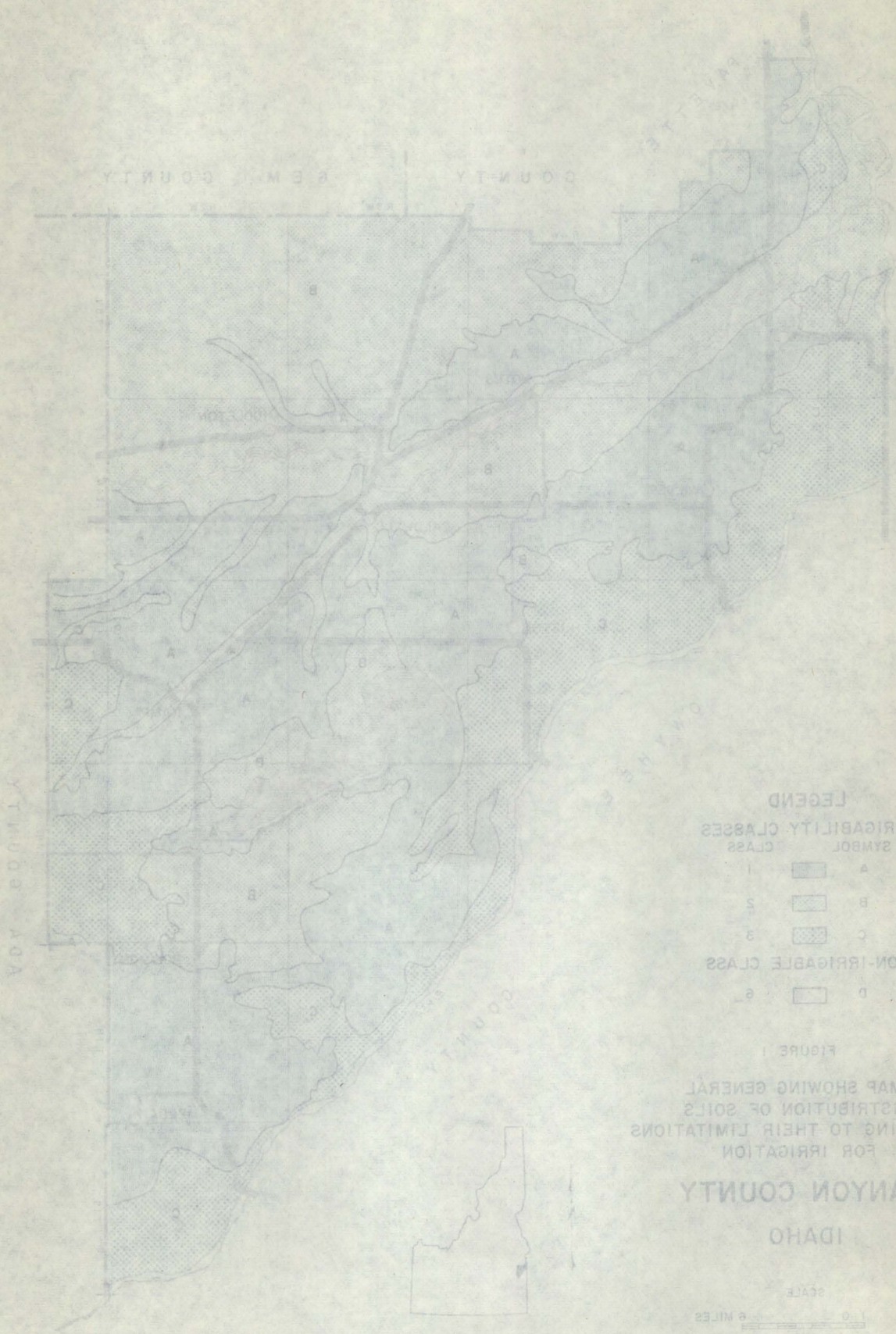
CANYON COUNTY

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FIGURE 1

| IRRIGABILITY CLASS | SYMBOL |
|---------------------|-------------------------------|
| 1 | [Solid black box] |
| 2 | [Horizontal line pattern box] |
| 3 | [Vertical line pattern box] |
| NON-IRRIGABLE CLASS | |
| d | [White box] |
| e | [Dotted pattern box] |



MAY 1988

CANYON COUNTY

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INTRODUCTION

The purpose of the soil survey was (1) to locate and show on a map the boundaries of different kinds of soil called soil mapping units, (2) to describe the soils, and (3) to determine from the soil inventory the approximate total acreage of irrigable soils in Canyon County, regardless of ownership. No attempt was made to determine the acreage of soils presently irrigated during the conduct of the soil survey; however, acreage of presently irrigated soils used in this report was obtained from the Columbia-North Pacific Framework Studies.

This report contains (1) descriptions of the soil mapping units shown on the general soil map, (2) general description of each individual soil within the mapping unit, (3) tables showing acreage and irrigable or non-irrigable class of each major and minor soil by mapping units, (4) table of soil characteristics of the major soils and their limitations by mapping units, (5) table showing the percent of soil according to their limitations for irrigation, (6) general soil maps, (7) maps showing the general location of presently irrigated soils and table of acreage, (8) classification of soils, (9) glossary of terms, and (10) appendices.

The criteria for classifying the potential irrigability of soils were developed and agreed upon by the representatives of the state agencies and the Soil Conservation Service in four states^{1/} in the Columbia River Basin and representatives of the Bureau of Reclamation, USDI.

The information in this report is based on a Special Soil survey of a reconnaissance or soil association intensity completed by soil scientist of the Soil Conservation Service, and the University of Idaho Agricultural Experiment Station under a signed agreement and work plan with the Idaho Water Resource Board. A committee^{2/} composed of representatives of the University of Idaho, Soil Conservation Service and the Idaho Water Resource Board serves as technical advisor for the soil survey and report. The map preparation for the Special Soil Report is supervised by the University of Idaho Engineering Experiment Station^{3/}.

1/ Washington, Oregon, Idaho, Montana, who met in Spokane, Washington, April 21-22, 1966.

2/ Committee members are:
Carl A. Tappen, Consultant, IWRB, Boise, Idaho
M. A. Fosberg, Associate Professor of Soil, University of Idaho, Moscow, Idaho
J. W. Kingsbury, State Soil Scientist, USDA-SCS, Boise, Idaho

3/ J. J. Peebles, Associate Professor of Civil Engineering, University of Idaho, Moscow, Idaho

This type of soil survey is one of a general nature designated to obtain maximum information about soils important to determining irrigability and for broad county planning. It does not take the place of the detailed soil survey necessary for planning individual parcels of land such as a farm or ranch.

GENERAL DESCRIPTION OF COUNTY

Size and Location

Canyon County consists of an area of 382,700 acres or 598 square miles. The county seat is Caldwell, located 25 miles west of Boise, Idaho. The Snake River forms the southern boundary with the Boise River flowing through the northern part. Lake Lowell is the largest body of water in the county.

Geology, Landforms, Climate, and Elevation

The geology of Canyon County can be divided into three broad classes of rocks with minor inclusions. The soils formed on these different kinds of rocks or in eolian or alluvial materials from these and other sources are influenced by the (1) biological activities including those of man, (2) climatic factors, (3) aspect, (4) landform and (5) time in place of the soil materials.

One of the broad geological areas is located in the northeastern, central and western parts of the county. It is dissected by stream alluvium along the Boise River. These lacustrine sediments are of the Payette Formation and related strata. It is the product of deposition of sand, clay and gravel mingled in places with ash showers. Some of the strata formed in ephemeral lakes, but a large part of the material was deposited in alluvial fans and along the course of ephemeral streams. The maximum thickness of the unit is probably much more than 1,000 feet. A thin (less than 3 feet) loess mantle occurs throughout the area. The formation is commonly regarded as Miocene. The landforms are nearly level to gently sloping on the tops of the stream and lake terraces but become steep to very steep along the breaks to the major drainage in the area.

A second broad geological area is located along the Boise and Snake Rivers. This area is an alluvial deposit on a flood plain and low stream terrace positions. Part of these areas are lake terrace deposits. The greater part of the unconsolidated material is of Pleistocene and of Recent age, but some Pliocene materials may be included. The landforms are nearly level to gently undulating and rolling. Sand dunes or sand sheets are common along the Snake River. The soils are formed in mixed materials of sand, silt, clay and gravel. High water tables, saline and saline-alkali conditions are common in the Boise River flood plain or bottoms.

A third broad geological area is located in the southeastern part of the county. This area is part of the Snake River basalts and is grouped with calcic andesite and some rocks of more silicic composition. The thickness of the basalt is unknown but exceeds 700 feet in places. A basalt escarpment

occurs along the Snake River. The age is from Pliocene to Recent. It is covered with a thin (less than 3 feet) to thick (3 to 8 feet) loess sheet. This loess covered lava plain is nearly level to gently sloping in Canyon County.

Summers are warm and dry. The majority of the precipitation falls during the late fall and winter months. The mean annual precipitation is about 10 to 12 inches. The mean annual air temperature is about 51°F. The frost free period is estimated to be 135 to 140 days. Elevations range from 2,000 to 3,000 feet.

Present Land Use

Canyon County is one of the principal irrigated cropland areas in Idaho. The major crops grown are alfalfa, sugar beets, irrigated pasture, small grains, potatoes, dry beans, vegetable crops, orchards and hops. The irrigable soils in the county are well adapted for the crops grown.

The areas not irrigated are sagebrush grasslands. These are low producing forage areas and have limited grazing in the spring and fall.

GENERAL GROUPINGS OF SOIL MAPPING UNITS

The soil mapping units delineated on the general soil map have been grouped together according to similar dominant characteristics. The legend for the general soil map reflects the broadest grouping of soil mapping units in Canyon, County, Idaho.

The soil characteristics in this county that have the broadest degree of similarity among all the soils in the soil mapping units are surface color, surface texture, degree of leaching, clay accumulation and lime accumulation. The general groups of soil mapping units, in the legend for the general soil map, are based on these broad soil characteristics.

The soils in each soil mapping unit have dominant soil characteristics in addition to those fore-mentioned. Among these characteristics are depth, drainage, salt accumulation, slope, parent material and landform. The soil mapping units in this report are the narrowest convenient grouping of soils with similar or contrasting characteristic. The smallest delineation on the general soil map is influenced by the scale of the base map used.

The following is a general discussion by soil areas of the dominant soil characteristics of the dominant soils, general geology and landforms in each broad grouping of soil mapping units, general climatic conditions and elevation as

they appear in the legend for the general soil map. It is not intended to associate specific soil characteristics with specific soil.

The areas dominated by soils with thin dark-colored medium-textured surface soils and calcareous and noncalcareous loamy and clayey subsoils are included in Soil Mapping Units of A, C and I. These moderately deep and deep soils have combinations of fine-silty subsoils with weak clay and lime accumulations above a lime-silica hardpan; fine-silty subsoils with weak clay accumulations and a strong lime zone; fine-loamy subsoils with moderate clay accumulations and noncalcareous; fine, montmorillonitic subsoils with strong clay and lime accumulations in the 10 to 40 inch layer. These soils are developing in well-drained thin loess covered lacustrine sediments on nearly level to steep lake and mixed alluvium on stream terraces. The mean annual soil temperature is more than 47°F. Elevations range from 2,300 to 3,000 feet.

The areas dominated by soils with dark, light and thin dark-colored medium and moderately coarse-textured surface soils and noncalcareous and calcareous loamy subsoils are included in Soil Mapping Units of B. These deep and moderately deep soils have combinations of coarse-loamy over sandy or sandy-skeletal subsoils that are noncalcareous; fine-loamy subsoils that are weakly calcareous; and coarse-silty subsoils that have a very weak clay accumulation over a strong lime zone in the 10 to 40 inch zone. These soils are developing in somewhat poorly drained and poorly drained, mixed alluvium on nearly level to very gently sloping stream bottoms and stream terraces. The mean annual soil temperature is more than 47°F. Elevations range from 2,200 to 2,400 feet.

The areas dominated by soils with thin dark-colored medium-textured surface soils and calcareous loamy subsoils are included in Soil Mapping Units of D. These deep soils have combinations of fine-silty subsoils with weak clay accumulations over a strong lime zone in the 10 to 40 inch layer. These soils are developing in well-drained thin loess covered lacustrine sediments on nearly level to sloping lake terraces. The mean annual soil temperature is more than 47°F. Elevations range from 2,200 to 3,000 feet.

The areas dominated by soils with light-colored moderately coarse and coarse-textured surface soils and calcareous and noncalcareous loamy and sandy subsoils are included in Soil Mapping Units of E. These deep and moderately deep soils have combinations of coarse-loamy subsoils without clay accumulations and a weak lime zone; coarse-loamy subsoils with a weak lime zone over a sandy or sandy-skeletal in the 10 to 40 inch layer. Other soils have sandy subsoils that are noncalcareous. These soils are developing in well-drained and somewhat excessively drained mixed alluvium on nearly level to very gently sloping

alluvial fans and stream terraces. The mean annual soil temperature is more than 47°F. Elevations range from 2,000 to 2,500 feet.

