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**County specific computer generated reports.*

ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Kingman County, Kansas: Published

Map symbol	Soil name	Acres	Percent
007AE	Albion And Shellabarger Soils, 4 To 15 Percent Slopes-----	656	0.1
007FA	Farnum Fine Sandy Loam, 0 To 1 Percent Slopes-----	7	*
077KA	Kanza Loamy Fine Sand, Frequently Flooded-----	10	*
077KR	Kirkland-Renfrow Clay Loams, 1 To 3 Percent Slopes-----	219	*
077NN	Nashville Silt Loam, 3 To 6 Percent Slopes, Eroded-----	2	*
077PC	Pond Creek Silt Loam, 0 To 1 Percent Slopes-----	3	*
077RC	Renfrow-Vernon Clay Loams, 1 To 3 Percent Slopes-----	82	*
077SB	Shellabarger Fine Sandy Loam, 0 To 1 Percent Slopes-----	47	*
077SE	Shellabarger Fine Sandy Loam, 1 To 3 Percent Slopes-----	1,337	0.2
077SF	Shellabarger Fine Sandy Loam, 3 To 6 Percent Slopes-----	116	*
077SG	Shellabarger Fine Sandy Loam, 3 To 6 Percent Slopes, Eroded-----	25	*
077SH	Stoneburg Fine Sandy Loam, 1 To 3 Percent Slopes-----	59	*
151AO	Albion Sandy Loam, 3 To 7 Percent Slopes, Eroded-----	107	*
151CN	Clark Fine Sandy Loam, 1 To 3 Percent Slopes-----	229	*
151CO	Clark-Ost Clay Loams, 0 To 1 Percent Slopes-----	25	*
151KP	Kanza-Plevna Complex, Frequently Flooded-----	13	*
151ND	Naron Fine Sandy Loam, 0 To 1 Percent Slopes-----	6	*
151NF	Naron Fine Sandy Loam, 1 To 3 Percent Slopes-----	502	*
151OC	Ost Clay Loam, 0 To 1 Percent Slopes-----	50	*
151OS	Ost Clay Loam, 1 To 4 Percent Slopes-----	18	*
151PN	Pratt Loamy Fine Sand, 5 To 10 Percent Slopes-----	7	*
151SE	Shellabarger Fine Sandy Loam, 1 To 4 Percent Slopes-----	25	*
151ZS	Zenda-Drummond Complex, Occasionally Flooded-----	24	*
173MA	Milan Loam, 1 To 3 Percent Slopes-----	136	*
173PB	Plevna Fine Sandy Loam, Frequently Flooded-----	35	*
173RA	Renfrow Silty Clay Loam, 1 To 3 Percent Slopes-----	1,857	0.3
173RC	Renfrow-Wellsford Clay Loams, 1 To 4 Percent Slopes-----	3	*
173TA	Tabler Silty Clay Loam, 0 To 1 Percent Slopes-----	20	*
191RA	Renfrow-Grainola Complex, 1 To 3 Percent Slopes-----	23	*
990	Abbyville Loam, 0 To 1 Percent Slopes-----	18	*
991	Abbyville-Kisiwa Complex, 0 To 2 Percent Slopes, Flooded-----	161	*
1004	Albion Sandy Loam, 0 To 1 Percent Slopes-----	205	*
1005	Albion Sandy Loam, 1 To 3 Percent Slopes-----	732	0.1
1006	Albion Sandy Loam, 3 To 7 Percent Slopes, Eroded-----	564	0.1
1011	Albion-Shellabarger Sandy Loams, 1 To 3 Percent Slopes-----	263	*
1017	Albion And Shellabarger Sandy Loams, 7 To 15 Percent Slopes-----	232	*
1061	Arents, Earthen Dam-----	29	*
1359	Clark-Ost Loams, 3 To 7 Percent Slopes-----	89	*
1555	Dillhut-Plev Complex, 0 To 2 Percent Slopes-----	179	*
1728	Funmar And Farnum Loams, 3 To 6 Percent Slopes-----	338	*
2205	Jamash-Piedmont Clay Loams, 1 To 3 Percent Slopes-----	275	*
2381	Kanza-Ninnescah Sandy Loams, 0 To 2 Percent Slopes, Commonly Flooded-----	582	0.1
2390	Kaskan Loam, 0 To 1 Percent, Rarely Flooded-----	51	*
2556	Langdon Fine Sand, 0 To 15 Percent Slopes-----	30	*
2812	Mahone Loamy Fine Sand, 0 To 2 Percent Slopes, Rarely Flooded-----	25	*
2948	Nalim Loam, 0 To 1 Percent Slopes-----	3,444	0.6
3051	Ost Loam, 0 To 1 Percent Slopes-----	16	*
3052	Ost-Clark Loams, 1 To 3 Percent Slopes-----	388	*
3170	Penalosa Silt Loam, 0 To 1 Percent Slopes-----	4	*
3171	Penalosa Silt Loam, 1 To 3 Percent Slopes-----	5	*
3180	Pratt Fine Sand, 5 To 10 Percent Slopes-----	16	*
3181	Pratt-Turon Fine Sand, 1 To 5 Percent Slopes-----	219	*
3445	Shellabarger Sandy Loam, 3 To 7 Percent Slopes-----	1,059	0.2
3510	Saltcreek-Funmar-Farnum Complex, 1 To 3 Percent Slopes-----	250	*
3530	Shellabarger, Eroded And Albion Soils, 7 To 15 Percent Slopes-----	199	*
3531	Shellabarger And Nalim Soils, 3 To 7 Percent Slopes-----	36	*
3532	Shellabarger Loamy Sand, 0 To 3 Percent Slopes-----	65	*
3533	Shellabarger Sandy Loam, 0 To 1 Percent Slopes-----	105	*
3534	Shellabarger Sandy Loam, 1 To 3 Percent Slopes-----	15,817	2.9
3535	Shellabarger-Nalim Complex, 1 To 3 Percent Slopes-----	6,008	1.1
3926	Water-----	791	0.1
3966	Willowbrook Fine Sandy Loam, 0 To 1 Percent Slopes, Occasionally Flooded-----	36	*
4005	Yaggy-Saxman Complex, 0 To 2 Percent Slopes, Occasionally Flooded-----	364	*
4110	Zellmont And Poxmash Sandy Loams, 0 To 3 Percent Slopes-----	75	*
Aa	Albion Sandy Loam, 0 To 1 Percent Slopes-----	904	0.2
Ab	Albion Sandy Loam, 1 To 3 Percent Slopes-----	14,090	2.5
Ac	Albion Sandy Loam, 3 To 6 Percent Slopes-----	11,279	2.0
Ad	Albion Sandy Loam, 6 To 15 Percent Slopes-----	58,412	10.5
AED	Arents, Earthen Dam-----	13	*
Ba	Blanket Silt Loam, 0 To 1 Percent Slopes-----	6,890	1.2
Bb	Blanket Silt Loam, 1 To 3 Percent Slopes-----	9,401	1.7
Bc	Blanket Silty Clay Loam, 1 To 4 Percent Slopes, Eroded-----	1,059	0.2
Ca	Canadian Fine Sandy Loam, Rarely Flooded-----	4,339	0.8
Cb	Carwile Fine Sandy Loam, 0 To 1 Percent Slopes-----	6,228	1.1
Cc	Case-Clark Clay Loams, 2 To 6 Percent Slopes-----	7,918	1.4
Cd	Case-Clark Clay Loams, 6 To 15 Percent Slopes-----	3,384	0.6
Ce	Clark Clay Loam, 0 To 1 Percent Slopes-----	1,375	0.2
Cf	Clark Clay Loam, 1 To 4 Percent Slopes-----	14,600	2.6
Da	Dillwyn-Plevna Complex, Occasionally Flooded-----	29,207	5.3
Fa	Farnum Sandy Loam, 0 To 2 Percent Slopes-----	22,738	4.1
Fb	Farnum Loam, 0 To 1 Percent Slopes-----	15,998	2.9
Fc	Farnum Loam, 1 To 3 Percent Slopes-----	59,330	10.7
Fd	Farnum Loam, 3 To 6 Percent Slopes-----	3,729	0.7
Fe	Farnum Clay Loam, 2 To 6 Percent Slopes, Eroded-----	6,321	1.1
Ff	Farnum-Natrustolls Complex, 0 To 1 Percent Slopes-----	3,518	0.6
Ka	Kaski Loam, Occasionally Flooded-----	13,320	2.4
Kb	Kingman Silty Clay Loam, Occasionally Flooded-----	578	0.1
La	Lincoln Loamy Sand, Occasionally Flooded-----	10,819	2.0
Ma	McLain Silt Loam, Rarely Flooded-----	2,071	0.4
Na	Nashville Silt Loam, 1 To 3 Percent Slopes-----	9,202	1.7
Nb	Nashville-Quinlan Complex, 5 To 15 Percent Slopes-----	15,392	2.8
Oa	Wellsford Clay Loam, 1 To 4 Percent Slopes-----	4,800	0.9

ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Kingman County, Kansas: Published

Map symbol	Soil name	Acres	Percent
Pa	Pond Creek Silt Loam, 1 To 3 Percent Slopes-----	4,268	0.8
Pb	Pratt Loamy Fine Sand, 1 To 5 Percent Slopes-----	8,057	1.5
Pc	Pratt-Carwile Complex, 0 To 5 Percent Slopes-----	3,985	0.7
Pd	Pratt-Tivoli Loamy Fine Sands, 5 To 15 Percent Slopes-----	4,466	0.8
Qa	Quinlan Loam, 1 To 3 Percent Slopes-----	5,552	1.0
Qb	Quinlan Loam, 3 To 5 Percent Slopes-----	7,117	1.3
Ra	Renfrow Clay Loam, 1 To 3 Percent Slopes-----	16,798	3.0
Rb	Ruella Clay Loam, 1 To 4 Percent Slopes-----	1,378	0.2
Rc	Ruella-Rock Outcrop Complex, 3 To 40 Percent Slopes-----	2,074	0.4
Sa	Shellabarger Loamy Sand, 0 To 3 Percent Slopes-----	2,975	0.5
Sb	Shellabarger Sandy Loam, 1 To 3 Percent Slopes-----	72,728	13.1
Sc	Shellabarger Sandy Loam, 3 To 6 Percent Slopes-----	19,034	3.4
Sd	Shellabarger Sandy Loam, 3 To 6 Percent Slopes, Eroded-----	7,440	1.3
Ta	Tivoli Fine Sand, 15 To 30 Percent Slopes-----	1,245	0.2
W	Water-----	3,933	0.7
Wa	Waldeck Fine Sandy Loam, Occasionally Flooded-----	12,340	2.2
Za	Zenda Clay Loam, Occasionally Flooded-----	6,192	1.1
	Total-----	554,810	100.0

* Less than 0.1 percent.

