

Nontechnical Soil Descriptions
Atchison County, Kansas

Nontechnical soil descriptions describe soil properties or management considerations specific to a soil map unit or group of map units, shown in the NonTechnical Descriptions report. These descriptions are written in terminology that Non-technical users of soil survey information can understand. Nontechnical soil descriptions are a powerful tool for creating reports. These high quality, easy to read reports can be generated by conservation planners and other NRCS employees for distribution to land users. Soil map unit descriptions and National Soil Information System records are the basis for these descriptions.

013PD Padonia-Martin Silty Clay Loams, 5 To 9 Percent Slopes

Padonia soil makes up 50 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is high. The parent material consists of residuum weathered from shale, calcareous. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is slow. It has a moderate available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Clay Upland (pe30-37) range site. It is in the nonirrigated land capability classification 4e.

Martin soil makes up 40 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping footslope, backslope hillslope on upland. The runoff class is very high. The parent material consists of silty and clayey colluvium derived from limestone-shale over silty and clayey residuum weathered from limestone-shale. This soil is moderately well drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 24 inches. The soil contains a maximum amount of 1 percent calcium carbonate. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 4e.

013SG Shelby Clay Loam, 6 To 12 Percent Slopes

Shelby soil makes up 88 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping shoulder, backslope hillslope, upland. The runoff class is high. The parent material consists of till, unspecified. This soil is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 3e.

013SM Shelby Clay Loam, 12 To 18 Percent Slopes, Moderately Eroded

Shelby soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately steep shoulder, backslope hillslope on upland. The runoff class is high. The parent material consists of till, unspecified. This soil is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 4e.

085WB Wymore Silty Clay Loam, 1 To 3 Percent Slopes

Wymore soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is high. The parent material consists of silty and clayey loess. This soil is well drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 12 inches. The soil contains a maximum amount of 2 percent calcium carbonate. This soil is in the Clay Upland (pe30-37) range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

085WC Wymore Silty Clay Loam, 2 To 5 Percent Slopes, Eroded

Wymore, eroded, soil makes up 88 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping hillslope on upland. The runoff class is high. The parent material consists of silty and clayey loess. This soil is well drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 12 inches. The soil contains a maximum amount of 2 percent calcium carbonate. This soil is in the Clay Upland (pe30-37) range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

087MO Martin-Oska Silty Clay Loams, 3 To 6 Percent Slopes

Martin soil makes up 40 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is high. The parent material consists of silty and clayey colluvium derived from limestone and shale over silty and clayey residuum weathered from limestone and shale. This soil is moderately well drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 24 inches. The soil contains a maximum amount of 1 percent calcium carbonate. This soil is in the Loamy Upland (pe35-42) range site. It is in the nonirrigated land capability classification 3e.

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Oska soil makes up 30 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is high. The parent material consists of silty and clayey residuum weathered from limestone and shale. The soil is 20 to 40 inches deep to bedrock (lithic). This soil is well drained. The slowest permeability is slow. It has a moderate available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Loamy Upland (pe35-42) range site. It is in the nonirrigated land capability classification 3e.

087SC Shelby-Pawnee Complex, 3 To 8 Percent Slopes

Shelby soil makes up 55 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of fine-loamy till. This soil is moderately well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 30 percent calcium carbonate. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 3e.

Pawnee soil makes up 30 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is very high. The parent material consists of clayey till. This soil is moderately well drained. The slowest permeability is slow. It has a moderate available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 12 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Clay Upland (pe30-37) range site. It is in the nonirrigated land capability classification 3e.

601GC Gosport Complex, 10 To 30 Percent Slopes

Gosport soil makes up 50 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is very high. The parent material consists of clayey residuum weathered from shale. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is moderately well drained. The slowest permeability is very slow. It has a low available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. It is in the nonirrigated land capability classification 7e.

601GT Grundy Silty Clay Loam, 1 To 3 Percent Slopes

Grundy soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is high. The parent material consists of silty and clayey loess. This soil is somewhat poorly drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 18 inches. This soil is in the Clay Upland (pe30-37) range site. It is in the nonirrigated land capability classification 2e.

601KH Knox Silt Loam, 7 To 12 Percent Slopes

Knox soil makes up 80 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a strongly sloping hillslope on upland. The runoff class is medium. The parent material consists of fine-silty loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. It is in the nonirrigated land capability classification 3e.

601LA Ladoga Silt Loam, 4 To 7 Percent Slopes

Ladoga soil makes up 80 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is high. The parent material consists of silty and clayey loess. This soil is moderately well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. It is in the nonirrigated land capability classification 3e.