The areas dominated by soils with thin dark-colored medium and rocky medium-textured surface soils and calcareous loamy subsoils are included in Soil Mapping Unit F. These deep and shallow soils have combinations of coarse-silty subsoils with a strong lime zone above a weakly developing thin lime-silica hardpan in the 10 to 40 inch layer. Other soils have loamy subsoils with a weak lime zone above bedrock at 10 to 20 inches. These soils are developing in well-drained thin loess covered lacustrine sediments on lake terraces and on lava plains. These soils are nearly level to sloping. The mean annual soil temperature is more than 47°F. Elevations range from 2,500 to 2,800 feet.

The area dominated by soils with thin dark and light-colored medium-textured surface soils and calcareous loamy subsoils are included in Soil Mapping Units of G and H. These shallow, moderately deep and deep soils have combinations of coarse-silty subsoils with a strong lime zone over a lime-silica hardpan; fine-silty subsoils with weak clay accumulations and a weak lime zone over a lime-silica hardpan; fine-silty subsoils with weak clay and strong lime zones and coarse-loamy subsoils over sandy or sandy skeletal materials that are weakly calcareous in the 10 to 40 inch layer. These soils are developing in well-drained thin loess covered lacustrine sediments on lake terraces, lava plains and in mixed alluvium on alluvial fans. The slopes are nearly level to sloping. The mean annual soil temperature is more than 47°F. Elevations range from 2,500 to 2,750 feet.

The areas dominated by soils with thin-dark and light-colored medium and moderately coarse-textured surface soils and calcareous and noncalcareous loamy subsoils are included in Soil Mapping Unit J. These moderately deep and deep soils have combinations of coarse-loamy subsoils with a weak lime zone; fine-silty subsoils with weak lime and clay accumulations only in the 10 to 40 inch layer. These soils are developing in well-drained thin loess covered lacustrine sediments on nearly level to very steep lake terraces and terrace escarpments. The mean annual soil temperature is more than 47°F. Elevations range from 2,400 to 2,800 feet.

Table 2. Soil Characteristics of the Major Soils, Their Limitations and Irrigable and Non-Irrigable Class by Soil Mapping Units in Canyon County, Idaho.

| Soil Mapping Unit Symbol | Major Soils | Surface Texture and Modifiers | Subsoil Texture and Modifiers | Depth (inches) | Restrictive layers (Kind and depth) | Underlying material (40-96") | Slope (%) | AWHC ^{1/} to 48" | Soil Limitations | Irrigable and Non-Irrigable Class |
|--------------------------|-------------|-------------------------------|-------------------------------|----------------|-------------------------------------|--|-----------|---------------------------|------------------------|-----------------------------------|
| A1, A2 A3 | 239a | silt loam | silty clay loam | 20-40 | indurated silica-lime hardpan 20-40 | stratified loam over sand & gravel or basalt bedrock | 0-4 | 4.5-6 | AWHC depth | 2 |
| | 476 | sandy loam | sandy clay loam | 40+ | sand 40+ | stratified sand silt loam & gravel | 0-12 | 6+ | Texture AWHC | 2 |
| | 145 | silt loam | silt loam | 20-40 | indurated silica-lime hardpan 20-40 | stratified sand & gravel | 0-12 | 4.5-6 | AWHC depth | 2 |
| ----- | | | | | | | | | | |
| D1, B2 | 583a | fine sandy loam | fine sandy loam | 20-40 | sand & gravel 20-40 | stratified sand & gravel | 0-4 | 4.5-6 | AWHC | 2 |
| | 040 | loam | loam | 40+ | none | stratified loose sand & gravel | 0-4 | 6+ | water table | 2 |
| | 083 | silt loam | silt loam to loam | 40+ | none | stratified loam, sand & gravel | 0-4 | 6+ | strongly saline alkali | 3 |

^{1/} Available water holding capacity.

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Table 2. (continued)

| Soil Mapping Unit Symbol | Major Soils | Surface Texture and Modifiers | Subsoil Texture and Modifiers | Depth (inches) | Restrictive layers (Kind and depth) | Underlying material (40-96") | Slope (%) | AWHC ^{1/} to 48" | Soil Limitations | Irrigable and Non-Irrigable Class |
|--------------------------|-------------|-------------------------------|-------------------------------|----------------|-------------------------------------|---------------------------------------|-----------|---------------------------|------------------|-----------------------------------|
| C1, C2 C3, C4 C5 | 685a | silt loam | silt loam | 40+ | none | stratified sand & gravel | 0-4 | 6+ | none | 1 |
| | 691a | silt loam | silt loam | 20-40 | indurated silica-lime hardpan 20-40 | stratified sand & gravel | 0-4 | 4.5-6 | depth AWHC | 2 |
| ----- | | | | | | | | | | |
| D1, D2 D3, D4 D5 | 311a | silt loam | silty clay loam | 40+ | none | stratified silt loam silty clay loam | 0-4 | 6+ | none | 1 |
| | 621a | silt loam | silt loam | 40+ | none | stratified loam, silt loam and gravel | 0-4 | 6+ | none | 1 |
| | 621a | silt loam | silt loam | 40+ | none | stratified loam and silt loam | 4-12 | 6+ | slope | 2 |

Table 2. (continued)

| Soil Mapping Unit Symbol | Major Soils | Surface Texture and Modifiers | Subsoil Texture and Modifiers | Depth (inches) | Restrictive layers (Kind and depth) | Underlying material (40-96") | Slope (%) | AWHC ^{1/} to 48" | Soils Limitations | Irrigable and Non-Irrigable Class |
|--------------------------|-------------|-------------------------------|-------------------------------|----------------|-------------------------------------|--|-----------|---------------------------|-------------------|-----------------------------------|
| E1, E2 E3 | 890a | fine sandy loam | fine sandy loam | 40+ | sand & gravel below 40+ | stratified lacustrine or alluvial deposit loam sand & gravel | 0-4 | 4.5-6 | AWHC | 2 |
| | 257a | loamy fine sand | loamy fine sand | 40+ | none | stratified wind modified loam to sand & gravel | 0-4 | 3-4.5 | AWHC texture | 3 |
| | 134 | fine sandy loam | fine sandy loam | 20-40 | none | sand & gravel | 0-4 | 3-4.5 | AWHC texture | 3 |
| ----- | | | | | | | | | | |
| F | 771a | silt loam | silt loam | 40+ | none | stratified silt loam fine sandy loam & gravel | 0-4 | 6+ | none | 1 |
| | 771b | silt loam | silt loam | 40+ | none | stratified silt loam fine sandy loam & gravel | 4-12 | 6+ | slope | 2 |
| | 883b | silt loam | silt loam | 10-20 | bedrock 10-20 | bedrock | 0-20 | 3 | rockiness | 6 |

Table 2. (continued)

| Soil Mapping Unit Symbol | Major Soils | Surface Texture and Modifiers | Subsoil Texture and Modifiers | Depth (inches) | Restrictive layers (Kind and depth) | Underlying material (40-96") | Slope (%) | AWHC ^{1/} to 48" | Soil Limitations | Irrigable and Non-Irrigable Class |
|--------------------------|-------------|-------------------------------|-------------------------------|----------------|-------------------------------------|---|-----------|---------------------------|-------------------------|-----------------------------------|
| G1, G2 G3, G4 | 564a | silt loam | silt loam | 20-40 | indurated hardpan 20-40 | stratified sand & gravel basalt bedrock | 0-4 | 4.5-6 | AWHC depth | 2 |
| | 529a | loam | loam | 10-20 | none | gravel | 0-4 | 3-4.5 | AWHC depth | 3 |
| | 239 | silt loam | silty clay loam | 20-40 | indurated hardpan 20-40 | stratified loam; sand or gravel | 0-12 | 4.5-6 | AWHC permeability slope | 2 |
| ----- | | | | | | | | | | |
| H1, H2 | 694 | silt loam | heavy silt loam | 20-40 | basalt bedrock 20-40 | basalt bedrock | 0-4 | 3-4.5 | AWHC depth | 3 |
| | 685a | silt loam or loam | silt loam | 40+ | none | stratified sand & gravel | 0-4 | 6+ | none | 1 |
| | 239a | silt loam | silty clay loam | 20-40 | indurated hardpan 20-40" | stratified sand & gravel | 0-4 | 4.5-6 | AWHC depth | 2 |
| ----- | | | | | | | | | | |
| I | 477a | loam | clay loam to clay | 40+ | sand 40+ | sand and gravel | 4-12 | 6+ | slope | 2 |

Table 2. (continued)

| Soil Mapping Unit Symbol | Major Soils | Surface Texture and Modifiers | Subsoil Texture and Modifiers | Depth (inches) | Restrictive layers (Kind and depth) | Underlying material (40-96") | Slope (%) | AWHC to 48" | Soil Limitations | Irrigable and Non-Irrigable Class |
|--------------------------|-------------|-------------------------------|-------------------------------|----------------|-------------------------------------|------------------------------|-----------|-------------|------------------|-----------------------------------|
| I-cont. | 477b | loam | clay loam to clay | 40+ | sand | sand and gravel | 12-20 | 6+ | slope | 3 |
| | 145 | silt loam | silty clay to clay | 20-40 | indurated silica-lime hardpan 20-40 | stratified sand and gravel | 4-12 | 4.5-6 | AWHC slope depth | 2 |
| ----- | | | | | | | | | | |
| J | 239b | silt loam | silt clay loam | 20-40 | indurated hardpan 20-40 | coarse sand | 0-12 | 4.5-6 | AWHC depth slope | 2 |
| | 476 | sandy loam | sandy clay loam | 40+ | none | coarse sand | 12-20 | 6+ | slope | 3 |
| | 507 | coarse sandy loam | coarse sandy loam | 20-40 | none | loam coarse sand | 20+ | 3-4.5 | slope | 6 |

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Table 3. - Total Acreage of Each Major and Minor Soil and Hydrologic Group in Canyon County, Idaho.

| Major & Minor Soils | Hydrologic Group | Total Acres | Major & Minor Soils | Hydrologic Group | Total Acres |
|---------------------|------------------|-------------|---------------------|------------------|-------------|
| 037 | B | 17,571 | 507 | B | 200 |
| 040 | B | 18,467 | 529 | B | 7,124 |
| 083 | D* | 11,625 | 564 | C | 10,095 |
| 134 | A* | 15,789 | 583 | B | 17,438 |
| 145 | D | 8,007 | 616 | A | 5,713 |
| 174 | A* | 1,173 | 621 | B | 23,212 |
| 216 | B | 3,936 | 632 | B | 1,548 |
| 239 | C | 9,998 | 685 | B | 49,395 |
| 254 | B | 2,906 | 691 | C | 30,907 |
| 257 | A | 14,627 | 694 | B* | 2,660 |
| 281 | B | 1,543 | 771 | B | 27,155 |
| 311 | B | 23,213 | 776 | D | 1,754 |
| 395 | B | 4,264 | 883 | D | 10,599 |
| 458 | B | 421 | 890 | B | 17,551 |
| 476 | C* | 10,430 | 909 | D | 5,852 |
| 477 | C | 3,579 | 914 | C | 5,143 |
| 494 | D | 4,650 | 939 | A* | 1,755 |
| Total Land Area | | | | | 370,200 |

*Estimated

USDA-SCS Idaho Hydrologic Soil Groupings, March 8, 1961.
Rev. November 1967, Boise, Idaho. Unpublished.

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Table 4- Acreage and Irrigability Class of Major and Minor Soils by Soil Mapping Unit in Canyon County, Idaho.

| Soil Mapping Unit Symbol | Major and Minor Soils | Percent of Mapping Unit | Soil Irrigability Class | Acreage | Totals |
|--------------------------|-----------------------|-------------------------|-------------------------|--------------|---------------|
| A1 | 239a | 30 | 2 | 5,481 | 18,270 |
| | 476b | 25 | 2 | 4,568 | |
| | 145 | 15 | 2 | 2,740 | |
| | 914 | 10 | 2 | 1,827 | |
| | 685a | 10 | 1 | 1,827 | |
| | 395 | 10 | 1 | <u>1,827</u> | |
| A2 | 239a | 30 | 2 | 5,328 | 17,760 |
| | 476a | 25 | 2 | 4,440 | |
| | 145 | 15 | 2 | 2,664 | |
| | 914 | 10 | 2 | 1,776 | |
| | 685a | 10 | 1 | 1,776 | |
| | 395 | 10 | 1 | <u>1,776</u> | |
| A3 | 239a | 30 | 2 | 1,626 | 5,420 |
| | 476b | 25 | 2 | 1,355 | |
| | 145 | 15 | 2 | 813 | |
| | 914 | 10 | 2 | 542 | |
| | 685a | 10 | 1 | 542 | |
| | 395 | 10 | 1 | <u>542</u> | |
| | | | | | <u>5,420</u> |
| | | | | | <u>41,450</u> |

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Table 4 - Continued.

| Soil Mapping Unit Symbol | Major and Minor Soils | Percent of Mapping Unit | Soil Irrigability Class | Acreage | Totals |
|--------------------------|-----------------------|-------------------------|-------------------------|-----------|---------------|
| B1 | 583a | 30 | 2 | 17,174 | 57,245 |
| | 040 | 25 | 2 | 14,311 | |
| | 083 | 20 | 3 | 11,449 | |
| | 616 | 10 | 6 | 5,725 | |
| | 254 | 5 | 2 | 2,862 | |
| | V3 134 | 2 | 6 | 1,145 | |
| 494 | 8 | 3 | <u>4,579</u> | | |
| B2 | 583a | 30 | 2 | 264 | 880 |
| | 040 | 25 | 2 | 220 | |
| | 083 | 20 | 3 | 176 | |
| | 616 | 10 | 6 | 88 | |
| | V3 254 | 5 | 2 | 44 | |
| | 134 | 2 | 6 | 17 | |
| 494 | 8 | 3 | <u>71</u> | | |
| | | | | | <u>880</u> |
| | | | | | <u>58,125</u> |
| ----- | | | | | |
| C1 | 685a | 50 | 1 | 920 | 1,840 |
| | 691a | 35 | 2 | 644 | |
| | 216 | 5 | 2 | 92 | |
| | 040 | 5 | 2 | 92 | |
| | 776 | 2 | 3 | 37 | |
| | 239 | 3 | 3 | <u>55</u> | |

Table 4 - Continued.