Nontechnical Soil Descriptions Kingman 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.

007AE Albion And Shellabarger Soils, 4 To 15 Percent Slopes

Albion soil makes up 55 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping to moderately steep paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a low 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. This soil is in the Sandy (pe20-25) range site. It is in the nonirrigated land capability classification 6e.

Shellabarger soil makes up 45 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping to moderately steep paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a 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. This soil is in the Sandy (pe20-25) range site. It is in the nonirrigated land capability classification 6e.

007FA Farnum Fine Sandy Loam, 0 To 1 Percent Slopes

Farnum soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is very low. The parent material consists of alluvium. 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. This soil is in the Sandy (pe24-32) range site. This soil is in the irrigated land capability class 1. It is in the nonirrigated land capability classification 2e.

077KA Kanza Loamy Fine Sand, Frequently Flooded

Kanza soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains 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 alluvium. This soil is poorly drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 18 inches. This soil is in the Subirrigated (pe24-32) range site. It is in the nonirrigated land capability classification 5w.

077KR Kirkland-Renfrow Clay Loams, 1 To 3 Percent Slopes

Kirkland soil makes up 70 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is low. The parent material consists of residuum. This soil is well drained. The slowest permeability is very 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 Clay Upland (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Renfrow soil makes up 30 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is low. The parent material consists of residuum. This soil is well drained. The slowest permeability is very 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 Clay Upland (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

077NN Nashville Silt Loam, 3 To 6 Percent Slopes, Eroded

Nashville soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is medium. The parent material consists of residuum. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a moderate 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. This soil is in the Loamy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 4e.

077PC Pond Creek Silt Loam, 0 To 1 Percent Slopes

Pond Creek soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a nearly level terrace. The runoff class is negligible. The parent material consists of 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 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 (pe24-32) range site. It is in the nonirrigated land capability classification 1.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

077RC Renfrow-Vernon Clay Loams, 1 To 3 Percent Slopes

Renfrow soil makes up 65 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is low. The parent material consists of residuum. This soil is well drained. The slowest permeability is very 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 Clay Upland (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Vernon soil makes up 35 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is low. The parent material consists of residuum. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is 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. The soil contains a maximum amount of 25 percent calcium carbonate. This soil contains a slightly saline horizon, it has a horizon that is moderately sodic. This soil is in the Red Clay Prairie (pe24-32) range site. This soil is in the irrigated land capability class 4e. It is in the nonirrigated land capability classification 4e.

077SB Shellabarger Fine Sandy Loam, 0 To 1 Percent Slopes

Shellabarger soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is negligible. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 2e.

077SE Shellabarger Fine Sandy Loam, 1 To 3 Percent Slopes

Shellabarger soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 2e.

077SF Shellabarger Fine Sandy Loam, 3 To 6 Percent Slopes

Shellabarger soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

077SG Shellabarger Fine Sandy Loam, 3 To 6 Percent Slopes, Eroded

Shellabarger soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

077SH Stoneburg Fine Sandy Loam, 1 To 3 Percent Slopes

Shellabarger soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately slow. It has a low 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

151AO Albion Sandy Loam, 3 To 7 Percent Slopes, Eroded

Albion soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 4e.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

151CN Clark Fine Sandy Loam, 1 To 3 Percent Slopes

Clark soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. 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. The soil contains a maximum amount of 45 percent calcium carbonate. This soil is in the Limy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

151CO Clark-Ost Clay Loams, 0 To 1 Percent Slopes

Clark soil makes up 70 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. 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. The soil contains a maximum amount of 45 percent calcium carbonate. This soil is in the Limy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 2c.

Ost soil makes up 30 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately slow. It has a 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. The soil contains a maximum amount of 34 percent calcium carbonate. This soil is in the Loamy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 2c.

151KP Kanza-Plevna Complex, Frequently Flooded

Kanza soil makes up 50 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is negligible. The parent material consists of alluvium. This soil is poorly drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 18 inches. It is in the nonirrigated land capability classification 5w.

Plevna soil makes up 50 percent of the map unit. This map unit is in the Great Bend Sand Plains 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 alluvium. This soil is poorly drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 12 inches. This soil is in the Subirrigated (pe21-28) range site. It is in the nonirrigated land capability classification 5w.

151ND Naron Fine Sandy Loam, 0 To 1 Percent Slopes

Naron soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level dune on paleoterrace on river valley. The runoff class is negligible. The parent material consists of loamy eolian deposits. This soil is well drained. The slowest permeability is moderate. It has a 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. This soil is in the Sandy (pe21-28) range site. This soil is in the irrigated land capability class 1. It is in the nonirrigated land capability classification 2e.

151NF Naron Fine Sandy Loam, 1 To 3 Percent Slopes

Naron soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping dune on paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy eolian deposits. This soil is well drained. The slowest permeability is moderate. It has a 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. This soil is in the Sandy (pe21-28) range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 3e.

151OC Ost Clay Loam, 0 To 1 Percent Slopes

Ost soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately slow. It has a 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. The soil contains a maximum amount of 34 percent calcium carbonate. This soil is in the Loamy Lowland (pe21-28) range site. It is in the nonirrigated land capability classification 2c.

151OS Ost Clay Loam, 1 To 4 Percent Slopes

Ost soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping paleoterrace on river valley. The runoff class is medium. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately slow. It has a 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. The soil contains a maximum amount of 34 percent calcium carbonate. This soil is in the Loamy Upland (pe21-28) range site. It is in the nonirrigated land capability classification 2e.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

151PN Pratt Loamy Fine Sand, 5 To 10 Percent Slopes

Pratt soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a strongly sloping dune on paleoterrace on river valley. The runoff class is low. The parent material consists of sandy eolian deposits. This soil is well drained. The slowest permeability is rapid. It has a moderate 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. This soil is in the Sands (pe21-28) range site. It is in the nonirrigated land capability classification 6e.

151SE Shellabarger Fine Sandy Loam, 1 To 4 Percent Slopes

Shellabarger soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 2e.

151ZS Zenda-Drummond Complex, Occasionally Flooded

Zenda soil makes up 50 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level to gently sloping dune on paleoterrace on river valley. The runoff class is very low. The parent material consists of sandy eolian deposits. This soil is somewhat 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 36 inches. This soil contains a very slightly saline horizon. This soil is in the Subirrigated (pe21-28) range site. It is in the nonirrigated land capability classification 4s.

Drummond soil makes up 50 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level to gently sloping terrace on river valley. The runoff class is very low. The parent material consists of clayey and/or loamy alluvium. This soil is somewhat poorly drained. The slowest permeability is very slow. It has a very low available water capacity and a low 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 contains a moderately saline horizon. This soil is in the Saline Lowland (pe21-28) range site. It is in the nonirrigated land capability classification 6s.

173MA Milan Loam, 1 To 3 Percent Slopes

Milan soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of 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 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 5 percent calcium carbonate. This soil is in the Loamy Upland (pe24-32) range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

173PB Plevna Fine Sandy Loam, Frequently Flooded

Plevna soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains 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 alluvium. This soil is poorly drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 12 inches. This soil is in the Subirrigated (pe24-32) range site. It is in the nonirrigated land capability classification 5w.

173RA Renfrow Silty Clay Loam, 1 To 3 Percent Slopes

Renfrow soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is low. The parent material consists of residuum. This soil is well drained. The slowest permeability is very 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 Red Clay Prairie (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

173RC Renfrow-Wellsford Clay Loams, 1 To 4 Percent Slopes

Renfrow soil makes up 65 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping hillslope on upland. The runoff class is low. The parent material consists of residuum. This soil is well drained. The slowest permeability is very 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 Red Clay Prairie (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Wellsford soil makes up 35 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping pediment on upland. The runoff class is low. The parent material consists of residuum. The soil is 10 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is very slow. It has a very 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. This soil is in the Red Clay Prairie (pe24-32) range site. It is in the nonirrigated land capability classification 4e.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

173TA Tabler Silty Clay Loam, 0 To 1 Percent Slopes

Tabler soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is very low. The parent material consists of clayey alluvium. This soil is moderately well drained. The slowest permeability is very slow. It has a high 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 Clay Upland (pe25-34) range site. It is in the nonirrigated land capability classification 2s.

191RA Renfrow-Grainola Complex, 1 To 3 Percent Slopes

Renfrow soil makes up 70 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is low. The parent material consists of residuum. This soil is well drained. The slowest permeability is very 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 Clay Upland (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Grainola soil makes up 30 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is low. The parent material consists of residuum. 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 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 Clay Upland (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

1990 Abbyville Loam, 0 To 1 Percent Slope

Abbyville soil makes up 95 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level terrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. This soil is somewhat poorly drained. The slowest permeability is slow. It has a moderate available water capacity and a moderate shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 36 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil contains a slightly saline horizon, it has a horizon that is strongly sodic. This soil is in the Saline Subirrigated (pe21-28) range site. This soil is in the irrigated land capability class 3s. It is in the nonirrigated land capability classification 3s.