601SH Shelby Loam, 4 To 8 Percent Slopes

Shelby soil makes up 80 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of fine-loamy till. This soil is moderately well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 30 percent calcium carbonate. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 3e.

601SM Shelby Loam, 8 To 12 Percent Slopes

Shelby soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a strongly sloping hillslope on upland. The runoff class is high. The parent material consists of fine-loamy till. This soil is moderately well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 30 percent calcium carbonate. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 4e.

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Ab Albaton Silty Clay, 0 To 2 Percent Slopes, Occasionally Flooded

Albaton soil makes up 86 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping alluvial flat on flood plain on river valley. The runoff class is negligible. The parent material consists of clayey alluvium. This soil is poorly drained. The slowest permeability is very slow. It has a moderate available water capacity and a very high shrink swell potential. This soil is occasionally flooded and is occasional ponded. The top of the seasonal high water table is at 12 inches. The soil contains a maximum amount of 30 percent calcium carbonate. This soil is in the Clayey Overflow - Veg. Zone 3 range site. This soil is in the irrigated land capability class 3w. It is in the nonirrigated land capability classification 3w.

Ae Aksarben Silty Clay Loam, 5 To 11 Percent Slopes

Aksarben soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of loess. This soil is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 3e.

Aq Fluvaquents, Ponded

Fluvaquents soil makes up 95 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping depression on flood plain on river valley. The runoff class is negligible. The parent material consists of silty and clayey alluvium. This soil is poorly drained. It has a very low available water capacity and a low shrink swell potential. This soil is occasionally flooded and is frequent ponded. The top of the seasonal high water table is at 0 inches. It is in the nonirrigated land capability classification 8w.

Ar Armster Clay Loam, 6 To 12 Percent Slopes

Armster soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of loess over till. This soil is moderately well drained. The slowest permeability is moderately slow. It has a moderate available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 36 inches. This soil is in the Clay Upland (pe30-37) range site. It is in the nonirrigated land capability classification 4e.

As Armster Clay Loam, 12 To 20 Percent Slopes

Armster soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately steep hillslope on upland. The runoff class is high. The parent material consists of loess over till. This soil is moderately well drained. The slowest permeability is moderately slow. It has a moderate available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 36 inches. This soil is in the Clay Upland (pe30-37) range site. It is in the nonirrigated land capability classification 4e.

Ch Chase Silty Clay Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Chase soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is medium. The parent material consists of silty and clayey alluvium. This soil is somewhat poorly drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is rarely flooded and is not ponded. The top of the seasonal high water table is at 24 inches. The soil contains a maximum amount of 1 percent calcium carbonate. This soil is in the Loamy Lowland (pe30-37) range site. It is in the nonirrigated land capability classification 2w.

Go Gosport Silty Clay Loam, 25 To 45 Percent Slopes

Gosport soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a steep to steep hillslope on upland. The runoff class is very high. The parent material consists of clayey residuum weathered from shale. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is moderately well drained. The slowest permeability is very slow. It has a low available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. It is in the nonirrigated land capability classification 7e.

Gr Grundy Silty Clay Loam, 0 To 2 Percent Slopes

Grundy soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping hillslope on upland. The runoff class is high. The parent material consists of silty and clayey loess. This soil is somewhat poorly drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 9 inches. This soil is in the Clay Upland (pe30-37) range site. It is in the nonirrigated land capability classification 2w.

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Gu Grundy Silty Clay Loam, 2 To 6 Percent Slopes

Grundy soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping hillslope on upland. The runoff class is high. The parent material consists of silty and clayey loess. This soil is somewhat poorly drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 9 inches. This soil is in the Clay Upland (pe30-37) range site. It is in the nonirrigated land capability classification 3e.

Gx Grundy Silty Clay, 3 To 7 Percent Slopes, Eroded

Grundy soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is high. The parent material consists of silty and clayey loess. This soil is somewhat poorly drained. The slowest permeability is slow. It has a moderate available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 9 inches. This soil is in the Clay Upland (pe30-37) range site. It is in the nonirrigated land capability classification 3e.