IMRD 525011 40' 8

| Soil Mapping Unit Symbol | Major and Minor Soils | Percent of Mapping Unit | Soil Irrigability Class | Acreage | Totals |
|--------------------------|-----------------------|-------------------------|-------------------------|--------------|--------------|
| C2 | 685a | 50 | 1 | 1,840 | 3,680 |
| | 691a | 35 | 2 | 1,288 | |
| | 216 | 5 | 2 | 184 | |
| | 040 | 5 | 2 | 184 | |
| | 776 | 2 | 3 | 74 | |
| | 239 | 3 | 3 | <u>110</u> | |
| C3 | 685a | 50 | 1 | 9,240 | 18,480 |
| | 691a | 35 | 2 | 6,468 | |
| | 216 | 5 | 2 | 924 | |
| | 040 | 5 | 2 | 924 | |
| | 776 | 2 | 3 | 370 | |
| | 239 | 3 | 3 | <u>554</u> | |
| C4 | 685a | 50 | 1 | 26,283 | 52,565 |
| | 691a | 35 | 2 | 18,398 | |
| | 216 | 5 | 2 | 2,628 | |
| | 040 | 5 | 2 | 2,628 | |
| | 776 | 2 | 3 | 1,051 | |
| | 239 | 3 | 3 | <u>1,577</u> | |
| C5 | 685a | 50 | 1 | 1,080 | 2,160 |
| | 691a | 35 | 2 | 756 | |
| | 216 | 5 | 2 | 108 | |
| | 040 | 5 | 2 | 108 | |
| | 776 | 2 | 3 | 43 | |
| | 239 | 3 | 3 | <u>65</u> | |
| | | | | | <u>2,160</u> |
| | | | | | 78,725 |

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Table 4 - Continued.

| Soil Mapping Unit Symbol | Major and Minor Soils | Percent of Mapping Unit | Soil Irrigability Class | Acreage | Totals |
|--------------------------|-----------------------|-------------------------|-------------------------|---------|--------|
| D1 | 311a | 45 | 1 | 6,840 | 15,200 |
| | 621a | 25 | 1 | 3,800 | |
| | 621b | 20 | 2 | 3,040 | |
| | 632 | 3 | 1 | 456 | |
| | 564 | 2 | 2 | 304 | |
| | 281 | 3 | 1 | 456 | |
| | 691 | 2 | 2 | 304 | |
| D2 | 311a | 45 | 1 | 3,528 | 7,840 |
| | 621a | 25 | 1 | 1,960 | |
| | 621b | 20 | 2 | 1,568 | |
| | 632 | 3 | 1 | 235 | |
| | 564 | 2 | 2 | 157 | |
| | 281 | 3 | 1 | 235 | |
| | 691 | 2 | 2 | 157 | |
| D3 | 311a | 45 | 1 | 9,713 | 21,585 |
| | 621a | 25 | 1 | 5,396 | |
| | 621b | 20 | 2 | 4,316 | |
| | 632 | 3 | 1 | 648 | |
| | 564 | 2 | 2 | 432 | |
| | 281 | 3 | 1 | 648 | |
| | 691 | 2 | 2 | 432 | |

Table 4 - Continued.

| Soil Mapping Unit Symbol | Major and Minor Soils | Percent of Mapping Unit | Soil Irrigability Class | Acreage | Totals |
|--------------------------|-----------------------|-------------------------|-------------------------|---------|--------------|
| D4 | 311a | 45 | 1 | 1,044 | 2,320 |
| | 621a | 25 | 1 | 580 | |
| | 621b | 20 | 2 | 464 | |
| | 632 | 3 | 1 | 70 | |
| | 564 | 2 | 2 | 46 | |
| | 281 | 3 | 1 | 70 | |
| | 691 | 2 | 2 | 46 | |
| D5 | 311a | 45 | 1 | 2,088 | 4,640 |
| | 621a | 25 | 1 | 1,160 | |
| | 621b | 20 | 2 | 928 | |
| | 632 | 3 | 1 | 139 | |
| | 564 | 2 | 2 | 93 | |
| | 281 | 3 | 1 | 139 | |
| | 691 | 2 | 2 | 93 | |
| | | | | | <u>4,640</u> |
| | | | | | 51,585 |
| E1 | 890a | 30 | 2 | 503 | 1,680 |
| | 257 | 25 | 3 | 420 | |
| | 134 | 25 | 3 | 420 | |
| | 909 | 10 | 6 | 168 | |
| | 174 | 2 | 2 | 36 | |
| | 529 | 5 | 3 | 83 | |
| | 939 | 3 | 6 | 50 | |
| | | | | | <u>1,680</u> |

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Table 4 - Continued.

| Soil Mapping Unit Symbol | Major and Minor Soils | Percent of Mapping Unit | Soil Irrigability Class | Acreage | Totals |
|--------------------------|-----------------------|-------------------------|-------------------------|--------------|------------|
| E2 | 890a | 30 | 2 | 16,796 | 55,990 |
| | 257 | 25 | 3 | 13,997 | |
| | 134 | 25 | 3 | 13,997 | |
| | 909 | 10 | 6 | 5,600 | |
| | 174 | 2 | 2 | 1,120 | |
| | 529 | 5 | 3 | 2,800 | |
| | 939 | 3 | 6 | <u>1,680</u> | |
| E3 | 890a | 30 | 2 | 252 | 840 |
| | 257 | 25 | 3 | 210 | |
| | 134 | 25 | 3 | 210 | |
| | 909 | 10 | 6 | 84 | |
| | 174 | 2 | 2 | 17 | |
| | 529 | 5 | 3 | 42 | |
| | 939 | 3 | 6 | <u>25</u> | |
| | | | | | <u>840</u> |
| | | | | | 58,510 |
| F | 771a | 40 | 1 | 16,438 | 41,095 |
| | 771b | 20 | 2 | 8,219 | |
| | 883b | 20 | 6 | 8,219 | |
| | 037a | 7 | 1 | 2,877 | |
| | 037b | 5 | 2 | 2,055 | |
| | 685 | 3 | 1 | 1,232 | |
| | 691 | 5 | 2 | <u>2,055</u> | |

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Table 4 - Continued.

| Soil Mapping Unit Symbol | Major and Minor Soils | Percent of Mapping Unit | Soil Irrigability Class | Acreage | Totals |
|--------------------------|-----------------------|-------------------------|-------------------------|---------|--------|
| G1 | 564a | 40 | 2 | 336 | 840 |
| | 239 | 20 | 3 | 168 | |
| | 529a | 20 | 3 | 168 | |
| | 771a | 10 | 1 | 84 | |
| | 883 | 5 | 6 | 42 | |
| | 914 | 3 | 3 | 25 | |
| | 458 | 2 | 1 | 17 | |
| G2 | 564a | 40 | 2 | 1,472 | 3,680 |
| | 239 | 20 | 3 | 737 | |
| | 529a | 20 | 1 | 736 | |
| | 771a | 10 | 1 | 368 | |
| | 883 | 5 | 6 | 184 | |
| | 914 | 3 | 3 | 110 | |
| | 458 | 2 | 1 | 74 | |
| G3 | 564a | 40 | 2 | 1,216 | 3,040 |
| | 239 | 20 | 3 | 608 | |
| | 529a | 20 | 3 | 608 | |
| | 771a | 10 | 1 | 304 | |
| | 883 | 5 | 6 | 152 | |
| | 914 | 3 | 3 | 91 | |
| | 458 | 2 | 1 | 61 | |

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Table 4 - Continued.

| Soil Mapping Unit Symbol | Major and Minor Soils | Percent of Mapping Unit | Soil Irrigability Class | Acreage | Totals |
|--------------------------|-----------------------|-------------------------|-------------------------|---------|---------------|
| G4 | 564a | 40 | 2 | 5,374 | 13,435 |
| | 239 | 20 | 3 | 2,687 | |
| | 529a | 20 | 3 | 2,687 | |
| | 771a | 10 | 1 | 1,343 | |
| | 883 | 5 | 6 | 672 | |
| | 914 | 3 | 3 | 403 | |
| | 458 | 2 | 1 | 269 | |
| | | | | | <u>13,435</u> |
| ----- | | | | | 20,995 |
| H1 | 685a | 35 | 1 | 1,232 | 3,520 |
| | 239a | 25 | 3 | 880 | |
| | 694 | 20 | 3 | 704 | |
| | 883 | 10 | 6 | 352 | |
| | 564 | 5 | 2 | 176 | |
| | 771a | 3 | 1 | 106 | |
| | 691 | 2 | 2 | 70 | |
| | | | | | <u>3,520</u> |
| H2 | 685a | 35 | 1 | 3,423 | 9,780 |
| | 239a | 25 | 3 | 2,445 | |
| | 694 | 20 | 3 | 1,956 | |
| | 883 | 10 | 6 | 978 | |
| | 564 | 5 | 2 | 489 | |
| | 771a | 3 | 1 | 293 | |
| | 691 | 2 | 2 | 196 | |
| | | | | | <u>9,780</u> |
| ----- | | | | | 13,300 |

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Table 4- Continued.

| Soil Mapping Unit Symbol | Major and Minor Soils | Percent of Mapping Unit | Soil Irrigability Class | Acreage | Totals |
|--------------------------|-----------------------|-------------------------|-------------------------|------------------|---------------|
| I | 477a | 25 | 2 | 2,088 | 5,965 |
| | 477b | 25 | 3 | 1,491 | |
| | 145 | 30 | 2 | 1,790 | |
| | 914 | 5 | 2 | 298 | |
| | 776 | 3 | 3 | 179 | |
| | 395 | 2 | 1 | <u>119</u> | |
| <hr/> | | | | | |
| J | 239b | 15 | 2 | 67 | 450 |
| | 239c | 10 | 3 | 45 | |
| | 476 | 15 | 3 | 67 | |
| | 507 | 45 | 6 | 200 | |
| | 914d | 10 | 2 | 45 | |
| | 914e | 5 | 3 | <u>26</u> | |
| <hr/> | | | | | |
| | | | | Total Land Area | 370,200 |
| | | | | Total Water Area | <u>12,500</u> |
| | | | | Total Area | 382,700 |

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UNSP. TROOP NO. 8

NOV. 1961

005, ONE Bath Bowl 11961
006, 51 Bath Towel 11961
007, 54 Bath Towel 11961
008, 54 Bath Towel 11961

| QTY | DESCRIPTION | UNIT PRICE | TOTAL PRICE | DATE |
|--------------|-------------|------------|---------------|---------|
| 1 | Bath Bowl | 11.96 | 11.96 | 11/1/61 |
| 51 | Bath Towel | 2.35 | 119.75 | 11/1/61 |
| 54 | Bath Towel | 2.35 | 126.90 | 11/1/61 |
| 54 | Bath Towel | 2.35 | 126.90 | 11/1/61 |
| TOTAL | | | 385.51 | |

| QTY | DESCRIPTION | UNIT PRICE | TOTAL PRICE | DATE |
|--------------|-------------|------------|---------------|---------|
| 1 | Bath Bowl | 11.96 | 11.96 | 11/1/61 |
| 51 | Bath Towel | 2.35 | 119.75 | 11/1/61 |
| 54 | Bath Towel | 2.35 | 126.90 | 11/1/61 |
| 54 | Bath Towel | 2.35 | 126.90 | 11/1/61 |
| TOTAL | | | 385.51 | |

UNSP. TROOP NO. 8

NOV. 1961

005, ONE Bath Bowl 11961
006, 51 Bath Towel 11961
007, 54 Bath Towel 11961
008, 54 Bath Towel 11961

UNSP. TROOP NO. 8

NOV. 1961

005, ONE Bath Bowl 11961
006, 51 Bath Towel 11961
007, 54 Bath Towel 11961
008, 54 Bath Towel 11961

CLASSIFICATION OF SOILS

The classification of soils recognized in Canyon County is based on the best information available at the time of the soil survey. Soil names and their classification are subject to change as more detailed information is obtained about each soil, Appendix IV.

MAPPING UNIT AND SOIL DESCRIPTIONS

The separations of the general soil map are identified by letters or by a combination of letters and numbers such as A, B1, B2, C1, etc. These symbols represent soil mapping units consisting of a group of identified soils. These maps are of little value unless the soils they represent are described. The following soil mapping units and soil descriptions will discuss the soil characteristics important for interpretation of the individual soil for irrigation. Interpretations for other broad planning may be made from these soil characteristics. Examples of these interpretations are those made for county resource development, such as, areas best suited for agricultural, urban, industrial, recreation, wildlife, range and forest management, etc.