1991 Abbyville-Kisiwa Complex, 0 To 2 Percent Slopes, Flooded

Abbyville, rarely flooded, soil makes up 45 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level to gently sloping terrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. This soil is somewhat poorly drained. The slowest permeability is slow. It has a moderate available water capacity and a moderate shrink swell potential. This soil is rarely flooded and is not ponded. The top of the seasonal high water table is at 36 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil contains a slightly saline horizon, it has a horizon that is strongly sodic. This soil is in the Saline Subirrigated (pe21-28) range site. This soil is in the irrigated land capability class 3s. It is in the nonirrigated land capability classification 3s.

Kisiwa, occasionally flooded, soil makes up 40 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley, terrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium over clayey alluvium. This soil is poorly drained. The slowest permeability is very slow. 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 0 inches. The soil contains a maximum amount of 10 percent calcium carbonate. This soil contains a slightly saline horizon, it has a horizon that is strongly sodic. This soil is in the Saline Subirrigated (pe21-28) range site. It is in the nonirrigated land capability classification 4s.

1004 Albion Sandy Loam, 0 To 1 Percent Slopes

Albion soil makes up 90 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate 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. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 3e.

1005 Albion Sandy Loam, 1 To 3 Percent Slopes

Albion soil makes up 75 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate 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. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 3e.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

1006 Albion Sandy Loam, 3 To 7 Percent Slopes, Eroded

Albion soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate 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. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 3e.

1011 Albion-Shellabarger Sandy Loams, 1 To 3 Percent Slopes

Albion soil makes up 70 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate 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. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 3e.

Shellabarger soil makes up 30 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 2e.

1017 Albion And Shellabarger Sandy Loams, 7 To 15 Percent Slopes

Albion soil makes up 45 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep paleoterrace on river valley. The runoff class is very high. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate 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. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 3e.

Shellabarger, Eroded, soil makes up 40 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep paleoterrace on river valley. The runoff class is very high. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 2e.

1359 Clark-Ost Loams, 3 To 7 Percent Slopes

Clark soil makes up 70 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is medium. The parent material consists of loamy alluvium. 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. The soil contains a maximum amount of 45 percent calcium carbonate. This soil is in the Limy Upland (pe21-28) range site. It is in the nonirrigated land capability classification 2c.

Ost soil makes up 30 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is medium. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately slow. It has a 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. The soil contains a maximum amount of 34 percent calcium carbonate. This soil is in the Loamy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 2c.

1555 Dillhut-Plev Complex, 0 To 2 Percent Slopes

Dillhut soil makes up 35 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level to gently sloping dune on paleoterrace on river valley. The runoff class is very low. The parent material consists of eolian deposits over alluvium. This soil is moderately well drained. The slowest permeability is moderate. It has a moderate 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. This soil is in the Sands (pe21-28) range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

Plev soil makes up 35 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level depression on paleoterrace on river valley, interdune on paleoterrace on river valley. The runoff class is very low. The parent material consists of sandy eolian deposits over loamy alluvium. This soil is poorly drained. The slowest permeability is moderate. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 6 inches. This soil is in the Subirrigated (pe21-28) range site. It is in the nonirrigated land capability classification 5w.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

1728 Funmar And Farnum Loams, 3 To 6 Percent Slopes

Farnum soil makes up 40 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is medium. The parent material consists of alluvium. 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. This soil is in the Loamy Upland (pe21-28) range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

Funmar soil makes up 40 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is medium. The parent material consists of loamy alluvium over alluvium. This soil is moderately well drained. The slowest permeability is 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 5 percent calcium carbonate. This soil is in the Loamy Upland (pe21-28) range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

2205 Jamash-Piedmont Clay Loams, 1 To 3 Percent Slopes

Jamash soil makes up 60 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping pediment on upland. The runoff class is low. The parent material consists of residuum weathered from shale, unspecified. The soil is 12 to 15 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is very slow. It has a very 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. The soil contains a maximum amount of 25 percent calcium carbonate. This soil is in the Shallow Prairie (pe24-32) range site. It is in the nonirrigated land capability classification 4e.

Piedmont soil makes up 40 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping pediment on upland. The runoff class is low. The parent material consists of residuum weathered from shale, clayey. The soil is 32 to 36 inches deep to bedrock (paralithic). This soil is 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. The soil contains a maximum amount of 25 percent calcium carbonate. This soil is in the Clay Upland (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

2381 Kanza-Ninnescah Sandy Loams, 0 To 2 Percent Slopes, Commonly Flooded

Kanza soil makes up 50 percent of the map unit. This map unit is in the Great Bend Sand Plains 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 alluvium. This soil is poorly drained. The slowest permeability is moderate. It has a low available water capacity and a low shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 18 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Subirrigated (pe21-28) range site. It is in the nonirrigated land capability classification 5w.

Ninnescah soil makes up 50 percent of the map unit. This map unit is in the Great Bend Sand Plains 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 loamy alluvium. This soil is poorly drained. The slowest permeability is moderately rapid. It has a moderate 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 14 percent calcium carbonate. This soil contains a very slightly saline horizon, it has a horizon that is slightly sodic. This soil is in the Subirrigated (pe21-28) range site. It is in the nonirrigated land capability classification 5w.

2390 Kaskan Loam, 0 To 1 Percent, Rarely Flooded

Kaskan soil makes up 85 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level flood plain on river valley. The runoff class is very low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate available water capacity and a low shrink swell potential. This soil is rarely flooded and is not ponded. The top of the seasonal high water table is at 60 inches. The soil contains a maximum amount of 1 percent calcium carbonate. This soil is in the Loamy Lowland (pe21-28) range site. It is in the nonirrigated land capability classification 2w.

2556 Langdon Fine Sand, 0 To 15 Percent Slopes

Langdon soil makes up 50 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level to moderately steep dune on paleoterrace on river valley. The runoff class is medium. The parent material consists of sandy eolian deposits. This soil is somewhat excessively drained. The slowest permeability is rapid. It has a low 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. This soil is in the Choppy Sands (pe21-28) range site. It is in the nonirrigated land capability classification 6e.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

2812 Mahone Loamy Fine Sand, 0 To 2 Percent Slopes, Rarely Flooded

Mahone soil makes up 95 percent of the map unit. This map unit is in the Great Bend Sand Plains 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 loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a high available water capacity and a low shrink swell potential. This soil is rarely flooded and is not ponded. The top of the seasonal high water table is at 60 inches. The soil contains a maximum amount of 1 percent calcium carbonate. This soil is in the Loamy Lowland (pe21-28) range site. It is in the nonirrigated land capability classification 2w.

2948 Nalim Loam, 0 To 1 Percent Slopes

Nalim soil makes up 80 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy 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 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 (pe24-32) range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

3051 Ost Loam, 0 To 1 Percent Slopes

Ost soil makes up 90 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately slow. It has a 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. The soil contains a maximum amount of 34 percent calcium carbonate. This soil is in the Loamy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 2c.

3052 Ost-Clark Loams, 1 To 3 Percent Slopes

Ost soil makes up 55 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately slow. It has a 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. The soil contains a maximum amount of 34 percent calcium carbonate. This soil is in the Loamy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 2c.

Clark soil makes up 45 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. 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. The soil contains a maximum amount of 45 percent calcium carbonate. This soil is in the Limy Upland (pe21-28) range site. It is in the nonirrigated land capability classification 2c.

3170 Penalosa Silt Loam, 0 To 1 Percent Slopes

Penalosa soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. 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 seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Loamy Upland (pe21-28) range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

3171 Penalosa Silt Loam, 1 To 3 Percent Slopes

Penalosa soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. 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 seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 10 percent calcium carbonate. This soil is in the Loamy Upland (pe21-28) range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

3180 Pratt Fine Sand, 5 To 10 Percent Slopes

Pratt soil makes up 85 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping dune on paleoterrace on river valley. The runoff class is low. The parent material consists of sandy eolian deposits. This soil is well drained. The slowest permeability is rapid. It has a moderate 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. This soil is in the Sands (pe21-28) range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

3181 Pratt-Turon Fine Sand, 1 To 5 Percent Slopes

Pratt soil makes up 45 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping dune on paleoterrace on river valley. The runoff class is low. The parent material consists of sandy eolian deposits. This soil is well drained. The slowest permeability is rapid. It has a moderate 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. This soil is in the Sands (pe21-28) range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

Turon soil makes up 30 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping dune on paleoterrace on river valley. The runoff class is low. The parent material consists of sandy eolian deposits over alluvium. This soil is well drained. The slowest permeability is very slow. It has a moderate 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. This soil is in the Sands (pe21-28) range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

3445 Shellabarger Sandy Loam, 3 To 7 Percent Slopes

Shellabarger, Moderately Eroded, soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is medium. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 2e.

3510 Saltcreek-Funmar-Farnum Complex, 1 To 3 Percent Slopes

Saltcreek soil makes up 50 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping dune on paleoterrace on river valley. The runoff class is low. The parent material consists of loamy eolian deposits over alluvium. 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 seasonal high water table is at a depth of more than 6 feet. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy (pe21-28) range site. This soil is in the irrigated land capability class 1. It is in the nonirrigated land capability classification 3e.

Funmar soil makes up 30 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium over alluvium. This soil is moderately well drained. The slowest permeability is 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 5 percent calcium carbonate. This soil is in the Loamy Upland (pe21-28) range site. This soil is in the irrigated land capability class 1. It is in the nonirrigated land capability classification 2c.

Farnum soil makes up 20 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of alluvium. 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. This soil is in the Loamy Upland (pe21-28) range site. This soil is in the irrigated land capability class 1. It is in the nonirrigated land capability classification 2c.

3530 Shellabarger, Eroded And Albion Soils, 7 To 15 Percent Slopes

Shellabarger, Eroded, soil makes up 45 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep paleoterrace on river valley. The runoff class is very high. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 2e.

Albion soil makes up 40 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a strongly sloping to moderately steep paleoterrace on river valley. The runoff class is very high. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate 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. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 3e.

3531 Shellabarger And Nalim Soils, 3 To 7 Percent Slopes

Shellabarger, Moderately Eroded, soil makes up 50 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is medium. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 2e.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

Nalim soil makes up 50 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is medium. The parent material consists of loamy 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 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 (pe24-32) range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

3532 Shellabarger Loamy Sand, 0 To 3 Percent Slopes

Shellabarger soil makes up 80 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level to gently sloping paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 2e.