Hn Haynie Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Haynie soil makes up 96 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping alluvial flat on river valley. The runoff class is low. The parent material consists of coarse-silty alluvium. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 24 inches. The soil contains a maximum amount of 30 percent calcium carbonate. This soil is in the Loamy Lowland (pe35-37) range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

Ho Haynie-Onawa Complex, 0 To 2 Percent Slopes, Occasionally Flooded

Haynie soil makes up 60 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping alluvial flat on river valley. The runoff class is low. The parent material consists of coarse-silty alluvium. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 24 inches. The soil contains a maximum amount of 30 percent calcium carbonate. This soil is in the Loamy Lowland (pe35-37) range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

Onawa soil makes up 30 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is medium. The parent material consists of clayey alluvium. This soil is somewhat poorly drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is occasionally flooded and is occasionally ponded. The top of the seasonal high water table is at 24 inches. This soil is in the Clay Lowland (pe35-37) range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

Ju Judson Silt Loam, 2 To 6 Percent Slopes

Judson soil makes up 95 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping footslope fan remnant on upland. The runoff class is low. The parent material consists of loamy colluvium. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Loamy Lowland (pe30-37) range site. It is in the nonirrigated land capability classification 2e.

Ke Kennebec Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Kennebec soil makes up 89 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on valley. The runoff class is low. The parent material consists of silty alluvium. This soil is moderately well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 42 inches. This soil is in the Loamy Lowland (pe30-37) range site. It is in the nonirrigated land capability classification 2w.

Kf Kennebec Silt Loam, Channeled, Frequently Flooded

Kennebec, CHANNELED, soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on valley. The runoff class is low. The parent material consists of silty alluvium. This soil is moderately well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 42 inches. This soil is in the Loamy Lowland (pe30-37) range site. It is in the nonirrigated land capability classification 5w.

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Kg Kennebec-Colo Silt Loams, 0 To 2 Percent Slopes, Occasionally Flooded

Kennebec soil makes up 60 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is low. The parent material consists of fine-silty alluvium. This soil is moderately well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 48 inches. This soil is in the Loamy Lowland (pe30-37) range site. It is in the nonirrigated land capability classification 2w.

Colo soil makes up 30 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on valley. The runoff class is low. The parent material consists of fine-silty alluvium. This soil is poorly drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 24 inches. It is in the nonirrigated land capability classification .

Kn Knox Silt Loam, 4 To 10 Percent Slopes

Knox soil makes up 90 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping summit, shoulder, backslope hillslope on upland. The runoff class is medium. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. It is in the nonirrigated land capability classification 3e.

Ky Knox-Gosport Complex, 10 To 30 Percent Slopes

Knox soil makes up 60 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is high. The parent material consists of fine-silty loess. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. It is in the nonirrigated land capability classification 6e.

Gosport soil makes up 30 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a strongly sloping to steep hillslope on upland. The runoff class is very high. The parent material consists of clayey residuum weathered from shale. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is moderately well drained. The slowest permeability is very slow. It has a low available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. It is in the nonirrigated land capability classification .

Mc Martin Silty Clay Loam, 3 To 7 Percent Slopes

Martin soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping backslope hillslope on upland. The runoff class is high. The parent material consists of silty and clayey colluvium derived from limestone and shale over silty and clayey residuum weathered from limestone and shale. This soil is moderately well drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 24 inches. The soil contains a maximum amount of 1 percent calcium carbonate. This soil is in the Loamy Upland (pe35-42) range site. It is in the nonirrigated land capability classification 3e.

Mw Muscotah Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded, Overwash

Muscotah soil makes up 87 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on valley. The runoff class is medium. The parent material consists of clayey alluvium. This soil is somewhat poorly drained. The slowest permeability is impermeable. It has a high available water capacity and a high shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 24 inches. This soil is in the Loamy Lowland (pe30-37) range site. It is in the nonirrigated land capability classification 2w.

No Nodaway Silt Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Nodaway soil makes up 90 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on valley. The runoff class is low. The parent material consists of silty alluvium. This soil is moderately well drained. The slowest permeability is moderate. It has a very high available water capacity and a moderate shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 36 inches. This soil is in the Loamy Lowland (pe30-37) range site. It is in the nonirrigated land capability classification 2w.

Od Onawa Loam, 0 To 2 Percent Slopes, Occasionally Flooded, Overwash

Onawa soil makes up 95 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is medium. The parent material consists of clayey alluvium over loamy alluvium. This soil is somewhat poorly drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is occasionally flooded and is occasional ponded. The top of the seasonal high water table is at 36 inches. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Clay Lowland (pe35-37) range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

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On Onawa And Waldron Silty Clay Loams, 0 To 2 Percent Slopes, Occasionally Flooded

Onawa, sicl, 0-2%, occ. flood, soil makes up 53 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is medium. The parent material consists of clayey alluvium. This soil is somewhat poorly drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is occasionally flooded and is occasional ponded. The top of the seasonal high water table is at 24 inches. This soil is in the Clay Lowland (pe35-37) range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