SOIL MAPPING UNITS OF A

A1, A2, 239a-476b-145 Mapping Unit: Deep, well drained soils
A3 on nearly level to sloping loess covered lacustrine sediments on lake and stream terraces and mixed alluvium on alluvial terraces.

This mapping unit occurs on old, highly dissected lake and stream terraces, and alluvial fans. The parent material is a thin loess cover over lacustrine sediments. The soils occur on a series of long narrow ridges with narrow stream bottoms between the ridges. It is located in 3 areas designated A1, A2, and A3 in the north and northeast part of Canyon County. The elevations range from 2,300 to 2,650 feet.

Two of these soils are moderately deep (20 to 40 inches) to a cemented hardpan and occupy nearly level to very gently sloping (0 to 4 percent) lake and stream terraces. The other soil is deep (over 40 inches) and is nearly level to gently sloping (0 to 4 percent), but includes some areas that are gently sloping to sloping (4 to 12 percent). All the soils are well drained. Slick spots (3 to 10 percent) prevail throughout the mapping unit.

The major soils are 239a, 476b and 145. Minor soils are 914, 685 and 395.

Major Soils

Soil 239a

This soil is moderately deep (20 to 40 inches) over a cemented hardpan. It is well-drained. The surface layer (0 to 9 inches) is usually silt loam but includes silty clay loam. The upper subsoil (9 to 20 inches) is silty clay loam. The lower subsoil (20 to 40 inches) is strongly calcareous, and has strongly cemented lime-silica hardpan. The substratum (40 to 96 inches) is stratified or basalt bedrock. It usually occurs on nearly level to gently sloping (0 to 4 percent) dissected lake and stream terraces. Permeability is moderately slow (0.20 to 0.80 inches per hour). Available water-holding capacity to 30 inches is moderate (4.5 to 6 inches).

Soil 239a occupies 30 percent of Soil Mapping Units A1, A2 and A3.

The severe limitation of this soil is a combination of moderate available water-holding capacity as reflected by depth to an impermeable indurated hardpan; therefore, it is placed in irrigable class 2.

Soil 476b

This soil is deep (over 40 inches) and well-drained. The surface layer (0 to 14 inches) is sandy loam or loam. The subsoil (14 to 50 inches) is sandy clay loam to clay loam. The substratum (50 to 96 inches) is sand and gravel. It occurs on gently sloping to sloping (4 to 12 percent) alluvial fans and old dissected lake and stream terraces, but includes small areas that are barely level to gently sloping (0 to 4 percent). Permeability is moderately slow (0.20 to 0.80 inches per hour). Available water-holding capacity from the surface to 48 inches is high (over 6 inches).

Soil 476b occupies 25 percent of Soil Mapping Units A1, A2 and A3.

The moderate limitation of this soil is gently sloping to sloping landforms; therefore, it is placed in irrigable class 2.

Soil 145

This soil is moderately deep (20 to 40 inches) over an indurated lime-silica hardpan. It is well-drained. This soil occupies the nearly level to undulating (0 to 12 percent) broad ridge-tops on the old lake and stream terraces. The surface layer (0 to 8 inches) is a silt loam. The upper subsoil (8 to

17 inches) layer is silty clay. The upper middle layer (17 to 24 inches) is clay. The lower middle substratum layer (24 to 30 inches) is calcareous silt loam. The lower subsoil (30 to 40 inches) is a lime-silica hardpan. The substratum (40 to 96 inches) is stratified sand and gravel. Very small nearly barren slick spots are intermixed throughout this soil. Permeability is slow (0.05 to 0.20 inches per hour). Available water-holding capacity to 30 inches is moderate (4.5 to 6 inches).

Soil 145 occupies about 15 percent of Soil Mapping Units A1, A2 and A3.

The moderate limitation of this soil is moderate available water-holding capacity as reflected by depth to an impermeable hardpan; therefore, it is placed in irrigable class 2.

Minor Soils

Inclusions of minor areas of soil 914, 685, and 395 occur in Soil Mapping Units of A. Soil 914 occupies 10 percent of the mapping units. It is moderately deep (20 to 40 inches) to lime-silica hardpan and is well-drained. Soil 914 is similar to soil 145 except it has a silt loam subsoil. The moderate limitation is moderate available water-holding capacity as reflected by depth to undulated hardpan; therefore, it is placed in irrigable class 2. Soil 685a occupies 10 percent of the mapping units. It is deep (over 40 inches) and is well-drained. The surface layer (0 to 10 inches) is silt loam. The subsoil layers (10 to 27 inches) are silty clay loam. The substratum layer (27 to 60 inches) is calcareous silt loam to loam. This soil has a slight limitation and is placed in irrigable class 1. Soil 395 occupies 10 percent of the mapping units. It is deep (over 40 inches) and well-drained. The surface and subsoil layers (0 to 25 inches) are loam or sandy loam. The substratum layers (25 to 60 inches) are stratified sandy loam and loam. This soil is noncalcareous throughout. This soil has slight limitations, therefore, it is placed in irrigable class 1.

SOIL MAPPING UNITS OF B

B1, B2 583a-040-083 Mapping Unit: Deep and moderately deep, somewhat poorly and poorly drained soils on nearly level to very gently sloping mixed alluvium on stream bottoms and stream terraces.

The soils in this mapping unit occur on the stream bottom and low stream terraces, along the Boise River. It occurs in two separate areas designated B1 and B2. B1 is about 2 to 7 miles wide and extends a length of about 25 miles from the Oregon-Idaho State line on the west to the eastern edge of

Canyon County. Mapping Unit B2 is located in the east central part of the county. The drainage pattern is in a northwesterly direction. Elevations range from 2,200 to 2,400 feet. The parent material is mostly mixed acid igneous material deposited by the Boise River.

Generally the soils are deep (over 40 inches) but moderately deep (20 to 40 inches) soils do occur on about 35 percent of the area. Most of the soils are somewhat poorly-drained to poorly-drained. Slopes are nearly level to gently sloping (0 to 4 percent) and have a slight salinity to severe saline-alkali condition.

The major soils are 583a, 040 and 083. Minor soils are 616, 254, 134 and 494.

Major Soils

Soil 583a

This soil is moderately deep (20 to 40 inches) and somewhat poorly drained and has a fluctuating water-table. It occurs on nearly level to very gently sloping (0 to 4 percent) stream bottoms and low stream terraces of the Boise River. The surface and upper subsoil layers (0 to 20 inches) are fine sandy loam. The lower subsoil (20 to 40 inches) is stratified with sandy loam and loamy sand. The substratum (40 to 96 inches) is stratified sand and gravel. Some areas are slightly saline. Permeability is moderately rapid (2.50 to 5 inches per hour) Available water-holding capacity from the surface to 30 inches is moderate (4.5 to 6 inches).

Soil 583a occupies about 30 percent of Soil Mapping Units B1 and B2.

The moderate limitation of this soil is moderate available water-holding capacity as reflected by depth; therefore, it is placed in irrigable class 2.

Soil 040

This soil is deep (over 40 inches) and somewhat poorly-drained. It occurs on nearly level (0 to 4 percent) stream bottoms and very low stream terraces along the Boise and Snake Rivers. The surface and subsoil layers (0 to 45 inches) are silt loam to loam. The substratum (45 to 96 inches) is stratified fine sandy loam and coarse sand. This soil is calcareous in the upper part, but is less calcareous or noncalcareous in the lower part. It is slightly to moderately saline because of a fluctuating water-table (20 to 40 inches) in the root zone. Permeability is moderate (0.8 to 2.50 inches). Available water-holding capacity from the surface to 48 inches is high (more than 6 inches).

Soil 040 occupies about 25 percent of Soil Mapping Units B1 and B2.

The moderate limitation of this soil is a fluctuating water-table in the root zone; therefore, it is placed in irrigable class 2.

Soil 083

This soil is deep (over 40 inches), moderately well-drained. It occurs on nearly level sloping (0 to 4 percent) stream bottoms or low stream terraces. The surface and subsoil layers (0 to 42 inches) are silt loam or loam and are strong moderately calcareous. The substratum (40 to 96 inches) is loam and stratified sand and gravel that is moderately or slightly calcareous and moderately to very strongly alkaline. Free salts are visible and the high pH indicates the presence of excess exchangeable sodium. Permeability is moderately slow (0.20 to 0.80 inches per hour). Available water-holding capacity to a depth of 48 inches is high (more than 6 inches).

Soil 083 occupies about 20 percent of Soil Mapping Units B1 and B2.

The severe limitation of this soil is a severe saline-alkali condition; therefore, it is placed in irrigable class 3.

Minor Soils

Inclusions of minor soils are 616, 254, 134 and 494. Soil 616 occupies 10 percent of the Mapping Units of B. It is moderately well-drained to somewhat poorly-drained. The surface and subsoil layers (0 to 20 inches) are loamy sand or fine sandy loam. The substratum (20 to 96 inches) is loose sand and gravel. The very severe limitation of this soil is very low available water-holding capacity as reflected by texture and depth; therefore, it is placed in non-irrigable class 6. Soil 254 occupies 5 percent of the mapping units. It differs from soil 583 in being moderately well-drained and occurs on the higher parts of the river flood plain. The moderate limitation of this soil is moderate available water-holding capacity as reflected by depth; therefore, it is placed in irrigable class 2. Soil 134 occupies 2 percent of the mapping units. It differs from soil 583 in that it is very poorly-drained. The very severe limitation of this soil is a high water table; therefore, it is placed in non-irrigable class 6. Soil 494 occupies 8 percent of the mapping units. It differs from soil 583 as it is moderately to strongly saline-alkaline. The severe limitation of this soil is a strong saline-alkali condition; therefore, it is placed in irrigable class 3.

SOIL MAPPING UNITS OF C

C1, C2, 685a-691a Mapping Unit: Deep and moderately deep, C3, C4, well-drained soils on nearly level to very gently C5 sloping thin loess covered stream terraces.

The soils in this mapping unit occur on stream terraces that have been dissected by small streams. The parent material is a thin cover of loess wind deposited underlain by a loamy old river alluvium. This mapping unit occurs on the high river terraces south of the Boise River, in five separate areas designated C1, C2, C3, C4 and C5. These soils are primarily in the Caldwell-Nampa area, north of Nampa and in the Huston areas. The elevations range from about 2,300 to 2,650.

Approximately 55 percent of the area is comprised of deep (over 40 inches) soil, level to gently sloping (0 to 4 percent) and well-drained. The remaining 45 percent of the area has moderately deep (20 to 40 inches) soil underlain by a hardpan. These soils are well-drained.

The major soils are 685a and 691a. The minor soils are 216, 040, 776 and 239.

Major Soils

Soil 685a

This soil is deep (over 40 inches) and well-drained. It occurs on nearly level to very gently sloping (0 to 4 percent) thin loess covered stream terraces. The surface subsoil (10 to 24 inches) is a noncalcareous to slightly calcareous heavy silt loam or light silty clay loam. The lower subsoil (24 to 48 inches) is moderately calcareous silt loam or loam. The substratum (48 to 96 inches) consists of sandy loam, loamy sand or gravel. The slopes are nearly level to gently sloping (0 to 4 percent). Permeability is moderate (0.80 to 2.50 inches per hour). Available water-holding capacity from the surface to 48 inches is high (over 6 inches).

Soil 685a occupies 50 percent of Soil Mapping Units C1, C2, C3, C4 and C5.

This soil has slight limitations; therefore, it is placed in irrigable class 1.

Soil 691a

This soil is moderately deep (20 to 40 inches) and well-drained. It occurs on nearly level to very gently sloping (0 to 4 percent) thin loess covered stream terraces that are slightly to moderately dissected. The surface layer (0 to 9

inches) is silt loam or loam. The upper subsoil (9 to 20 inches) is heavy silt loam or light silty clay loam. The lower subsoil (20 to 30 inches) is silt loam. The upper substratum (20 to 40 inches) is silica-calcium carbonate hardpan. Usually the hardpan occurs at 30 to 40 inches. The lower substratum (40 to 96 inches) is stratified sand and gravel. This soil is noncalcareous or slightly calcareous in the surface and upper subsoil (0 to 20 inches) and strongly to moderately calcareous below. Permeability is moderate (0.80 to 2.50 inches per hour). Available water-holding capacity is moderate (4.5 to 6 inches) in the 0 to 20 inch layer. The soil has less than 10 percent slick spots in most areas.

Soil 691a occupies about 35 percent of Soil Mapping Units C1, C2, C3, C4, and C5.

The moderate limitation of this soil is moderate available water-holding capacity as reflected by depth to the hardpan; therefore, it is placed in irrigable class 2.

Minor Soils

The minor soils are 216, 040, 776 and 239. Soil 216 occupies 5 percent of Soil Mapping Units of C. It is deep (over 40 inches) moderately well-drained loam along narrow drainageways. The moderate limitation of this soil is drainage; therefore, it is placed in irrigable class 2. Soil 040 occupies 5 percent of the mapping unit. It is deep (over 40 inches) somewhat poorly drained and slightly to moderately alkaline. The moderate limitation of this soil is drainage; therefore, it is placed in irrigable class 2. Soil 776 occupies 2 percent of the mapping unit. It is moderately deep (20 to 40 inches) to a hardpan and has a slow water intake rate and has salts in the lower subsoil. The severe limitations of this soil are slow permeability and severe saline-alkali conditions; therefore, it is placed in irrigable class 3. Soil 239 occupies 3 percent of the mapping units. It is moderately deep (20 to 40 inches) to a hardpan and has a low water-holding capacity. The severe limitation of this soil is low available water-holding capacity; therefore, it is placed in irrigable class 3.