3533 Shellabarger Sandy Loam, 0 To 1 Percent Slopes

Shellabarger soil makes up 85 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 2e.

3534 Shellabarger Sandy Loam, 1 To 3 Percent Slopes

Shellabarger soil makes up 85 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 2e.

3535 Shellabarger-Nalim Complex, 1 To 3 Percent Slopes

Shellabarger soil makes up 55 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 2e.

Nalim soil makes up 45 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy 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 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 (pe24-32) range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

3966 Willowbrook Fine Sandy Loam, 0 To 1 Percent Slope, Occasionally Flooded

Willowbrook soil makes up 90 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level flood plain on river valley. The runoff class is very low. The parent material consists of loamy alluvium over sandy alluvium. This soil is somewhat poorly drained. The slowest permeability is moderately rapid. It has a low 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 36 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Subirrigated (pe21-28) range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 3e.

4005 Yaggy-Saxman Complex, 0 To 2 Percent Slopes, Occasionally Flooded

Yaggy soil makes up 60 percent of the map unit. This map unit is in the Great Bend Sand Plains 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 loamy alluvium over sandy alluvium. This soil is somewhat poorly drained. The slowest permeability is moderate. It has a low 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 36 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy Lowland (pe21-28) range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 3e.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

Saxman soil makes up 30 percent of the map unit. This map unit is in the Great Bend Sand Plains 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 sandy alluvium. This soil is moderately well drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is rarely flooded and is not ponded. The top of the seasonal high water table is at 30 inches. This soil is in the Sandy Lowland (pe21-28) range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 3e.

4110 Zellmont And Poxmash Sandy Loams, 0 To 3 Percent Slopes

Zellmont soil makes up 70 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a nearly level to gently sloping strath terrace on river valley. The runoff class is low. The parent material consists of loamy alluvium over residuum weathered from Permian shale. The soil is 20 to 39 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately 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. The soil contains a maximum amount of 20 percent calcium carbonate. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 2e.

Poxmash soil makes up 30 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a nearly level to gently sloping strath terrace on river valley. The runoff class is low. The parent material consists of alluvium over residuum weathered from Permian shale. The soil is 48 to 53 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderately rapid. It has a low 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. This soil is in the Sandy (pe21-28) range site. It is in the nonirrigated land capability classification 3e.

Aa Albion Sandy Loam, 0 To 1 Percent Slopes

Albion soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is negligible. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a low 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 3s.

Ab Albion Sandy Loam, 1 To 3 Percent Slopes

Albion soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a low 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Ac Albion Sandy Loam, 3 To 6 Percent Slopes

Albion soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a low 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 4e.

Ad Albion Sandy Loam, 6 To 15 Percent Slopes

Albion soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping to moderately steep paleoterrace on river valley. The runoff class is medium. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a low 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 6e.

Ba Blanket Silt Loam, 0 To 1 Percent Slopes

Blanket soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is negligible. The parent material consists of clayey 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 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 (pe24-32) range site. It is in the nonirrigated land capability classification 2c.

Bb Blanket Silt Loam, 1 To 3 Percent Slopes

Blanket soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is very low. The parent material consists of clayey 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 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 (pe24-32) range site. It is in the nonirrigated land capability classification 2e.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

Bc Blanket Silty Clay Loam, 1 To 4 Percent Slopes, Eroded
Blanket soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping paleoterrace on river valley. The runoff class is low. The parent material consists of clayey 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 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 (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Ca Canadian Fine Sandy Loam, Rarely Flooded

Canadian soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a nearly level river valley, flood plain. The runoff class is negligible. The parent material consists of alluvium. This soil is well drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low 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 Sandy Terrace (pe24-32) range site. It is in the nonirrigated land capability classification 2e.

Cb Carwile Fine Sandy Loam, 0 To 1 Percent Slopes

Carwile soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a nearly level depression on paleoterrace on river valley. The runoff class is negligible. The parent material consists of 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 not flooded and is not ponded. The top of the seasonal high water table is at 0 inches. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 2w.

Cc Case-Clark Clay Loams, 2 To 6 Percent Slopes

Case soil makes up 60 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping paleoterrace on river valley. The runoff class is medium. The parent material consists of alluvium. 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. The soil contains a maximum amount of 25 percent calcium carbonate. This soil is in the Limy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 4e.

Clark soil makes up 40 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping paleoterrace on river valley. The runoff class is medium. The parent material consists of loamy alluvium. 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. The soil contains a maximum amount of 45 percent calcium carbonate. This soil is in the Limy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 4e.

Cd Case-Clark Clay Loams, 6 To 15 Percent Slopes

Case soil makes up 60 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a moderately sloping to moderately steep paleoterrace on river valley. The runoff class is high. The parent material consists of alluvium. 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. The soil contains a maximum amount of 25 percent calcium carbonate. This soil is in the Limy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 6e.

Clark soil makes up 40 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping paleoterrace on river valley. The runoff class is high. The parent material consists of loamy alluvium. 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. The soil contains a maximum amount of 45 percent calcium carbonate. This soil is in the Limy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 4e.

Ce Clark Clay Loam, 0 To 1 Percent Slopes

Clark soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. 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. The soil contains a maximum amount of 45 percent calcium carbonate. This soil is in the Limy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 2c.

Cf Clark Clay Loam, 1 To 4 Percent Slopes

Clark soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. 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. The soil contains a maximum amount of 45 percent calcium carbonate. This soil is in the Limy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

Da Dillwyn-Plevna Complex, Occasionally Flooded

Dillwyn soil makes up 60 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level dune on paleoterrace on river valley, interdune on paleoterrace on river valley. The runoff class is negligible. The parent material consists of sandy eolian deposits. This soil is somewhat poorly drained. The slowest permeability is rapid. It has a low available water capacity and a low shrink swell potential. This soil is not flooded and is not ponded. The top of the seasonal high water table is at 24 inches. This soil is in the Subirrigated (pe24-32) range site. It is in the nonirrigated land capability classification 4w.

Plevna soil makes up 40 percent of the map unit. This map unit is in the Great Bend Sand Plains 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 alluvium. This soil is poorly drained. The slowest permeability is moderately rapid. It has a moderate available water capacity and a low shrink swell potential. This soil is frequently flooded and is not ponded. The top of the seasonal high water table is at 12 inches. This soil is in the Subirrigated (pe24-32) range site. It is in the nonirrigated land capability classification 5w.

Fa Farnum Sandy Loam, 0 To 2 Percent Slopes

Farnum soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level to gently sloping paleoterrace on river valley. The runoff class is very low. The parent material consists of alluvium. 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. This soil is in the Sandy (pe24-32) range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 3e.

Fb Farnum Loam, 0 To 1 Percent Slopes

Farnum soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is very low. The parent material consists of alluvium. 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. This soil is in the Loamy Upland (pe24-32) range site. This soil is in the irrigated land capability class 1 It is in the nonirrigated land capability classification 2c.

Fc Farnum Loam, 1 To 3 Percent Slopes

Farnum soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is low. The parent material consists of alluvium. 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. This soil is in the Loamy Upland (pe24-32) range site. This soil is in the irrigated land capability class 2e. It is in the nonirrigated land capability classification 2e.

Fd Farnum Loam, 3 To 6 Percent Slopes

Farnum soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is medium. The parent material consists of alluvium. 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. This soil is in the Loamy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Fe Farnum Clay Loam, 2 To 6 Percent Slopes, Eroded

Farnum soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping paleoterrace on river valley. The runoff class is medium. The parent material consists of alluvium. 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. This soil is in the Loamy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 4e.

Ff Farnum-Natrutolls Complex, 0 To 1 Percent Slopes

Farnum soil makes up 60 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level paleoterrace on river valley. The runoff class is very low. The parent material consists of alluvium. 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. This soil is in the Loamy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 4s.

Ka Kaski Loam, Occasionally Flooded

Kaski soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies 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 alluvium. 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 occasionally 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 (pe24-32) range site. It is in the nonirrigated land capability classification 2w.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

Kb Kingman Silty Clay Loam, Occasionally Flooded

Kingman soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain. The runoff class is very low. The parent material consists of alluvium. This soil is poorly drained. The slowest permeability is moderately slow. 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 12 inches. This soil contains a very slightly saline horizon. This soil is in the Subirrigated (pe24-32) range site. It is in the nonirrigated land capability classification 5w.

La Lincoln Loamy Sand, Occasionally Flooded

Lincoln soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a nearly level to gently sloping flood plain on river valley. The runoff class is negligible. The parent material consists of alluvium. This soil is somewhat excessively drained. The slowest permeability is rapid. It has a low 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 66 inches. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Sandy Lowland (pe24-32) range site. It is in the nonirrigated land capability classification 6w.

Ma McLain Silt Loam, Rarely Flooded

McLain soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a nearly level flood plain. The runoff class is negligible. The parent material consists of alluvium. This soil is moderately well drained. The slowest permeability is impermeable. It has a high available water capacity and a high 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 Terrace (pe24-32) range site. It is in the nonirrigated land capability classification 1.

Na Nashville Silt Loam, 1 To 3 Percent Slopes

Nashville soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is very low. The parent material consists of residuum. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a moderate 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. This soil is in the Loamy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 2e.

Nb Nashville-Quinlan Complex, 5 To 15 Percent Slopes

Nashville soil makes up 60 percent of the map unit. This map unit is in the Central Rolling Red Prairies 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 residuum. The soil is 20 to 40 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a moderate 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. This soil is in the Loamy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 4e.

Quinlan soil makes up 40 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a moderately sloping to moderately steep hillslope on upland. The runoff class is high. The parent material consists of residuum. The soil is 10 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low 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. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Shallow Prairie (pe24-32) range site. It is in the nonirrigated land capability classification 6e.