Waldron, sicl, 0-2%, occ. flooded, soil makes up 43 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is very low. The parent material consists of clayey alluvium. This soil is somewhat poorly drained. The slowest permeability is very slow. It has a high available water capacity and a very high shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 6 inches. This soil is in the Clayey Overflow - Veg. Zone 3 range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

On Onawet Silty Clay Loam, Depressional, 0 To 1 Percent Slopes, Frequently Flooded

Onawet soil makes up 95 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a nearly level flood plain on river valley. The runoff class is negligible. The parent material consists of clayey alluvium over loamy alluvium. This soil is very poorly drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is frequently flooded and is frequent ponded. The top of the seasonal high water table is at 30 inches. The soil contains a maximum amount of 30 percent calcium carbonate. It is in the nonirrigated land capability classification 5w.

Pa Palermo-Knox Complex, 10 To 18 Percent Slopes

Knox soil makes up 50 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep summit, shoulder, backslope hillslope on upland. The runoff class is high. The parent material consists of loess. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. It is in the nonirrigated land capability classification 3e.

Palermo soil makes up 50 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep shoulder, summit, backslope hillslope on upland. The runoff class is high. The parent material consists of loess. This soil is well drained. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. It is in the nonirrigated land capability classification 4e.

Pb Palermo Silty Clay Loam, 18 To 30 Percent Slopes

Palermo soil makes up 95 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a moderately steep to steep backslope, shoulder, summit hillslope on upland. The runoff class is high. The parent material consists of loess. This soil is well drained. It has a very high available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. It is in the nonirrigated land capability classification 4e.

Pc Pawnee Clay Loam, 3 To 7 Percent Slopes

Pawnee soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping backslope hillslope on upland. The runoff class is high. The parent material consists of clayey drift. This soil is moderately well drained. The slowest permeability is slow. It has a moderate available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 12 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Clay Upland (pe30-37) range site. It is in the nonirrigated land capability classification 3e.

Pd Pawnee Clay, 3 To 7 Percent Slopes, Eroded

Pawnee, eroded, soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is high. The parent material consists of clayey drift. This soil is moderately well drained. The slowest permeability is slow. It has a moderate available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 12 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Clay Upland (pe30-37) range site. It is in the nonirrigated land capability classification 4e.

Re Reading Silt Loam, 0 To 2 Percent Slopes, Rarely Flooded

Reading soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping terrace on river valley. The runoff class is low. The parent material consists of fine-silty alluvium. This soil is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is rarely flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Loamy Lowland (pe35-42) range site. It is in the nonirrigated land capability classification 1.

Nontechnical Soil Descriptions--Continued
Atchison County, Kansas

Sb Sharpsburg Silty Clay Loam, 1 To 4 Percent Slopes

Sharpsburg soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping hillslope on upland. The runoff class is medium. The parent material consists of silty and clayey loess. This soil is moderately well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 2e.

Sc Sharpsburg Silty Clay Loam, 4 To 8 Percent Slopes

Sharpsburg soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is medium. The parent material consists of silty and clayey loess. This soil is moderately well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 3e.

Sh Shelby Clay Loam, 5 To 10 Percent Slopes

Shelby soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping hillslope on upland. The runoff class is high. The parent material consists of fine-loamy drift. This soil is moderately well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 30 percent calcium carbonate. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 3e.

Sm Shelby Clay Loam, 7 To 15 Percent Slopes, Eroded

Shelby, eroded, soil makes up 88 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep hillslope on upland. The runoff class is high. The parent material consists of fine-loamy drift. This soil is moderately well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 30 percent calcium carbonate. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 4e.

Ss Shelby-Steinauer Loams, 12 To 25 Percent Slopes

Shelby, eroded, soil makes up 55 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately steep to steep hillslope on upland. The runoff class is high. The parent material consists of fine-loamy drift. This soil is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 30 percent calcium carbonate. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 6e.

Steinauer soil makes up 35 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately steep to steep hillslope on upland. The runoff class is high. The parent material consists of calcareous fine-loamy drift. This soil is well drained. The slowest permeability is moderately slow. It has a high available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 15 percent calcium carbonate. This soil is in the Limy Upland (pe30-37) range site. It is in the nonirrigated land capability classification .

Vr Vinland-Rock Outcrop Complex, 20 To 40 Percent Slopes

Vinland soil makes up 26 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a steep to steep hillslope on upland. The runoff class is high. The parent material consists of sandy and silty residuum weathered from shale. The soil is 10 to 20 inches deep to bedrock (paralithic). This soil is somewhat excessively drained. The slowest permeability is moderate. It has a low available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Loamy Upland (pe35-42) range site. It is in the nonirrigated land capability classification 6e.