SOIL MAPPING UNIT OF D

D1, D2, 311a-621a-621b Mapping Unit: Deep, well-drained soils
D3, D4, on nearly level to sloping thin loess covered lake
D5 terraces and alluvial fans.

This mapping unit occurs primarily on lake terraces and alluvial fans. The parent material is moderately calcareous, laminated, silty lacustrine material or old mixed alluvium. The upper parts may be influenced somewhat by loess. It con-

sists of five locations designated as D1, D2, D3, D4, and D5, separated by the Boise River bottoms. North of the Boise River are two large areas, D1 and D2. They begin near Caldwell and extend about 18 miles parallel with the river north of Notus and Parma. The third area, D3, occurs as a large elongated area beginning at Caldwell extending about 15 miles in a northwesterly direction to Roswell and varying from 1 to 5 miles in width. There are also two other relatively small areas, D4, located in the Riverside community and D5, located in the Melba community. Elevations range from about 2,200 to 3,000 feet.

The soils are usually deep (over 40 inches) and occur on nearly level to very gently sloping terraces (0 to 4 percent) but may include steep (4 to 12 percent) breaks to drainageways. A thin loess mantle is present on most areas. These soils are well-drained.

The major soils are 311a, 621a, and 621b. Minor soils are 632, 564, 281 and 691.

Major Soils

Soil 311a

This soil is deep (over 40 inches) and well-drained. It occurs on nearly level to very gently sloping (0 to 4 percent), thin loess covered stream terraces. The surface layer (0 to 10 inches) is a silt loam. The subsoil (10 to 30 inches) is a silt loam. The substratum (30 to 96 inches) is calcareous laminated lacustrine silt that slightly restricts movement of water and roots. Slopes are long and slightly concaved. Permeability is moderate (0.80 to 2.50 inches per hour). Available water-holding capacity from surface to 48 inches is high (over 6 inches).

Soil 311a occupies 45 percent of Soil Mapping Units D1, D2, D3, D4, and D5.

The slight limitations of this soil place it in irrigable class 1.

Soil 621a

This soil is deep (over 40 inches), and is well-drained. It occurs on nearly level to very gently sloping (0 to 4 percent) swales of the lake terraces. The surface and subsoil layers (0 to 30 inches) are a silt loam. The substratum (30 to 96 inches) is a calcareous laminated silt. The laminated layers are weak and can be broken by deep tillage and roots to allow water movement into the soil. Common to many hard, firm, rounded nodules of soil material 0.5 to 0.8 inches in diameter

occur in the subsoil. Permeability is moderate (0.8 to 2.50 inches per hour). Available water-holding capacity from the surface to 48 inches is high (over 6 inches).

Soil 621a occupies 35 percent of Soil Mapping Units D1, D2, D3, D4, and D5.

The slight limitations of this soil place it in irrigable class 1.

Soil 621b

This soil has the same characteristics as soil 621a but occurs on gently sloping to sloping (4 to 12 percent) swales of the lake terrace.

Soil 621b occupies 20 percent of Soil Mapping Units D1, D2, D3, D4, and D5.

The moderate limitation of this soil is a gently sloping to sloping landform; therefore, it is placed in irrigable class 2.

Minor Soils

Inclusions of minor soils are 632, 564, 281 and 691. Soil 632 occupies 3 percent of Mapping Units D1, D2, D3, D4, and D5. It is similar to soil 621 but is noncalcareous in the surface and subsoil (12 to 24 inches). The slight limitations of this soil place it in irrigable class 1. Soil 564 occupies 2 percent of the mapping units. It differs from soil 621 in having a strongly cemented hardpan between 20 and 40 inches. The moderate limitation of this soil is moderate available water-holding capacity; therefore, it is placed in irrigable class 2. Soil 281 occupies 3 percent of the mapping units. It differs from soil 621 in lacking a strong lime horizon and laminated silt loam above 40 inches. The slight limitation of this soil places it in irrigable class 1. Soil 691 occupies 2 percent of the mapping units. It differs from soil 311a, in having a weakly cemented hardpan at 20 to 40 inches and lacking laminated silt loam sediments. The moderate limitation of this soil is moderate available water-holding capacity as reflected by depth; therefore, it is placed in irrigable class 2.

SOIL MAPPING UNITS OF E

E1, E2, 890a-257-134 Mapping Unit: Deep to moderately deep, E3 well-drained and somewhat excessively drained soils on nearly level to steep mixed alluvium on alluvial fans and stream terraces.

This mapping unit occurs on alluvial fans and stream terraces near the Snake River. The soils occur in three separate areas designated E1, E2 and E3. They are extensive in the Sunnyslope, Central Cove, Apple Valley, Riverside and Walter's Ferry areas of Canyon County. The length is 35 miles with a width of 1 to 5 miles. Elevations range from about 2,000 to 2,500 feet. Parent material consists of mixed alluvium or lacustrine sediments from quartic, granitic, rhyolitic and basaltic sources.

The soils are usually deep (over 40 inches) but include moderately deep (20 to 40 inches) soils. These soils are well to excessively well-drained. These soils occupy nearly level to steep (0 to 20 percent) alluvial fans and terraces.

The major soils are 890a, 257, 134. Minor soils are 909, 174, 529, and 939.

Major Soils

Soil 890a

This soil is deep (over 40 inches) and well-drained. It occurs on nearly level to very gently sloping (0 to 4 percent) alluvial fans or stream terraces. The surface and subsoil layers (0 to 30 inches) are fine sandy loam. The substratum layer (30 to 96 inches) is calcareous and contains common firm nodules of sandy loam or fine sandy loam material. The permeability is moderately rapid (2.50 to 5.00 inches per hour). Available water-holding capacity from the surface to 48 inches is moderate (4.5 to 6 inches).

Soil 890a occupies about 30 percent of Soil Mapping Units E1, E2 and E3.

The moderate limitation of this soil is moderate available water-holding capacity as reflected by texture; therefore, it is placed in irrigable class 2.

Soil 257

This soil is deep (over 40 inches), well-drained to somewhat excessively drained. It occurs on nearly level to very gently sloping (0 to 4 percent) stream terraces and alluvial fans. The surface and subsoil layers (0 to 30 inches)

are loamy fine sand or loamy sand. The substratum (30 to 96 inches) is stratified fine sandy loam, loam and loamy fine sand. It is calcareous from 20 to 35 inches. Permeability of the subsoil (0 to 30 inches) is rapid (5 to 10 inches per hour), and in the substratum (30 to 64 inches) permeability is moderate (0.80 to 2.50 inches per hour). The available water-holding capacity to 48 inches is low (3.0 to 4.5 inches).

Soil 257 occupies about 25 percent of the Soil Mapping Units E1, E2 and E3.

The severe limitation of this soil is low available water-holding capacity as reflected by texture; therefore, it is placed in irrigable class 3.

Soil 134

This soil is moderately deep (20 to 40 inches) and well-drained. It occurs on nearly level to very gently sloping (0 to 4 percent) alluvial fans and terraces. The surface and subsoil layers (0 to 35 inches) are fine sandy loam or sandy loam. The substratum (35 to 96 inches) is loose sand or sand and gravel. In some areas scattered gravel is distributed throughout the profile. Permeability is moderately rapid (2.50 to 5.00 inches per hour). The available water-holding capacity to 35 inches is low (3.0 to 4.5 inches).

Soil 134 occupies about 25 percent of Soil Mapping Units E1, E2 and E3.

The severe limitation of this soil is low available water-holding capacity as reflected by texture and depth; therefore, it is placed in irrigable class 3.

Minor Soils

Inclusions of minor soils are 909, 174, 529 and 939. Soil 909 occupies 10 percent of the mapping units of E. It is moderately deep and well-drained, the surface and subsoil layer is a very gravelly loam. The substratum is consolidated siltstone or tuff. Slopes are very steep. The very severe limitation is steep slope; therefore, it is placed in the non-irrigable class 6. Soil 174 occupies 2 percent of the mapping units. It is similar to soil 890a but is somewhat poorly drained and slightly saline. The moderate limitation of this soil is a somewhat poorly drained condition; therefore, it is placed in irrigable class 2. Soil 529 occupies 5 percent of the mapping units. It is similar to soil 890a but is moderately deep to loose sand and gravel. The severe limitation of this soil is low available water-holding capacity as reflected by texture and depth; therefore, it is placed in irrigable class 3. Soil 939 occupies 3 percent of the mapping units. It

is similar to soil 257 but is shallow to loose sand and gravel. The very severe limitation of this soil is very low available water-holding capacity as reflected by texture and depth; therefore, it is placed in the non-irrigable class 6.

SOIL MAPPING UNITS OF F

F 771a-771b-883b Mapping Unit: Deep and shallow, well-drained soils on nearly level to sloping thin loess covered stream terraces and lava plains.

This mapping unit occurs on high stream terraces and lava plains. The parent materials are light silty loess or loess-like alluvium or eolian material and some basaltic residuum. The soils occur in the Dry Lake and Lakeview areas south of Lake Lowell and extend toward Bowmont and Melba. Elevations range from 2,500 to 2,800 feet.

The soils are generally moderately (20 to 40 inches) but include some areas that are shallow (10 to 20 inches). All the soils are well-drained. The slopes are nearly level to gently sloping (0 to 4 percent) but include some gently sloping to sloping (4 to 12 percent).

The major soils are 771a, 771b and 883b. Minor soils are 037a, 037b, 685 and 691.

Major Soils

Soil 771a

This soil is deep (over 40 inches), well-drained, nearly level to very gently sloping (0 to 4 percent) high stream terraces. The surface layer (0 to 12 inches) is a silt loam or loam. The upper subsoil layers (12 to 20 inches) are silt loam and have 10 to 50 percent hard to very hard nodules. The lower subsoil layers (20 to 40 inches) consist of brittle weakly or very weakly cemented material, with more than one very thin, weakly cemented lens. Water and root penetration is somewhat restricted. The depth of the strongly calcareous layer ranges from 8 to 20 inches. The substratum (40 to 96 inches) may consist of basalt and/or basaltic cinders, silt loam, fine sandy loam or gravel. The surface layers (0 to 12 inches) range from mildly alkaline to moderately alkaline, and the subsoil and substratum (12 to 62 inches) range from moderately to strongly alkaline. Permeability is moderately slow (0.20 to 0.80 inches per hour) above 20 inches and slow (0.05 to 0.20 inches per hour) below 20 inches. Available water-holding capacity to a depth of 48 inches is high (more than 6 inches).

Soil 771a occupies about 40 percent of Soil Mapping Unit F.

The slight limitations of this soil place it in irrigable class 1.

Soil 771b

This soil has similar characteristics of soil 771a but occurs on gently sloping to sloping (4 to 12 percent) stream terraces.

Soil 771b occupies 20 percent of Soil Mapping Unit F.

The moderate limitation of this soil is a gently sloping to sloping landform; therefore, it is placed in irrigable class 2.

Soil 883B

This soil is shallow (10 to 20 inches), well-drained and occurs throughout the mapping unit. It occurs predominately on nearly level to steep (0 to 20 percent) ridges in the thin loess covered lava plains. The surface and subsoil layers (0 to 20 inches) are extremely rocky (10 to 30 percent of the surface) silt loam. The substratum (20 inches plus) is basaltic bedrock. Permeability is moderate (0.8 to 2.50 inches per hour). Available water-holding capacity to 20 inches is very low (less than 3 inches).

Soil 883b occupies 20 percent of Soil Mapping Unit F.

The very severe limitation of this soil is an extremely rocky condition; therefore, it is placed in the non-irrigable class 6.

Minor Soils

Minor soils are 037a, 037b, 685 and 691. Soil 037a occupies 7 percent of Mapping Unit F. It is a deep (over 40 inches) well-drained, silt loam, occupying broad nearly level to very gently sloping (0 to 4 percent) high stream terraces. It is similar to soil 771a, but is silt loam in the surface and subsoil layers. The limitation of this soil is slight; therefore, it is placed in irrigable class 1. Soil 037b occupies 5 percent of the mapping unit. It is similar to soil 037a but is gently sloping to sloping. The moderate limitation of this soil is a gently sloping to sloping landform; therefore, it is placed in irrigable class 2. Soil 685 occupies 3 percent of the mapping unit. It is deep (over 40 inches) with a silt loam surface and a heavy silt loam subsoil, and occurs on nearly level to very gently

sloping (0 to 4 percent) stream terraces. The slight limitations of this soil place it in irrigable class 1. Soil 691 occupies 5 percent of the mapping unit. It is moderately deep (20 to 40 inches) well-drained and occurs on nearly level to very gently sloping (0 to 4 percent) stream terraces. The moderate limitation of this soil is moderate available water-holding capacity as reflected by depth; therefore, it is placed in irrigable class 2.

SOIL MAPPING UNITS OF G

G1, G2, 564a-239-529a Mapping Unit: Moderately deep, well-
G3, G4 drained soils on nearly level to sloping mixed
alluvium on alluvial fans and lake terraces and thin
loess covered lava plains.