Oa Wellsford Clay Loam, 1 To 4 Percent Slopes

Owens soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies 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 residuum. The soil is 10 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is very slow. It has a very 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. This soil is in the Red Clay Prairie (pe24-32) range site. It is in the nonirrigated land capability classification 4e.

Pa Pond Creek Silt Loam, 1 To 3 Percent Slopes

Pond Creek soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping terrace. The runoff class is low. The parent material consists of 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 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 (pe24-32) range site. It is in the nonirrigated land capability classification 2e.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

Pb Pratt Loamy Fine Sand, 1 To 5 Percent Slopes

Pratt soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping dune on paleoterrace on river valley. The runoff class is low. The parent material consists of sandy eolian deposits. This soil is well drained. The slowest permeability is rapid. It has a moderate 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. This soil is in the Sands (pe24-32) range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 4e.

Pc Pratt-Carwile Complex, 0 To 5 Percent Slopes

Pratt soil makes up 60 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping to moderately sloping dune on paleoterrace on river valley. The runoff class is low. The parent material consists of sandy eolian deposits. This soil is well drained. The slowest permeability is rapid. It has a moderate 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. This soil is in the Sands (pe24-32) range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 3e.

Carwile soil makes up 40 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level depression on paleoterrace on river valley. The runoff class is negligible. The parent material consists of 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 not flooded and is not ponded. The top of the seasonal high water table is at 0 inches. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 2w.

Pd Pratt-Tivoli Loamy Fine Sands, 5 To 15 Percent Slopes

Pratt soil makes up 50 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping to strongly sloping dune on paleoterrace on river valley. The runoff class is low. The parent material consists of sandy eolian deposits. This soil is well drained. The slowest permeability is rapid. It has a moderate 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. This soil is in the Sands (pe24-32) range site. This soil is in the irrigated land capability class 3e. It is in the nonirrigated land capability classification 4e.

Tivoli soil makes up 50 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping to moderately steep dune on paleoterrace on river valley. The runoff class is low. The parent material consists of sandy eolian deposits. This soil is excessively drained. The slowest permeability is rapid. It has a low 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. This soil is in the Sands (pe24-32) range site. It is in the nonirrigated land capability classification 7e.

Qa Quinlan Loam, 1 To 3 Percent Slopes

Quinlan soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a gently sloping hillslope on upland. The runoff class is low. The parent material consists of residuum. The soil is 10 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low 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. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Shallow Prairie (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Qb Quinlan Loam, 3 To 5 Percent Slopes

Quinlan soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is medium. The parent material consists of residuum. The soil is 10 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low 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. The soil contains a maximum amount of 5 percent calcium carbonate. This soil is in the Shallow Prairie (pe24-32) range site. It is in the nonirrigated land capability classification 4e.

Ra Renfrow Clay Loam, 1 To 3 Percent Slopes

Renfrow soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a nearly level to gently sloping hillslope on upland. The runoff class is low. The parent material consists of residuum. This soil is well drained. The slowest permeability is very 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 Clay Upland (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Rb Ruella Clay Loam, 1 To 4 Percent Slopes

Ruella soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies 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 alluvium. The soil is 9 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low 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. This soil is in the Loamy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 2e.

Nontechnical Soil Descriptions--Continued
Kingman County, Kansas

Rc Ruella-Rock Outcrop Complex, 3 To 40 Percent Slopes

Ruella soil makes up 60 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a moderately sloping hillslope on upland. The runoff class is medium. The parent material consists of alluvium. The soil is 9 to 20 inches deep to bedrock (paralithic). This soil is well drained. The slowest permeability is moderate. It has a very low 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. This soil is in the Loamy Upland (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Sa Shellabarger Loamy Sand, 0 To 3 Percent Slopes

Shellabarger soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a nearly level to gently sloping paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a moderate 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 2e.

Sb Shellabarger Sandy Loam, 1 To 3 Percent Slopes

Shellabarger soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a gently sloping paleoterrace on river valley. The runoff class is very low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 2e.

Sc Shellabarger Sandy Loam, 3 To 6 Percent Slopes

Shellabarger soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Sd Shellabarger Sandy Loam, 3 To 6 Percent Slopes, Eroded

Shellabarger soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a moderately sloping paleoterrace on river valley. The runoff class is low. The parent material consists of loamy alluvium. This soil is well drained. The slowest permeability is moderate. It has a 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. This soil is in the Sandy (pe24-32) range site. It is in the nonirrigated land capability classification 3e.

Ta Tivoli Fine Sand, 15 To 30 Percent Slopes

Tivoli soil makes up 100 percent of the map unit. This map unit is in the Great Bend Sand Plains Major Land Resource Area. This soil occurs on a strongly sloping to steep dune on paleoterrace on river valley. The runoff class is medium. The parent material consists of sandy eolian deposits. This soil is excessively drained. The slowest permeability is rapid. It has a very low 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. This soil is in the Choppy Sands (pe24-32) range site. It is in the nonirrigated land capability classification 7e.

Wa Waldeck Fine Sandy Loam, Occasionally Flooded

Waldeck soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies 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 alluvium. This soil is somewhat poorly drained. The slowest permeability is moderately rapid. It has a moderate 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 36 inches. This soil is in the Subirrigated (pe24-32) range site. It is in the nonirrigated land capability classification 3w.

Za Zenda Clay Loam, Occasionally Flooded

Zenda soil makes up 100 percent of the map unit. This map unit is in the Central Rolling Red Prairies Major Land Resource Area. This soil occurs on a nearly level dune on paleoterrace on river valley. The runoff class is very low. The parent material consists of sandy eolian deposits. This soil is somewhat 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 36 inches. This soil contains a very slightly saline horizon. This soil is in the Subirrigated (pe24-32) range site. It is in the nonirrigated land capability classification 2w.

007AE—Albion And Shellabarger Soils, 4 to 15 percent slopes

Minor Components
Unnamed Wet Soils
Phase: Sandy, Drainageway

Map Unit Composition

Albion: 55 percent
 Shellabarger: 45 percent

Component Descriptions

Albion

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 4 to 15 percent
Drainage class: Well drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Low (About 5.9 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Sandy (pe20-25)
Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 8 inches; sandy loam
 H2—8 to 16 inches; sandy loam
 H3—16 to 27 inches; loamy sand
 H4—27 to 60 inches; sand

Shellabarger

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 4 to 15 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 9.4 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Sandy (pe20-25)
Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 14 inches; sandy loam
 H2—14 to 48 inches; sandy clay loam
 H3—48 to 60 inches; coarse sandy loam

007FA—Farnum fine sandy loam, 0 to 1 percent slopes

Map Unit Composition

Farnum: 100 percent

Component Descriptions

Farnum

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 9.9 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Sandy (pe24-32)
Land capability (irrigated): 1
Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 9 inches; fine sandy loam
 H2—9 to 60 inches; clay loam

Minor Components
Unnamed Wet Soils
Phase: Loamy, Depression

077KA—Kanza loamy fine sand, frequently flooded

Map Unit Composition

Kanza: 100 percent

Component Descriptions

Kanza

MLRA: 79 - Great Bend Sand Plains

Landform: Flood plain on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Poorly drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Low (About 5.5 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Frequent

Depth to seasonal water saturation: About 0 to 36 inches

Runoff class: Negligible

Ecological site: Subirrigated (pe24-32)

Land capability (nonirrigated): 5w

Typical Profile:

H1—0 to 8 inches; loamy fine sand

H2—8 to 60 inches; loamy fine sand

Minor Components

Unnamed Wet Soils

Phase: Sandy, Drainageway

Typical Profile:

H1—0 to 12 inches; clay loam

H2—12 to 34 inches; silty clay

H3—34 to 60 inches; clay

Renfrow

MLRA: 80A - Central Rolling Red Prairies

Landform: Hillslope on upland

Parent material: Residuum

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Moderate (About 8.9 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Clay Upland (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 9 inches; clay loam

H2—9 to 13 inches; clay loam

H3—13 to 60 inches; clay

077KR—Kirkland-Renfrow clay loams, 1 to 3 percent slopes

Map Unit Composition

Kirkland: 70 percent

Renfrow: 30 percent

Component Descriptions

Kirkland

MLRA: 80A - Central Rolling Red Prairies

Landform: Hillslope on upland

Parent material: Residuum

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Moderate (About 8.4 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Clay Upland (pe24-32)

Land capability (nonirrigated): 3e

077NN—Nashville silt loam, 3 to 6 percent slopes, eroded

Map Unit Composition

Nashville: 100 percent

Component Descriptions

Nashville

MLRA: 80A - Central Rolling Red Prairies

Landform: Hillslope on upland

Parent material: Residuum

Slope: 3 to 6 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 6.6 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 7 inches; silt loam
H2—7 to 30 inches; silt loam
Cr—30 to 30 inches; weathered bedrock

077PC—Pond Creek silt loam, 0 to 1 percent slopes

Map Unit Composition

Pond Creek: 100 percent

Component Descriptions

Pond Creek

MLRA: 80A - Central Rolling Red Prairies
Landform: Terrace
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 11.1 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 13 inches; silt loam
H2—13 to 60 inches; silty clay loam

077RC—Renfrow-Vernon clay loams, 1 to 3 percent slopes

Map Unit Composition

Renfrow: 65 percent
Vernon: 35 percent

Component Descriptions

Renfrow

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland

Parent material: Residuum

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Moderate (About 8.9 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Clay Upland (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 9 inches; clay loam
H2—9 to 13 inches; clay loam
H3—13 to 60 inches; clay

Vernon

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland
Parent material: Residuum
Slope: 1 to 3 percent
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Low (About 3.4 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Red Clay Prairie (pe24-32)
Land capability (irrigated): 4e
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 7 inches; clay loam
H2—7 to 24 inches; silty clay
H3—24 to 28 inches;
H4—28 to 80 inches; weathered bedrock

077SB—Shellabarger fine sandy loam, 0 to 1 percent slopes

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.8 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Sandy (pe24-32)