Vs Vinland Silty Clay Loam, 4 To 15 Percent Slopes

Vinland soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to moderately steep hillslope on upland. The runoff class is medium. The parent material consists of sandy and silty residuum weathered from shale. The soil is 10 to 20 inches deep to bedrock (paralithic). This soil is somewhat excessively drained. The slowest permeability is moderate. It has a low available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Loamy Upland (pe30-37) range site. It is in the nonirrigated land capability classification 6e.

Nontechnical Soil Descriptions--Continued
Atchison County, Kansas

Wa Wabash Silty Clay Loam, 0 To 2 Percent Slopes, Occasionally Flooded

Wabash soil makes up 85 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on valley. The runoff class is very high. The parent material consists of clayey alluvium. This soil is poorly drained. The slowest permeability is very slow. It has a moderate available water capacity and a very high shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 6 inches. This soil is in the Clay Lowland (pe30-37) range site. It is in the nonirrigated land capability classification 3w.

Wb Wabash Silty Clay, 0 To 2 Percent Slopes, Occasionally Flooded

Wabash soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on valley. The runoff class is very high. The parent material consists of clayey alluvium. This soil is poorly drained. The slowest permeability is very slow. It has a moderate available water capacity and a very high shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 6 inches. This soil is in the Clay Lowland (pe30-37) range site. It is in the nonirrigated land capability classification 3w.

Wg Wamego-Vinland Silty Clay Loams, 3 To 15 Percent Slopes

Wamego soil makes up 50 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to moderately steep backslope hillslope on upland. The runoff class is very high. The parent material consists of sandy and silty residuum weathered from shale, unspecified. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is slow. It has a low available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Clay Upland (pe30-37) range site. It is in the nonirrigated land capability classification 6e.

Vinland soil makes up 40 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to moderately steep backslope hillslope on upland. The runoff class is very high. The parent material consists of sandy and silty residuum weathered from shale, unspecified. The soil is 10 to 20 inches deep to bedrock (paralithic). This soil is somewhat excessively drained. The slowest permeability is moderate. It has a low available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The seasonal high water table is at a depth of more than 6 feet. This soil is in the Shallow Savannah (pe30-37) range site. It is in the nonirrigated land capability classification 6e.

Wh Wathena-Haynie Complex, 0 To 2 Percent Slopes, Occasionally Flooded

Wathena soil makes up 55 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping natural levee on flood plain. The runoff class is negligible. The parent material consists of sandy alluvium. This soil is moderately well drained. The slowest permeability is rapid. It has a moderate available water capacity and a moderate shrink swell potential. This soil is occasionally flooded and is occasional ponded. The top of the seasonal high water table is at 31 inches. This soil is in the Sandy Lowland (pe35-37) range site. It is in the nonirrigated land capability classification 4w.

Haynie soil makes up 40 percent of the map unit. This map unit is in the Iowa and Missouri Deep Loess Hills Major Land Resource Area. This soil occurs on a nearly level to gently sloping alluvial flat on river valley. The runoff class is negligible. The parent material consists of silty alluvium. This soil is well drained. The slowest permeability is moderate. It has a very high available water capacity and a low shrink swell potential. This soil is occasionally flooded and is not ponded. The top of the seasonal high water table is at 24 inches. The soil contains a maximum amount of 30 percent calcium carbonate. This soil is in the Loamy Lowland (pe35-37) range site. This soil is in the irrigated land capability class 2w. It is in the nonirrigated land capability classification 2w.

Wm Wymore Silty Clay Loam, 2 To 5 Percent Slopes

Wymore soil makes up 90 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping shoulder interfluvial on upland. The runoff class is high. The parent material consists of loess. This soil is moderately well drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 12 inches. The soil contains a maximum amount of 2 percent calcium carbonate. This soil is in the Loamy Lowland (pe30-37) range site. It is in the nonirrigated land capability classification 3e.

Wn Wymore Silty Clay Loam, 5 To 9 Percent Slopes

Wymore soil makes up 82 percent of the map unit. This map unit is in the Nebraska and Kansas Loess-Drift Hills Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping backslope hillslope on upland. The runoff class is very high. The parent material consists of loess. This soil is moderately well drained. The slowest permeability is slow. It has a high available water capacity and a high shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 12 inches. The soil contains a maximum amount of 2 percent calcium carbonate. This soil is in the Loamy Lowland (pe30-37) range site. It is in the nonirrigated land capability classification 4e.