This mapping unit occurs on stream terraces, alluvial fans, and loess covered lava plains. The parent material consists of mixed alluvium primarily from quartz, basalt and rhyolite. It occurs in four areas, designated G1, G2, G3 and G4, bordering Lake Lowell. Elevations range from about 2,500 to 2,700 feet.

The soils are generally moderately deep (20 to 40 inches) to either a hardpan or sand and/or gravel. All these soils are well-drained. The slopes are nearly level to very gently sloping (0 to 4 percent) in the lower part of the alluvial fans and gently sloping to sloping (4 to 12 percent) on the stream terraces.

The major soils are 564a, 239 and 529a. Minor soils are 771a, 883, 914 and 458.

Major Soils

Soil 564a

This soil is moderately deep (20 to 40 inches) and well-drained. It usually occurs on nearly level to very gently sloping (0 to 4 percent) thin loess covered lava plains. The surface and upper subsoil layers (0 to 24 inches) are silt loam. The lower subsoil layer (24 to 40 inches) is a strongly cemented lime-silica hardpan. Basalt bedrock occurs at about 5 feet. The hardpan restricts roots and water penetration. This soil is slight to moderately calcareous in the surface (0 to 10 inches) and strongly calcareous (10 to 24 inches) to the underlying lime-silica hardpan. Permeability is moderate (0.8 to 2.50 inches per hour). Available water holding capacity is moderate (4.5 to 6 inches) to 24 inches.

Soil 564a occupies about 40 percent of Soil Mapping Units G1, G2, G3 and G4.

The moderate limitation of this soil is moderate available water-holding capacity as reflected by depth to hardpan; therefore, it is placed in irrigable class 3.

Soil 239

This soil is moderately deep (20 to 40 inches) and is well-drained. It occurs on nearly level to very gently sloping (0 to 4 percent) dissected thin loess covered lake terraces. The surface layer (0 to 9 inches) is usually silt loam but includes silty clay loam. The upper subsoil layer (9 to 20 inches) is silty clay loam. The lower subsoil (20 to 40 inches) is strongly calcareous, strongly cemented lime-silica hardpan. The substratum (40 to 96 inches) is stratified loam, sand and gravel. Permeability is moderately slow (0.20 to 0.80 inches per hour). Available water holding capacity to 30 inches is moderate (4.5 to 6 inches).

Soil 239 occupies 20 percent of Soil Mapping Units G1, G2, G3 and G4.

The severe limitation of this soil is an impermeable layer at moderate depth; therefore, it is placed in irrigable class 3.

Soil 529a

This soil is shallow (10 to 20 inches) and well-drained. It usually occurs on nearly level to very gently sloping (0 to 4 percent) alluvial fans or lake terraces. The surface and subsoil layer (0 to 20 inches) is loam but includes some silt loam. The substratum (20 to 96 inches) is moderately calcareous, sand and gravel. Permeability is moderate (0.80 to 2.50 inches per hour). Available water-holding capacity from 20 inches is low (3 to 4.5 inches).

Soil 529a occupies about 20 percent of Soil Mapping Units G1, G2, G3 and G4.

The severe limitations of this soil are low available water-holding capacity and shallow depths; therefore, it is placed in irrigable class 3.

Minor Soils

The minor soils are 771a, 883, 914 and 458. Soil 771a occupies 10 percent of the Mapping Units of G. It is a deep, well-drained soil on nearly level to very gently sloping lake terraces. The surface and subsoil layers are silt loam and strongly calcareous. The slight limitations of this soil place it in irrigable class 1. Soil 883 occupies 5 percent of the mapping units. It is a shallow, well-drained very rocky,

silt loam on thinly loess covered basalt ridges. The very severe limitations of this soil are the very rocky condition and shallow depth; therefore, it is placed in non-irrigable class 6. Soil 914 occupies 3 percent of the mapping units. It is moderately deep, well-drained silt loam over hardpan on gently sloping to sloping lake terraces. The severe limitations of this soil are a combination of moderate depth to an impermeable layer and slope; therefore, it is placed in irrigable class 3. Soil 458 occupies 3 percent of the mapping units. It is deep, silt loam and noncalcareous on nearly level to very gently sloping lake terraces. The slight limitations of this soil place it in irrigable class 1.

SOIL MAPPING UNITS OF H

H1, H2 685a-239a-694 Mapping Unit: Deep and moderately deep, well-drained soils on nearly level to very gently sloping thin loess covered lake terraces and lava plains.

This mapping unit occurs on the high lake terraces and lava plains east and southeast of Nampa, Idaho. Parent material consists of loess or loess like alluvium or eolian deposits overlying alluvium or lacustrine sediments or basalt bedrock. This mapping unit is composed of two areas; H1 east of Nampa, Idaho and H2 about 3 miles southeast. Elevations range from about 2,600 to 2,750 feet.

The soils are generally moderately deep (20 to 40 inches) but include soils that are deep (over 40 inches). They are generally well-drained, but include narrow bottoms that are somewhat poorly drained. Slopes are nearly level to gently sloping (0 to 4 percent) but may include steep (4 to 12 percent) stream terraces or lava plains.

The major soils are 685a, 239a and 694. Minor soils are 883, 564, 771a and 691.

Major Soils

Soil 685a

This soil is deep (over 40 inches) and occurs throughout the mapping units on well-drained lake terraces that are nearly level to very gently sloping (0 to 4 percent). The surface (0 to 10 inches) is a silt loam or loam. The upper subsoil layer (10 to 24 inches) is a heavy silt loam or light silty clay loam. The lower subsoil (24 to 48 inches) is a silt loam or loam. The substratum layers (48 to 96 inches) consist of sandy loam, loamy sand or gravel. The soil is noncalcareous or slightly calcareous below. Permeability is moderate (0.80 to 2.50 inches per

hour). Available water-holding capacity from the surface to 48 inches is high (over 6 inches).

Soil 685a occupies 35 percent of Soil Mapping Units H1 and H2.

The slight limitation of this soil places it in irrigable class 1.

Soil 239a

This soil is moderately deep (20 to 40 inches). It is well-drained and occurs on nearly level to very gently sloping (0 to 4 percent) dissected high lake terraces. The surface layer (0 to 9 inches) is usually silt loam but includes silty clay loam. The upper subsoil layer (9 to 20 inches) is silty clay loam. The lower subsoil layer (20 to 40 inches) is strongly calcareous, strongly cemented lime-silica hardpan. The substratum (40 to 96 inches) is stratified sand and gravel. Permeability is moderately slow (0.20 to 0.80 inches per hour). Available water-holding capacity from 0 to 24 inches is moderate (4.5 to 6 inches).

Soil 239a occupies 25 percent of Soil Mapping Units H1 and H2.

The severe limitation of this soil is moderate depth to impermeable hardpan; therefore, it is placed in irrigable class 3.

Soil 694

This soil is moderately deep (20 to 40 inches) and well-drained. It occurs on nearly level to very gently sloping to sloping (0 to 12 percent) thinly loess-covered lava plains. The surface layer (0 to 10 inches) is a noncalcareous silt loam. The subsoil layer (10 to 24 inches) is a strongly calcareous silt loam or loam. The substratum (24 to 40 inches) is basalt bedrock. Permeability is moderately slow (0.20 to 0.80 inches per hour). Available water-holding capacity is low (3 to 4.5 inches) in the 24 inch layer above the hardpan.

Soil 694 occupies about 20 percent of Soil Mapping Units H1 and H2.

The severe limitation of this soil is moderate depth to an impermeable basalt bedrock; therefore, it is placed in irrigable class 3.

Minor Soils

Minor soils are 883, 564, 771a and 691. Soil 883 occupies 10 percent of the Mapping Units of H. It is a shallow, well-drained very rocky silt loam, on ridges of the thin loess-covered lava plains. The very severe limitations of this soil are a very rocky condition and shallow soils; therefore, it is placed in non-irrigable class 6. Soil 564 occupies 5 percent of the mapping units. It is moderately deep, well-drained silt loam overlying an indurated lime-silica hardpan. It occurs on nearly level to gently sloping and sloping uplands. The moderate limitation of this soil is a moderate available water-holding capacity as reflected by depth; therefore, it is placed in irrigable class 3. Soil 771a occupies 3 percent of the mapping units. It is a deep, well-drained silt loam, over a very weakly cemented, calcareous material. The substratum below 40 inches may consist of basalt, and/or basaltic cinders, silt loam, fine sandy loam or gravel. It occurs on nearly level to gently sloping lake terraces or lava plains. The slight limitations of this soil place it in irrigable class 1. Soil 691 occupies 2 percent of the mapping units. It is moderately deep to a lime-silica hardpan. The surface layer is a silt loam and the upper subsoil is light silty clay loam. The surface soil is noncalcareous, to slightly calcareous in the 0 to 20 inch zone and moderately calcareous below. Available water-holding capacity is moderate (4.5 to 6 inches) in the 0 to 20 inch layer. The moderate limitation of this soil is available water-holding capacity; therefore, it is placed in irrigable class 2.

SOIL MAPPING UNIT OF I

- I 477a-477b-145 Mapping Unit: Moderately deep and deep, well-drained soils on nearly level to sloping thin loess covered dissected lake terraces.

This mapping unit occurs on dissected lake terraces. The parent materials are a thin loess cover on lacustrine sediments. Much of the area is hilly, but there are some nearly level to undulating broad ridgetops that are remnants of the former lacustrine plain. It is located in the extreme northeast part of the county. Elevations range from 2,500 to 3,000 feet.

One of these soils is moderately deep (20 to 40 inches) to an indurated lime-silica hardpan. It occupies gently sloping to sloping (4 to 12 percent) hills, but includes areas that are steeper (12 to 20 percent). The other soil is deep (over 40 inches) and is gently sloping to sloping (4 to 12 percent), but includes areas that are steeper (12 to 20 percent). These soils are well-drained. Slick spots (2 to 3

percent) of the area are throughout the mapping unit.

The major soils are 477a, 477b and 145. Minor soils are 914, 776 and 395.

Major Soils

Soil 477a

This soil is deep (over 40 inches) and is well-drained. It occurs on gently sloping to sloping (4 to 12 percent) dissected uplands. Parent material consists mainly of loose to very weakly consolidated sand on gravelly material of the Idaho formation. Most of these materials weathered from granite, quartz monzonitic, quartz dioritic, or similar acid igneous rocks. The surface layer (0 to 8 inches) is loam, sandy loam, gravelly loam, or gravelly sandy loam. The transition from the surface layer to subsoil is abrupt. The upper subsoil layer (8 to 22 inches) is clay to heavy clay loam. The lower subsoil layer (22 to 37 inches) contains a moderate accumulation of loam and is a loam. The substratum (37 to 96 inches) is loamy sand. Permeability is slow (0.05 to 0.2 inches per hour). Available water-holding capacity from the surface to 48 inches is high (over 6 inches).

Soil 477a occupies 35 percent of Soil Mapping Unit I.

The moderate limitations of this soil are a gently sloping to sloping landform and slow permeability; therefore, it is placed in irrigable class 2.

Soil 477b

This soil is very similar to soil 477a but it occurs on steep slopes (12 to 20 percent).

Soil 477b occupies about 25 percent of Soil Mapping Unit I.

The severe limitation of this soil is steep slopes; therefore, it is placed in irrigable class 3.

Soil 145

This soil is moderately deep (20 to 40 inches) over an indurated lime-silica hardpan. It is well-drained. This soil occupies gently sloping to sloping (4 to 12 percent) broad ridgetops on the uplands. The surface layer (0 to 8 inches) is a silt loam. The upper subsoil layer (8 to 17 inches) is silty clay. The lower subsoil layer (17 to 24 inches) is clay. The upper substratum (24 to 30 inches) is calcareous silt loam. The mid substratum layer (30 to 40 inches) is lime-silica hardpan. The lower substratum layer

(40 to 96 inches) is stratified sand and gravel. Permeability is slow (0.05 to 0.20 inches per hour). Available water-holding capacity from the surface to 30 inches is moderate (4.5 to 6 inches).

Soil 145 occupies about 30 percent of Soil Mapping Unit I.

The moderate limitations of this soil are moderate available water-holding capacity, gently sloping to sloping landform and slow permeability; therefore, it is placed in irrigable class 2.

Minor Soils

Minor soils are 776, 914 and 395. Soil 776 occupies 3 percent of Mapping Unit I. It occurs on nearly level to very gently sloping (0 to 4 percent) ridgetops in a complex with soils 477a, 145 and 914. It is well-drained and moderately deep (20 to 40 inches) with a loam surface and a clay loam subsoil over a hardpan. The lower subsoil layer is slightly to strongly saline and contains from 20 to 50 percent exchangeable sodium. The severe limitation of this soil is a very alkaline condition; therefore, it is placed in irrigable class 3. Soil 914 occupies 5 percent of the mapping unit. It occupies nearly level to sloping (0 to 12 percent) ridgetops and north slopes throughout the mapping unit. This well-drained soil occurs in mounds 10 to 30 feet in diameter, 1 to 3 feet high, and in a complex with 145. The surface layers (0 to 25 inches) are a silt loam. The subsoil layer (25 to 34 inches) is loam or silt loam. The upper substratum (34 to 40 inches) is a silica-calcium carbonate hardpan. The substratum (40 to 96 inches) is stratified sand and gravel. Available water-holding capacity is moderate (4.5 to 6 inches). The moderate limitation of this soil is moderate available water-holding capacity; therefore, it is placed in irrigable class 2. Soil 395 occupies 2 percent of the mapping unit. It occupies the nearly level (0 to 4 percent) narrow stream bottoms throughout the mapping unit. The soil is well-drained and deep (over 40 inches) loam. Stratification is common in the substratum (below 30 inches) and there are layers of sandy loam, loamy sand or sand. The slight limitations of this soil place it in irrigable class 1.