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 13 inches; fine sandy loam

H2—13 to 38 inches; sandy clay loam

H3—38 to 60 inches; coarse sandy loam

077SE—Shellabarger fine sandy loam, 1 to 3 percent slopes

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.8 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Sandy (pe24-32)

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 13 inches; fine sandy loam

H2—13 to 38 inches; fine sandy loam

H3—38 to 60 inches; coarse sandy loam

077SF—Shellabarger fine sandy loam, 3 to 6 percent slopes

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.8 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sandy (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 13 inches; fine sandy loam

H2—13 to 38 inches; sandy clay loam

H3—38 to 60 inches; coarse sandy loam

Minor Components

Unnamed Wet Soils

Phase: Loamy, Drainageway

077SG—Shellabarger fine sandy loam, 3 to 6 percent slopes, eroded

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger*MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 3 to 6 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* Moderate (About 8.8 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Sandy (pe24-32)*Land capability (nonirrigated):* 3e*Typical Profile:*

H1—0 to 13 inches; fine sandy loam

H2—13 to 38 inches; sandy clay loam

H3—38 to 60 inches; coarse sandy loam

Minor Components**Unnamed Wet Soils***Phase:* Loamy, Drainageway**077SH—Stoneburg fine sandy loam, 1 to 3 percent slopes****Map Unit Composition**

Shellabarger: 100 percent

Component Descriptions**Shellabarger***MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 1 to 3 percent*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)*Drainage class:* Well drained*Slowest permeability:* Moderately slow (About 0.20 in/hr)*Available water capacity:* Low (About 5.8 inches)*Shrink-swell potential:* Moderate (About 4.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Very low*Ecological site:* Sandy (pe24-32)*Land capability (nonirrigated):* 3e*Typical Profile:*

H1—0 to 13 inches; fine sandy loam

H2—13 to 35 inches; sandy clay loam

H3—35 to 39 inches; sandy clay loam

Cr—39 to 39 inches;

151AO—Albion sandy loam, 3 to 7 percent slopes, eroded**Map Unit Composition**

Albion: 100 percent

Component Descriptions**Albion***MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 3 to 7 percent*Drainage class:* Well drained*Slowest permeability:* Moderately rapid (About 2.00 in/hr)*Available water capacity:* Moderate (About 6.0 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Sandy (pe24-32)*Land capability (nonirrigated):* 4e*Typical Profile:*

H1—0 to 8 inches; sandy loam

H2—8 to 18 inches; sandy loam

H3—18 to 29 inches; coarse sandy loam

H4—29 to 60 inches; gravelly sand

151CN—Clark fine sandy loam, 1 to 3 percent slopes**Map Unit Composition**

Clark: 100 percent

Component Descriptions

Clark*MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 1 to 3 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* High (About 10.0 inches)*Shrink-swell potential:* Moderate (About 4.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Limy Upland (pe24-32)*Land capability (nonirrigated):* 3e*Typical Profile:*

H1—0 to 8 inches; fine sandy loam

H2—8 to 60 inches; clay loam

H1—0 to 8 inches; clay loam

H2—8 to 60 inches; clay loam

Ost*MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 0 to 1 percent*Drainage class:* Well drained*Slowest permeability:* Moderately slow (About 0.20 in/hr)*Available water capacity:* High (About 10.3 inches)*Shrink-swell potential:* Moderate (About 4.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Loamy Upland (pe24-32)*Land capability (nonirrigated):* 2c*Typical Profile:*

H1—0 to 9 inches; clay loam

H2—9 to 14 inches; clay loam

H3—14 to 23 inches; clay loam

H4—23 to 60 inches; clay loam

151CO—Clark-Ost clay loams, 0 to 1 percent slopes**Map Unit Composition**

Clark: 70 percent

Ost: 30 percent

Component Descriptions**Clark***MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 0 to 1 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* High (About 10.3 inches)*Shrink-swell potential:* Moderate (About 4.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Limy Upland (pe24-32)*Land capability (nonirrigated):* 2c*Typical Profile:***151KP—Kanza-Plevna complex, frequently flooded****Map Unit Composition**

Kanza: 50 percent

Plevna: 50 percent

Component Descriptions**Kanza***MLRA:* 79 - Great Bend Sand Plains*Landform:* Flood plain on river valley*Parent material:* Alluvium*Slope:* 0 to 2 percent*Drainage class:* Poorly drained*Slowest permeability:* Rapid (About 5.95 in/hr)*Available water capacity:* Low (About 3.8 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* Frequent*Depth to seasonal water saturation:* About 0 to 36 inches*Runoff class:* Negligible*Land capability (nonirrigated):* 5w*Typical Profile:*

H1—0 to 11 inches; loamy fine sand
H2—11 to 40 inches; fine sand

Plevna

MLRA: 79 - Great Bend Sand Plains

Landform: Flood plain on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Poorly drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Moderate (About 6.9 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Frequent

Depth to seasonal water saturation: About 0 to 24 inches

Runoff class: Negligible

Ecological site: Subirrigated (pe21-28)

Land capability (nonirrigated): 5w

Typical Profile:

H1—0 to 10 inches; fine sandy loam
H2—10 to 40 inches; fine sandy loam
H3—40 to 60 inches; fine sand

151ND—Naron fine sandy loam, 0 to 1 percent slopes**Map Unit Composition**

Naron: 100 percent

Component Descriptions**Naron**

MLRA: 79 - Great Bend Sand Plains

Landform: Dune on paleoterrace on river valley

Parent material: Loamy eolian deposits

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 9.1 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Sandy (pe21-28)

Land capability (irrigated): 1

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 8 inches; fine sandy loam
H2—8 to 38 inches; fine sandy loam
H3—38 to 60 inches; fine sandy loam

151NF—Naron fine sandy loam, 1 to 3 percent slopes**Map Unit Composition**

Naron: 100 percent

Component Descriptions**Naron**

MLRA: 79 - Great Bend Sand Plains

Landform: Dune on paleoterrace on river valley

Parent material: Loamy eolian deposits

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 9.1 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Sandy (pe21-28)

Land capability (irrigated): 2e

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 8 inches; fine sandy loam
H2—8 to 38 inches; fine sandy loam
H3—38 to 60 inches; fine sandy loam

Minor Components**Carwile****Unnamed Wet Soils**

Phase: Loamy, Depression

151OC—Ost clay loam, 0 to 1 percent slopes**Map Unit Composition**

Ost: 100 percent

Component Descriptions

Ost

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: High (About 10.3 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Loamy Lowland (pe21-28)

Land capability (nonirrigated): 2c

Typical Profile:

H1—0 to 9 inches; clay loam

H2—9 to 14 inches; clay loam

H3—14 to 23 inches; clay loam

H4—23 to 60 inches; clay loam

151OS—Ost clay loam, 1 to 4 percent slopes

Map Unit Composition

Ost: 100 percent

Component Descriptions

Ost

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 4 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: High (About 10.3 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Loamy Upland (pe21-28)

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 9 inches; clay loam

H2—9 to 14 inches; clay loam

H3—14 to 23 inches; clay loam

H4—23 to 60 inches; clay loam

Minor Components

Unnamed Wet Soils

Phase: Loamy, Depression

Unnamed Wet Soils

Phase: Loamy, Drainageway

151PN—Pratt loamy fine sand, 5 to 10 percent slopes

Map Unit Composition

Pratt: 100 percent

Component Descriptions

Pratt

MLRA: 79 - Great Bend Sand Plains

Landform: Dune on paleoterrace on river valley

Parent material: Sandy eolian deposits

Slope: 8 to 12 percent

Drainage class: Well drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Moderate (About 6.4 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sands (pe21-28)

Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 10 inches; loamy fine sand

H2—10 to 40 inches; loamy fine sand

H3—40 to 60 inches; loamy fine sand

151SE—Shellabarger fine sandy loam, 1 to 4 percent slopes

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 4 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.5 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Sandy (pe21-28)

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 11 inches; fine sandy loam

H2—11 to 34 inches; sandy clay loam

H3—34 to 60 inches; coarse sandy loam

Minor Components

Unnamed Wet Soils

Phase: Sandy, Drainageway

151ZS—Zenda-Drummond complex, occasionally flooded

Map Unit Composition

Zenda: 50 percent

Drummond: 50 percent

Component Descriptions

Zenda

MLRA: 79 - Great Bend Sand Plains

Landform: Dune on paleoterrace on river valley

Parent material: Sandy eolian deposits

Slope: 0 to 2 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.5 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: Occasional

Depth to seasonal water saturation: About 24 to 48 inches

Runoff class: Very low

Ecological site: Subirrigated (pe21-28)

Land capability (nonirrigated): 4s

Typical Profile:

H1—0 to 14 inches; clay loam

H2—14 to 60 inches; clay loam

Drummond

MLRA: 79 - Great Bend Sand Plains

Landform: Terrace on river valley

Parent material: Clayey and/or loamy alluvium

Slope: 0 to 2 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Very low (About 2.8 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: About 24 to 48 inches

Runoff class: Very low

Ecological site: Saline Lowland (pe21-28)

Land capability (nonirrigated): 6s

Typical Profile:

H1—0 to 8 inches; clay loam

H2—8 to 30 inches; clay

H3—30 to 60 inches; variable

Minor Components

Unnamed Wet Soils

Phase: Clayey, Depression

173MA—Milan loam, 1 to 3 percent slopes

Map Unit Composition

Milan: 100 percent

Component Descriptions

Milan

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: High (About 11.0 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Loamy Upland (pe24-32)
Land capability (irrigated): 2e
Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 11 inches; loam
H2—11 to 60 inches; clay loam

173PB—Plevna fine sandy loam, frequently flooded

Map Unit Composition

Plevna: 100 percent

Component Descriptions

Plevna

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Poorly drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Moderate (About 6.4 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Frequent
Depth to seasonal water saturation: About 0 to 24 inches
Runoff class: Negligible
Ecological site: Subirrigated (pe24-32)
Land capability (nonirrigated): 5w

Typical Profile:

H1—0 to 9 inches; fine sandy loam
H2—9 to 35 inches; sandy loam
H3—35 to 60 inches; fine sand