SOIL MAPPING UNIT J

J 507-239b-476 Mapping Unit: Moderately deep and deep, well-drained soils on nearly level to very steep alluvial fans and thin loess covered dissected lake terraces.

This soil mapping unit occurs on high, thin loess covered dissected lake terraces in the northwestern part of the county. It occurs in several small areas along the Payette County line. Elevations range from 2,400 to 2,800 feet.

The soils are moderately deep (20 to 40 inches) and deep (over 40 inches). Some of the soils have a lime-silica hardpan. They occur on nearly level to very steep (0 to over 20 percent) slopes of the deeply dissected lake terraces and alluvial fans.

Major soils are 507, 476 and 239b. Minor soils are 239c, 914d and 914e.

Major Soils

Soil 507

This soil occurs on very steep (over 20 percent) south slopes throughout the mapping unit. The soil is moderately deep and well-drained. The surface and subsoil layers (0 to 36 inches) are coarse sandy loam. The substratum (36 to 60 inches) is loamy coarse sand. The available water-holding capacity from the surface to 48 inches is low (3 to 4.5 inches).

Soil 507 occupies 45 percent of Soil Mapping Unit J.

The very severe limitation of this soil is very steep slopes; therefore, it is placed in non-irrigable class 6.

Soil 239b

This soil occurs on nearly level to sloping, (0 to 12 percent) thin loess covered ridge tops and north facing slopes of the lake terraces throughout the mapping unit. It occurs as the intermound areas in complex with soil 914. The soil is moderately deep and well-drained. The surface layer (0 to 8 inches) is silt loam. The subsoil (8 to 18 inches) is silt loam. The upper substratum (18 to 26 inches) is a lime-silica hardpan. The lower substratum (26 to 96 inches) is stratified coarse sand. The available water-holding capacity is moderate (4.5 to 6 inches).

Soil 239b occupies 15 percent of Soil Mapping Unit J.

The moderate limitations of this soil are moderate available water-holding capacity and a nearly level to sloping landform; therefore, it is placed in irrigable class 2.

Soil 476

This soil occurs on steep (12 to 20 percent) colluvial slopes below ridges throughout the mapping unit and is in complex with soil 239 and 914. It is deep (over 40 inches) and well-drained. The surface layer (0 to 14 inches) is sandy loam. The subsoil (14 to 50 inches) is sandy clay loam. The substratum (50 to 96 inches) is coarse sand. The available water-holding capacity to 48 inches is high (over 6 inches).

Soil 476 occupies 15 percent of Soil Mapping Unit J.

The severe limitation of this soil is steep slopes; therefore, it is placed in irrigable class 3.

Minor Soils

The minor soils are 239c, 914d and 914e. Soil 239c occupies 10 percent of Mapping Unit J. It is similar to soil 239b but occurs on steep slopes. The severe limitation of this soil is steep slopes; therefore, it is placed in irrigable class 3. Soil 914d occupies 10 percent of the mapping unit. It occurs on nearly level to sloping thin loess covered ridge tops and north facing slopes throughout the mapping unit. It is a moderately deep, well-drained, silt loam underlain by a lime-silica hardpan. The moderate limitation of this soil is moderate available water-holding capacity as reflected by depth; therefore, it is placed in irrigable class 2. Soil 914e occupies 5 percent of the mapping unit. It is similar to soil 914d but occurs on steep slopes around the thin loess covered ridge tops and north facing slopes throughout the mapping unit. The severe limitation of this soil is steep slopes; therefore, it is placed in irrigable class 3.

GLOSSARY

Alluvial fan. A cone-shaped earth material deposit formed at the mouth of a tributary of high declivity in the valley or channel of a stream of less declivity. They are usually steepest near the north of the tributary drainage and slope outward with ever decreasing gradient.

Alluvial plain. A plain resulting from the deposition of alluvium by water. In the southwestern United States most alluvial plains are formed by streams having a considerable grade, and hence are generally referred to as alluvial slopes.

Alluvium. Soil material, such as sand, silt and clay that has been deposited on land surface by water.

Available water-holding capacity. The capacity of a soil to hold water in a form available to plants. Amount of moisture held in soil between field capacity, or about one-third atmosphere of tension, and the wilting coefficient, or about 15 atmospheres of tension.

Bottom. A bottomland, lowland formed by alluvial deposits along a stream; a floodplain.

Butte. This applies to detached hills and ridges which rise abruptly and reach too high to be called hills and ridges and not high enough to be called mountains.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeters in diameter. As a textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clayey. Fine-textured soils that included such textural classes as sandy clay, silt clay or clay.

Claypan. It is one or more compact horizons or layers rich in clay and separated more or less abruptly from the overlying horizon. A claypan is restrictive to root and water penetration.

Coarse-loamy. The subsoil, control section or 10 to 40 inch layer has soil textures with less than 18 percent clay or with less than 18 percent clay and more than 15 percent coarser than very fine sand (including coarse fragments up to 7.5 centimeters).

Coarse-silty. The subsoil, control section or 10 to 40 inch layer has soil textures with less than 18 percent clay, and less than 15 percent coarser than very fine sand (including coarse fragments up to 7.5 centimeters).

Coarse-textured. Soil textures of sand and loamy sand.

Fine-loamy. The subsoil, control section or 10 to 40 inch layer has soil textures with more than 18 percent clay or with more than 18 percent clay but less than 35 percent clay, and more than 15 percent coarser than very fine sand (including coarse fragments up to 7.5 centimeters).

Fine-textured. Soil textures that include sandy clay, silty clay and clay.

Gravel. A mass of rounded or angular rock fragments, 2 millimeters to 3 inches in diameter.

Hill. It is a mass of material rising above the level of the surrounding country, and culminating in a well-marked crest or summit. A mountain is simply a big hill.

Hydrologic Soil Groups. Soils are classified in hydrologic groups according to their affect or direct runoff. Major soil features determining hydrologic soil groupings are infiltration rate and water transmission. Classification is at the end of long-duration storms occurring after prior wetting and opportunity for swelling, and without the protective effect of vegetation. Four groups are used for estimating runoff potential of soils and watersheds.

Groups A. Soils having high infiltration rates even when thoroughly wetted, consisting chiefly of deep, well to excessively drained sands and/or gravel. These soils have a high rate of water transmission and would result in a low runoff potential.

Group B. Soils having moderate infiltration rates when thoroughly wetted, consisting chiefly of moderately deep to deep, moderately well to well-drained soils with moderately coarse textures. These soils have a moderate rate of water transmission.

Group C. Soils having slow infiltration rates when thoroughly wetted, consisting chiefly of (1) soils with a layer that impedes the downward movement of water or (2) soils with moderately fine to fine texture and a slow infiltration rate. These soils have a slow rate of water transmission.

Group D. Soils having very slow infiltration rates when thoroughly wetted, consisting chiefly of (1) clay soils with a high swelling potential (2) soils with a high permanent water table, (3) soils with claypan or clay layer at or near the surface, and (4) shallow soils nearly impervious materials. These soils have a very slow rate of water penetration.

Ignimbrite. Welded tuff, resembles rhyolitic lava and is decidedly silicic in composition. It has been called rhyolite but the formations include quartz latite, latite, dacite and andesite. Rhyolite is an extrusive igneous rock composed essentially of orthoclase, quartz and biotite.

Lava plain. A broad stretch of nearly level to gently undulating surface underlain by basaltic flows.

Loamy. Moderately coarse, medium and moderately fine-textured soils that include such textural classes as sandy loam, fine sandy loam, very fine sandy loam, silt loam, silt, clay loam, sandy clay loam and silty clay loam.

Loess sheet. A region of mass accumulation of loess on nearly level to gently undulating or rolling topography.

Medium-textured. Soil textures that include very fine sandy loam, loam, silt loam and silt.

Moderately coarse-textured. Soil textures that includes sandy loam and fine sandy loam.

Moderately fine-textured. Soil textures that includes clay loam, sandy clay loam and silty clay loam.

Mountain. An elevation of the surface of the earth greater than a hill and rising high above the surrounding country. Any part of a land mass which projects conspicuously above its surroundings.

Natural drainage. Refers to the conditions that existed during the development of the soil, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation, but may be caused by sudden deepening of channels or the blocking of drainage outlets. Seven different classes of natural drainage are recognized.

Very poorly drained. Water is removed from the soil so slowly that the water table remains at or near the surface the greater part of the time.

Poorly drained. Water is removed so slowly that the soil remains wet for a large part of the time. The water table is commonly above or near the surface during a considerable part of the time.

Somewhat poorly drained. Water is removed from the soil slowly enough to keep it wet for significant periods but not all the time.

Moderately well-drained. Water is removed from the soil somewhat slowly, so that the profile is wet for a small but significant part of the time.

Well-drained. Water is removed from the soil readily but not rapidly.

Somewhat excessively drained. Water is removed from the soil rapidly.

Excessively drained. Water is removed from the soil very rapidly.

Permeability. The quality of a soil horizon that enables water or air to move through it.

Plain. A region of general uniform slope, comparatively level, of considerable extent, and not broken by marked elevations and depression.

Parent material. The horizon of weathered rock or partly weathered soil material from which a soil is formed.

Residuum. Soil presumably developed from the same kind of rock as that on which it lies.

Ridge. A relatively narrow elevation which is prominent due to the steep angle at which it rises.

Saline Soil. A soil that contains soluble salts in amounts that impair growth of plants but does not contain excess exchangeable sodium.

Saline-alkali soils. A soil that contains a harmful concentration of salts and exchangeable sodium; or contains harmful salts and has a highly alkaline reaction; or contains harmful salts and exchangeable sodium and is strongly alkaline in reaction. The salts exchangeable sodium and alkaline reaction impair the growth of most crops.

Sand. As a soil separate, individual rock or mineral fragments, 0.05 to 2.0 millimeters in diameter. Most sand grains consist of quartz, but sand may be of any mineral composition. As a textural class, soil that is 85 percent or more sand and not more than 10 percent clay.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Slick spot. The spots are conspicuous under native conditions by their bare surface or sparse vegetation cover and under cultivation by the stunted appearance of the crops. Slick spots are characterized by poor water penetration. These spots vary in size from 2 feet to more than 50 feet in diameter and may occupy from 1 to 50 percent of the landscape. They are generally irregular shaped and occupy slightly depressed micro-relief. Soil characterized by an A2 surface horizon overlying thicker B2 layers that are high in clay, high in exchangeable sodium, and in most cases, high concentration of soluble salts. There is a lateral movement of water and salts from the associated soil into the slick spot with little or no movement of water and salts downward in the spot.

Soil Mapping Unit. It is a reoccurring pattern of geographically associated soils.

Stream terrace. A plain. A surface which marks a former valley floor, the surface of which is seldom flat and descends abruptly, often as an escarpment, towards the stream channel, more gently on the abutment side and gently ascends up-valley.

Subsoil. The part of the soil below the plow layer or surface.

Substratum. Any layer below the surface.

Surface layer. (Surface soil). The part of the soil commonly moved by tillage or about 4 to 12 inches.

Volcano. A vent in the earth's crust from which molten lava, pyroclastic materials, volcanic gases, etc., issue.

Water Table. The highest part of the soil or underlying rock material that is wholly saturated with water. On some places an upper, or perched water table may be separated from a lower one by a dry zone.

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Appendix I. Guide for Irrigability Interpretations for Soil Data, Exclusive of Climate: For Columbia - North Pacific Region

| Soil or Land Characteristics | Irrigable Class 1 Slight Limitations | Irrigable Class 2* Moderate Limitations | Irrigable Class 3* Severe Limitations | Non-irrigable Class 6 Very Severe Limitations |
|---|---|--|---|--|
| Texture of root zone | Fine sandy loam to friable clay loam | Loamy sand and permeable clay | Loamy sand and clay (sands with over 3 inch AWHC) | Coarser than loamy sand |
| Depth to: clean sand, gravel cobble, impermeable sediments or hard rock; hard pan <u>1</u> /hard or caliche | 40 inches plus (deep) | 20-40 inches (moderately deep) | 10 to 20 inches (shallow) | less than 10 inches (very shallow) |
| Textural modifiers; (vol.) of tillage layer: (Gravel 3" in diameter) (cobbles 3-10" in diameter) (Stones 10" in diameter) | No problem in tillage less than 15% gravel less than 10% cobbles .01% stones | 15-50% gravel 10-25% cobbles .01-0.1% stones | 50-70% gravel 25-25% cobbles 0.1-3% stones | more than 70% gravel 50% cobbles 3% stones |

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Appendix I. (continued)

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| Soil or Land Characteristics | Irrigable Class 1 Slight Limitations | Irrigable Class 2* Moderate Limitations | Irrigable Class 3* Severe Limitations | Non-irrigable Class 6 Very Severe Limitations |
|---|---|--|---|--|
| Rockiness <u>2/</u> (Small outcrops within soil type) | No problem in tillage | About 2% of surface | 2-10% of surface (Class 1 Soil Survey Manual p. 220) | More than 10% of surface |
| Rockiness can be rated irrigable for special uses not requiring tillage | | | | |
| Available water holding capacity (to a maximum depth of 4 feet) | more than 6" (high) | 4.5 to 6" (moderate) | 3 to 4.5" (low) | less than 3" (very low) |
| Permeability | Moderately slow to moderately | slow and rapid | very slow and very rapid | other factors are more important |
| Sodium and alkalinity <u>3/</u> | less than 10% slick spots in complex | 10 to 25% slick spots or ESP less than 15% | 25-50% slick spots or ESP more than 15% | more than 50% slick spots or ESP more than 15% |

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Appendix I. (continued)

| Soil or Land Characteristics | Irrigable Class 1 Slight Limitations | Irrigable Class 2* Moderate Limitations | Irrigable Class 3* Severe Limitations | Non-irrigable Class 6 Very Severe Limitations |
|--|--|---|---|--|
| Slope | Nearly level to very gently sloping 0 to 4% | gently sloping to sloping 4 to 12% | Steep 12 to 20% | Very steep more than 20% |
| Water table | Below major rooting zone during growing season | Practical to maintain below major rooting zone, during growing season (requires drainage) | Can maintain below 18" most of growing season, with or w/o drainage | Above 18" most of growing season |
| Overflow | None in growing season | Generally none in growing season | Overflow 2 or 3 times in 10 years | More than 3 in 10 years |
| Depth to impermeable barrier affecting internal drainage | 8 feet | less than 8 feet | less than 8 feet | less than 8 feet |

NOTE: Applies in physiographic positions with problem potential, i.e., basin, fans, pediments, slopes, etc.