Minor Components

Unnamed Wet Soils

Phase: Sandy, Drainageway

Unnamed Wet Soils

Phase: Sandy, Depression

173RA—Renfrow silty clay loam, 1 to 3 percent slopes

Map Unit Composition

Renfrow: 100 percent

Component Descriptions

Renfrow

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland
Parent material: Residuum
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Moderate (About 8.9 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Red Clay Prairie (pe24-32)
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 9 inches; silty clay loam
H2—9 to 13 inches; silty clay loam
H3—13 to 60 inches; silty clay

173RC—Renfrow-Wellsford clay loams, 1 to 4 percent slopes

Map Unit Composition

Renfrow: 65 percent
Wellsford: 35 percent

Component Descriptions

Renfrow

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland
Parent material: Residuum
Slope: 1 to 4 percent
Drainage class: Well drained

Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Moderate (About 8.9 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Red Clay Prairie (pe24-32)
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 9 inches; clay loam
 H2—9 to 13 inches; silty clay loam
 H3—13 to 60 inches; silty clay

Wellsford

MLRA: 80A - Central Rolling Red Prairies
Landform: Pediment on upland
Parent material: Residuum
Slope: 1 to 4 percent
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Very low (About 1.8 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Red Clay Prairie (pe24-32)
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 7 inches; clay loam
 H2—7 to 15 inches; silty clay
 H3—15 to 20 inches; weathered bedrock

173TA—Tabler silty clay loam, 0 to 1 percent slopes

Map Unit Composition

Tabler: 100 percent

Component Descriptions

Tabler

MLRA: 80A - Central Rolling Red Prairies
Landform: Paleoterrace on river valley

Parent material: Clayey alluvium
Slope: 0 to 1 percent
Drainage class: Moderately well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: High (About 9.8 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Clay Upland (pe25-34)
Land capability (nonirrigated): 2s

Typical Profile:

H1—0 to 9 inches; silty clay loam
 H2—9 to 32 inches; silty clay
 H3—32 to 60 inches; silty clay

Minor Components

Unnamed Wet Soils

Phase: Clayey, Drainageway

Unnamed Wet Soils

Phase: Clayey, Depression

191RA—Renfrow-Grainola complex, 1 to 3 percent slopes

Map Unit Composition

Renfrow: 70 percent

Grainola: 30 percent

Component Descriptions

Renfrow

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland
Parent material: Residuum
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Moderate (About 8.9 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Clay Upland (pe24-32)
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 9 inches; clay loam
 H2—9 to 13 inches; silty clay loam
 H3—13 to 75 inches; silty clay loam

Grainola

MLRA: 80A - Central Rolling Red Prairies

Landform: Hillslope on upland

Parent material: Residuum

Slope: 1 to 3 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Slow (About 0.06 in/hr)

Available water capacity: Low (About 5.5 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Clay Upland (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 8 inches; silt loam
 H2—8 to 28 inches; silty clay
 H3—28 to 36 inches; clay
 H4—36 to 42 inches; weathered bedrock

990—Abbyville loam, 0 to 1 percent slope

Map Unit Composition

Abbyville: 95 percent

Minor components: 5 percent

Component Descriptions

Abbyville

MLRA: 79 - Great Bend Sand Plains

Landform: Terrace on river valley

Parent material: Loamy alluvium

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Slow (About 0.06 in/hr)

Available water capacity: Moderate (About 7.2 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: About 24 to 48 inches

Runoff class: Very low

Ecological site: Saline Subirrigated (pe21-28)

Land capability (irrigated): 3s

Land capability (nonirrigated): 3s

Typical Profile:

A—0 to 8 inches; loam
 Btknz1—8 to 15 inches; sandy clay loam
 Btknz2—15 to 24 inches; clay loam
 Btknz3—24 to 35 inches; clay loam
 Btknz4—35 to 49 inches; clay loam
 Btkn1—49 to 61 inches; sandy clay loam
 Btkn2—61 to 69 inches; loam
 Btkn3—69 to 80 inches; clay loam

Minor Components**Kisiwa**

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Poorly drained

Ecological site: Saline Subirrigated (pe21-28)

General Considerations: This map unit is poorly suited to the commonly grown crops due to the sodic conditions and wetness. Most areas are used for pasture or range. For areas that are cropped, the hazard of wind or water erosion is slight. Maintaining soil tilth and soil crusting are problems, but they can be improved by adding organic matter. The high sodium content, pH, soluble salts, and water table limit the engineering uses of these soils.

991—Abbyville-Kisiwa complex, 0 to 2 percent slopes, flooded

Map Unit Composition

Abbyville: 45 percent

Kisiwa: 40 percent

Minor components: 15 percent

Component Descriptions

Abbyville

MLRA: 79 - Great Bend Sand Plains

Landform: Terrace on river valley

Parent material: Loamy alluvium

Slope: 0 to 2 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Slow (About 0.06 in/hr)

Available water capacity: Moderate (About 7.1 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: Rare

Depth to seasonal water saturation: About 24 to 48 inches

Runoff class: Very low

Ecological site: Saline Subirrigated (pe21-28)

Land capability (irrigated): 3s

Land capability (nonirrigated): 3s

Typical Profile:

A—0 to 8 inches; fine sandy loam
Btknz1—8 to 15 inches; sandy clay loam
Btknz2—15 to 24 inches; clay loam
Btknz3—24 to 35 inches; clay loam
Btknz4—35 to 49 inches; clay loam
Btkn1—49 to 61 inches; sandy clay loam
Btkn2—61 to 69 inches; loam
Btkn3—69 to 80 inches; clay loam

Kisiwa

MLRA: 79 - Great Bend Sand Plains

Landform: Flood plain on river valley, terrace on river valley

Parent material: Loamy alluvium over clayey alluvium

Slope: 0 to 2 percent

Drainage class: Poorly drained

Slowest permeability: Very slow (About 0.00 in/hr)

Available water capacity: Moderate (About 8.7 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: Occasional

Ponding hazard: Occasional

Depth to seasonal water saturation: About 0 to 0 inches

Runoff class: Very low

Ecological site: Saline Subirrigated (pe21-28)

Land capability (nonirrigated): 4s

Typical Profile:

Ap1—0 to 4 inches; loam
Ap2—4 to 7 inches; loam
Btkn—7 to 14 inches; clay loam
Btknssg1—14 to 23 inches; clay loam
Btknssg2—23 to 31 inches; clay
Btknssg3—31 to 40 inches; clay
Btknssg4—40 to 46 inches; loam
Btkg—46 to 52 inches; fine sandy loam
BCg—52 to 58 inches; fine sandy loam
Cg—58 to 65 inches; stratified coarse sand to fine sandy loam
2C—65 to 80 inches; stratified coarse sand

Minor Components

Saxman

Composition: About 10 percent

Slope: 0 to 2 percent

Drainage class: Moderately well drained

Ecological site: Sandy Lowland (pe21-28)

Darlow

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Somewhat poorly drained

Ecological site: Clay Pan (pe21-28)

General Considerations: This map unit is poorly suited to the commonly grown crops due to the sodic conditions, wetness, and potential flooding. Most areas are used for pasture or range. For areas that are cropped, The hazard of wind erosion is severe on the Abbyville and Saxman soils. Maintaining soil tilth and soil crusting are problems, but they can be improved by adding organic matter. Ephemeral gully erosion potential is high on the Abbyville and Kisiwa soils. The high sodium content, pH, soluble salts, water tables, and flooding limit the engineering of these soils.

1004—Albion sandy loam, 0 to 1 percent slopes

Map Unit Composition

Albion: 90 percent

Minor components: 10 percent

Component Descriptions

Albion

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Moderate (About 7.3 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Sandy (pe21-28)

Land capability (nonirrigated): 3e

Typical Profile:

Ap—0 to 9 inches; sandy loam
Bt1—9 to 16 inches; sandy loam
Bt2—16 to 27 inches; sandy loam
BC—27 to 48 inches; loamy coarse sand
C—48 to 80 inches; sand

Minor Components**Shellabarger***Composition:* About 10 percent*Slope:* 0 to 1 percent*Drainage class:* Well drained*Ecological site:* Sandy (pe21-28)

General Considerations: Most areas are used as cropland, but some areas are in pasture or range. This map unit is moderately well suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind erosion is severe and the hazard of water erosion is slight. Wind erosion can be controlled maintaining plant residue through the use of a conservation tillage system. The moderate water holding capacity can hurt production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. In some places, soil test results may show soil reaction (pH) in the strongly acid range. Additions of lime may be required for optimum nutrient balance. The moderately rapid permeability and relatively shallow depths to sandy textures can limit some of the engineering uses of this soil.

1005—Albion sandy loam, 1 to 3 percent slopes**Map Unit Composition**

Albion: 75 percent

Minor components: 25 percent

Component Descriptions**Albion***MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 1 to 3 percent*Drainage class:* Well drained*Slowest permeability:* Moderately rapid (About 2.00 in/hr)*Available water capacity:* Moderate (About 7.3 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Sandy (pe21-28)*Land capability (nonirrigated):* 3e*Typical Profile:*

Ap—0 to 9 inches; sandy loam

Bt1—9 to 16 inches; sandy loam

Bt2—16 to 27 inches; sandy loam

BC—27 to 48 inches; loamy coarse sand

C—48 to 80 inches; sand

Minor Components**Shellabarger***Composition:* About 25 percent*Slope:* 1 to 3 percent*Drainage class:* Well drained*Ecological site:* Sandy (pe21-28)**Unnamed Wet Soils**

General Considerations: Most areas are used as cropland, but some areas are in pasture or range. This map unit is moderately well suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind erosion is severe and the hazard of water erosion is moderate for these soils. Ephemeral gully erosion potential is moderate for these soils. Wind and water erosion can be controlled maintaining plant residue through the use of a conservation tillage system, strip cropping, field windbreaks, contour farming, tall grass barriers, terraces and grassed waterways. The moderate water holding capacity of these soils can limit production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. In some places, soil test results may show soil reaction (pH) in the strongly acid range. Additions of lime may be required for optimum nutrient balance. The moderately rapid permeability and relatively shallow depths to sandy textures can limit some of the engineering uses of these soils.