Appendix I. (continued)

- 1/ If hardpan can be modified by deep tillage, it should be rated less severely.
 - 2/ Rockiness can be rated irrigable for special uses not requiring tillage.
 - 3/ Salts may be seasonal and difficult to evaluate. However, there may be sites on which salts are a permanent limitation. This condition can be discussed in the soil description. If it occurs throughout the year, its severity can be determined by the kind of vegetation or lack of vegetation and an irrigability class assigned accordingly.
- * Suitable for gravity-type irrigation.

General Guide for Irrigability Interpretation of Soils

- a. Class 1 - slight limitation, gravity-type irrigation feasible.
 - b. Class 2 - moderate limitations, gravity-type irrigation feasible.
 - c. Class 3 - severe limitations, potential for irrigation is severely limited.
 - d. Non-irrigable Class 6 - very severe limitations, not considered irrigable under present criteria.
1. Any one severe limitation below the limits of a class is cause for downgrading to next lower class.
 2. Two or more severe limitations are cause for downgrading two classes if judgement indicates they are additive in effect.
 3. Combinations of slight and moderate limitations that are additive if effect will be evaluated on a judgement basis.
 4. Soils that do not meet the minimum criteria for class 3. However, there are some soils which may have irrigation potential for certain specialized uses.

MAY, 1968

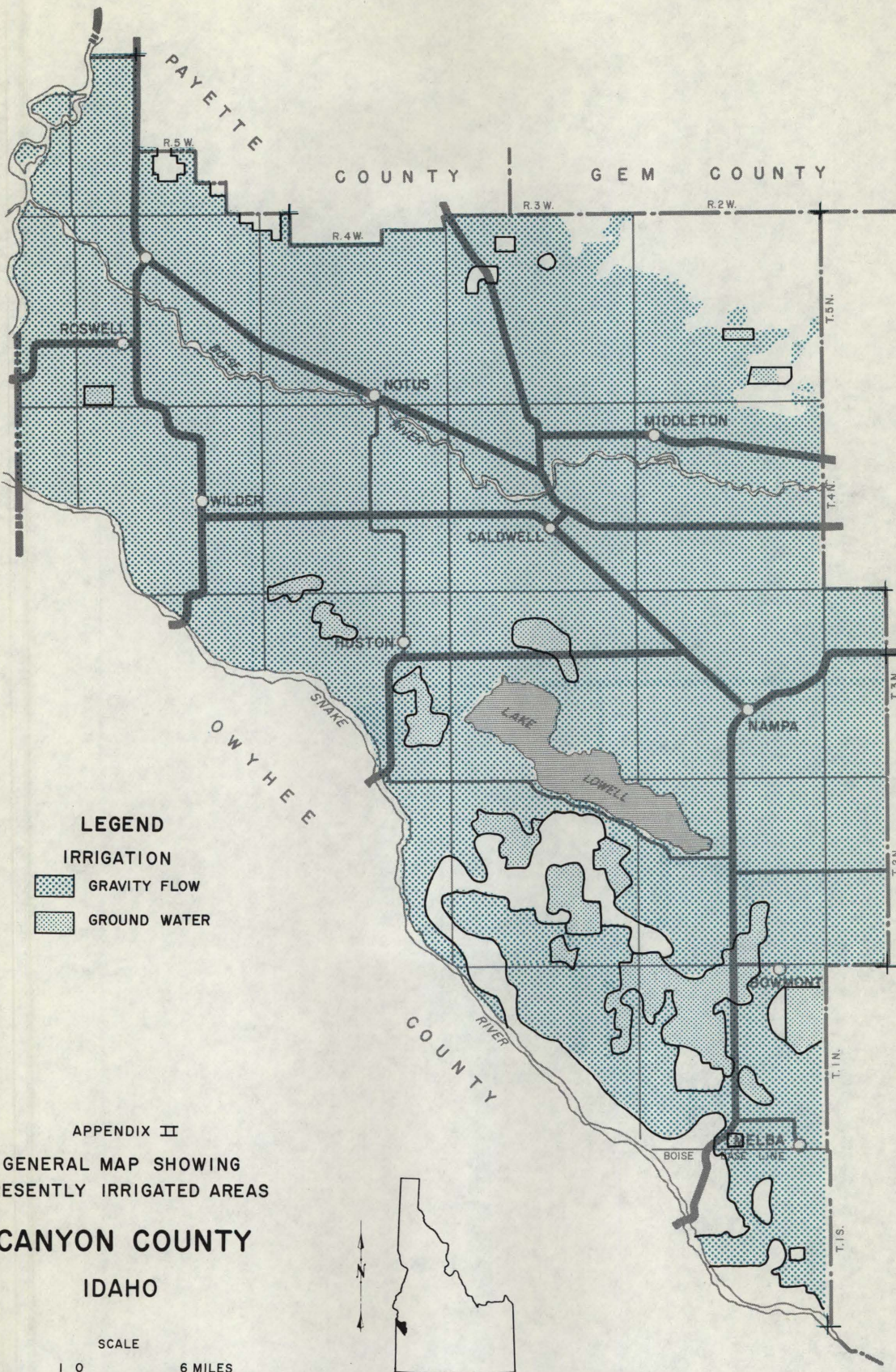
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O R E G O N
MALHEUR COUNTY

PAYETTE



C O U N T Y

G E M C O U N T Y



LEGEND

IRRIGATION

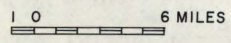
-  GRAVITY FLOW
-  GROUND WATER

APPENDIX II

**GENERAL MAP SHOWING
PRESENTLY IRRIGATED AREAS**

**CANYON COUNTY
IDAHO**

SCALE



A D A C O U N T Y

Appendix III. Acreage of Presently Irrigated Area, Potential Irrigable Area, in Each Irrigable and Non-Irrigable Class in Canyon County, Idaho.

| Map Symbol | Presently Irrigated Area | Potential Irrigable Area | Non-Irrigable Area | Irrigable and Non-Irrigable Classes | Total |
|--|--------------------------|--------------------------|--------------------|-------------------------------------|----------------|
| | (Acres) | (Acres) | (Acres) | | (Acres) |
| A | 93,998 | 5,118 | 0 | 1 | 99,116 |
| | 57,722 | 2,412 | 0 | 2 | 60,134 |
| | 3,936 | 0 | 0 | 3 | 3,936 |
| | <u>7,099</u> | <u>0</u> | <u>1,120</u> | 6 | <u>8,219</u> |
| | 162,755 | 7,530 | 1,120 | | 171,405 |
| B | 10,256 | 762 | 0 | 1 | 11,018 |
| | 66,662 | 2,367 | 0 | 2 | 69,029 |
| | 37,001 | 1,912 | 0 | 3 | 38,913 |
| | <u>7,851</u> | <u>0</u> | <u>174</u> | 6 | <u>8,025</u> |
| | 121,770 | 5,041 | 174 | | 126,985 |
| C | 5,054 | 0 | 0 | 1 | 5,054 |
| | 17,231 | 2,425 | 0 | 2 | 19,656 |
| | 33,995 | 4,170 | 0 | 3 | 38,165 |
| | <u>7,950</u> | <u>0</u> | <u>985</u> | 6 | <u>8,935</u> |
| | 64,230 | 6,595 | 985 | | 71,810 |
| D | none | none | none | | none |
| | <u>348,755</u> | <u>19,166</u> | <u>2,279</u> | Total Land Area | <u>370,200</u> |
| | | | | Total Water Area | <u>12,500</u> |
| | | | | Total Area | <u>382,700</u> |
| Usually Irrigated Area: 306,300 Acres. | | | | | |

Appendix IV - Classification¹ of Soils in Canyon County, Idaho.

| Soil Number | Series | Subgroup | Family |
|-------------|--------------|--|---|
| 037 | Baham* | Xerollic Calciorthids | Coarse-silty, mixed, mesic |
| 040 | Baldock | Typic Haplaquepts | Fine-loamy, mixed, calcareous, mesic |
| 083 | Bram* | Xerollic Calciorthids | Coarse-silty, mixed, mesic |
| 134 | Cencove* | Typic Torriorthents | Coarse-loamy over sandy or sandy - skeletal, mixed, calcareous, mesic |
| 145 | Chilcott | Abruptic Xerollic Durargids | Fine, montmorillonitic, mesic |
| 174 | Cruickshank* | Typic Haplaquepts | Coarse-loamy, mixed, calcareous, mesic |
| 216 | Draper | Aquic Fluventic Haplustolls | Fine-loamy, mixed, mesic |
| 239 | Elijah* | Xerollic Durargids | Fine-silty, mixed, mesic |
| 254 | Falk | Aquic Xerorthents | Coarse-loamy over sandy or sandy-skeletal, mixed, nonacid, mesic |
| 257 | Feltham* | Xeric Torriorthents | Sandy, mixed, mesic |
| 281 | Garbutt* | Typic Torriorthents | Coarse-silty, mixed, calcareous, mesic |
| 311 | Greenleaf* | Xerollic Haplargids | Fine-silty, mixed, mesic |
| 395 | Jenness | Xeric Torriorthents (Torrifluvents) | Coarse-loamy, mixed, nonacid, mesic |

¹ USDA-SCS Index to the Classification of Soil Series in Idaho. May 22, 1968 Boise, Idaho. Unpublished.

* Tentative Series

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Appendix IV - Continued

| Soil Number | Series | Subgroup | Family |
|-------------|-----------|------------------------------------|--|
| 458 | Kucera* | Calcic Pachic Haploxerolls | Coarse-silty, mixed, frigid |
| 476 | Lankbush* | Xerollic Haplargids | Fine-loamy, mixed, mesic |
| 477 | Lanktree | Xerollic Paleargids | Fine, montmorillonitic, mesic |
| 494 | Letha | Aquic Xerorthents | Coarse-loamy, calcareous, mixed mesic |
| 507 | Lolalita | Xeric Torriorthents | Coarse-loamy, mixed, nonacid, mesic |
| 529 | Marsing* | Xeric Torriorthents | Coarse-loamy over sandy or sandy-skeletal, mixed, calcareous, mesic |
| 564 | Minidoka | Xerollic Durorthids | Coarse-silty, mixed, mesic |
| 583 | Moulton | Typic Haplaquolls | Coarse-loamy over sandy or sandy-skeletal, mixed, noncalcareous, mesic |
| 616 | Notus | Aquic Camborthids (Ustorthents) | Sandy-skeletal, mixed, mesic |
| 621 | Nyssaton* | Xerollic Calciorthids | Coarse-silty, mixed, mesic |
| 632 | Owyhee* | Xerollic Camborthids | Coarse-silty, mixed, mesic |
| 685 | Power | Xerollic Haplargids | Fine-silty, mixed, mesic |
| 691 | Purdum | Xerollic Haplargid | Fine-silty, mixed, mesic |
| 694 | Potratz* | Xerollic Camborthids | Fine-loamy, mixed, mesic |
| 771 | Scism* | Entic Xerollic Durorthids | Coarse-silty, mixed, mesic |

Appendix IV - Continued

| Soil Number | Series | Subgroup | Family |
|-------------|-------------|-----------------------------|---|
| 776 | Sebree | Typic Nadurargids | Fine-silty, mixed, mesic |
| 883 | Trevino* | Lithic Xerollic Camborthids | Loamy, mixed, mesic |
| 890 | Turbyfill* | Seric Torriorthents | Coarse-loamy, mixed, calcareous, mesic |
| 909 | Vanderhoff* | Typic Torriorthents | Coarse-loamy, mixed, calcareous, mesic |
| 914 | Vickery | Xerollic Durorthids | Fine-loamy, mixed, mesic |
| 939 | Timmerman | Xerollic Camborthids | Coarse, loamy over sand or sandy - skeletal, mixed, mesic |

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