1006—Albion sandy loam, 3 to 7 percent slopes, eroded**Map Unit Composition**

Albion: 100 percent

Component Descriptions

Albion*MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 3 to 7 percent*Drainage class:* Well drained*Slowest permeability:* Moderately rapid (About 2.00 in/hr)*Available water capacity:* Moderate (About 7.3 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Sandy (pe21-28)*Land capability (nonirrigated):* 3e*Typical Profile:*

Ap—0 to 9 inches; sandy loam
 Bt1—9 to 16 inches; sandy loam
 Bt2—16 to 27 inches; sandy loam
 BC—27 to 48 inches; loamy coarse sand
 C—48 to 80 inches; sand

General Considerations: Most areas are used as cropland, but some areas are in pasture or range. This map unit is moderately well suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind erosion is severe and the hazard of water erosion is moderate for these soils. Ephemeral gully erosion potential is moderate for these soils. Wind and water erosion can be controlled maintaining plant residue through the use of a conservation tillage system, strip cropping, field windbreaks, contour farming, tall grass barriers, terraces and grassed waterways. The moderate water holding capacity of these soils can limit production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. In some places, soil test results may show soil reaction (pH) in the strongly acid range. Additions of lime may be required for optimum nutrient balance. The moderately rapid permeability and relatively shallow depths to sandy textures can limit some of the engineering uses of these soils.

1011—Albion-Shellabarger sandy loams, 1 to 3 percent slopes

Map Unit Composition

Albion: 70 percent

Shellabarger: 30 percent

Component Descriptions**Albion***MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 1 to 3 percent*Drainage class:* Well drained*Slowest permeability:* Moderately rapid (About 2.00 in/hr)*Available water capacity:* Moderate (About 7.3 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Sandy (pe21-28)*Land capability (nonirrigated):* 3e*Typical Profile:*

Ap—0 to 9 inches; sandy loam
 Bt1—9 to 16 inches; sandy loam
 Bt2—16 to 27 inches; sandy loam
 BC—27 to 48 inches; loamy coarse sand
 C—48 to 80 inches; sand

Shellabarger*MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 1 to 3 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* Moderate (About 8.5 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Sandy (pe21-28)*Land capability (nonirrigated):* 2e*Typical Profile:*

Ap—0 to 7 inches; sandy loam
 Bt1—7 to 11 inches; sandy clay loam
 Bt2—11 to 19 inches; sandy clay loam
 Bt3—19 to 33 inches; sandy loam
 BC—33 to 47 inches; coarse sandy loam
 C1—47 to 59 inches; loamy sand
 C2—59 to 73 inches; sand

C3—73 to 80 inches; sand

Minor Components Unnamed Wet Soils

General Considerations: Most areas are used as cropland, but some areas are in pasture or range. This map unit is moderately well suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind erosion is severe and the hazard of water erosion is moderate for these soils. Ephemeral gully erosion potential is moderate for these soils. Wind and water erosion can be controlled maintaining plant residue through the use of a conservation tillage system, strip cropping, field windbreaks, contour farming, tall grass barriers, terraces and grassed waterways. The moderate water holding capacity of these soils can limit production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. In some places, soil test results may show soil reaction (pH) in the strongly acid range. Additions of lime may be required for optimum nutrient balance. The moderately rapid permeability and relatively shallow depths to sandy textures can limit some of the engineering uses of these soils.

1017—Albion And Shellabarger sandy loams, 7 to 15 percent slopes

Map Unit Composition

Albion: 45 percent
Shellabarger: 40 percent
Minor components: 15 percent

Component Descriptions

Albion

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 7 to 15 percent
Drainage class: Well drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Moderate (About 7.3 inches)

Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet

Runoff class: Very high
Ecological site: Sandy (pe21-28)
Land capability (nonirrigated): 3e

Typical Profile:

Ap—0 to 9 inches; sandy loam
Bt1—9 to 16 inches; sandy loam
Bt2—16 to 27 inches; sandy loam
BC—27 to 48 inches; loamy coarse sand
C—48 to 80 inches; sand

Shellabarger

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 7 to 15 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Moderate (About 8.5 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very high
Ecological site: Sandy (pe21-28)
Land capability (nonirrigated): 2e

Typical Profile:

Ap—0 to 5 inches; sandy loam
Bt1—5 to 11 inches; sandy clay loam
Bt2—11 to 19 inches; sandy clay loam
Bt3—19 to 33 inches; sandy loam
BC—33 to 47 inches; coarse sandy loam
C1—47 to 59 inches; loamy sand
C2—59 to 73 inches; sand
C3—73 to 80 inches; sand

Minor Components

Clark

Composition: About 15 percent
Slope: 7 to 15 percent
Drainage class: Well drained
Ecological site: Limy Upland (pe21-28)

Unnamed Wet Soils

General Considerations: Most areas are used for pasture or range. This map unit is poorly suited for cropland. The steep slopes of this map unit will limit most engineering practices for this soil.

1061—Arents, Earthen Dam**Map Unit Composition**

Arents, Earthen Dam: 100 percent

Component Descriptions**Arents, Earthen Dam**

MLRA: -

Depth to seasonal water saturation: More than 6 feet

Land capability (nonirrigated): 8

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: High (About 10.0 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 2c

1359—Clark-Ost loams, 3 to 7 percent slopes**Map Unit Composition**

Clark: 70 percent

Ost: 30 percent

Component Descriptions**Clark**

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 3 to 7 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Limy Upland (pe21-28)

Land capability (nonirrigated): 2c

Typical Profile:

Ap—0 to 11 inches; loam

Bw—11 to 16 inches; loam

Bk1—16 to 28 inches; loam

Bk2—28 to 45 inches; fine sandy loam

BCK1—45 to 65 inches; fine sandy loam

Ck2—65 to 80 inches; very fine sandy loam

Typical Profile:

Ap—0 to 8 inches; loam

Bt1—8 to 12 inches; loam

Bt2—12 to 18 inches; loam

Bk1—18 to 23 inches; clay loam

Bk2—23 to 38 inches; clay loam

BCK—38 to 54 inches; loam

C—54 to 80 inches; loam

Minor Components**Unnamed Wet Soils**

General Considerations: Most areas are used as pasture or rangeland. Some areas are used as cropland. The hazard of wind and water erosion is moderately severe. This mapunit is well suited for most engineering practices. The slopes and amount of calcium carbonates can limit some practices.

1555—Dillhut-Plev complex, 0 to 2 percent slopes**Map Unit Composition**

Dillhut: 35 percent

Plev: 35 percent

Minor components: 30 percent

Component Descriptions**Dillhut**

MLRA: 79 - Great Bend Sand Plains

Landform: Dune on paleoterrace on river valley

Parent material: Eolian deposits over alluvium

Slope: 0 to 2 percent

Drainage class: Moderately well drained

Ost

Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Moderate (About 6.0 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Sands (pe21-28)
Land capability (irrigated): 3e
Land capability (nonirrigated): 3e

Typical Profile:

A—0 to 4 inches; fine sand
 AC—4 to 9 inches; fine sand
 C1—9 to 18 inches; fine sand
 C2—18 to 26 inches; fine sand
 2Btb1—26 to 41 inches; fine sandy loam
 2Btb2—41 to 55 inches; fine sandy loam
 2BCb1—55 to 65 inches; fine sandy loam
 2BCb2—65 to 70 inches; fine sandy loam
 2Cg—70 to 80 inches; fine sandy loam

Plev

MLRA: 79 - Great Bend Sand Plains

Landform: Depression on paleoterrace on river valley, interdune on paleoterrace on river valley

Parent material: Sandy eolian deposits over loamy alluvium

Slope: 0 to 1 percent

Drainage class: Poorly drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Low (About 3.9 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: About 6 to 6 inches

Runoff class: Very low

Ecological site: Subirrigated (pe21-28)

Land capability (nonirrigated): 5w

Typical Profile:

A1—0 to 4 inches; loamy fine sand
 A2—4 to 12 inches; fine sand
 Cg1—12 to 35 inches; fine sand
 Cg2—35 to 46 inches; fine sand
 2Btgb1—46 to 57 inches; fine sandy loam
 2Btgb2—57 to 75 inches; fine sandy loam
 2BCb—75 to 80 inches; loamy fine sand

Minor Components

Dillwyn

Composition: About 20 percent

Slope: 0 to 2 percent

Drainage class: Somewhat poorly drained

Ecological site: Subirrigated (pe21-28)

Warnut

Composition: About 10 percent

Slope: 0 to 1 percent

Drainage class: Poorly drained

Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are in pasture or range. This mapunit is poorly suited for most commonly grown crops. The hazard for wind erosion is severe and water erosion is slight. The presence of water tables and sandy textures limits many of the engineering uses of this soil.

1728—Funmar And Farnum loams, 3 to 6 percent slopes

Map Unit Composition

Farnum: 40 percent

Funmar: 40 percent

Minor components: 20 percent

Component Descriptions

Farnum

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.7 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Loamy Upland (pe21-28)

Land capability (irrigated): 1

Land capability (nonirrigated): 2c

Typical Profile:

Ap—0 to 5 inches; loam
 A—5 to 15 inches; loam
 Bt1—15 to 21 inches; loam
 Bt2—21 to 34 inches; sandy clay loam
 Bt3—34 to 48 inches; loam
 Bt4—48 to 61 inches; clay loam
 Bt5—61 to 73 inches; clay loam
 Btk—73 to 80 inches; loam

Funmar

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley
Parent material: Loamy alluvium over alluvium
Slope: 3 to 6 percent
Drainage class: Moderately well drained
Slowest permeability: Slow (About 0.06 in/hr)
Available water capacity: High (About 10.3 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Loamy Upland (pe21-28)
Land capability (irrigated): 1
Land capability (nonirrigated): 2c

Typical Profile:

Ap—0 to 6 inches; loam
 A—6 to 12 inches; loam
 Bt1—12 to 17 inches; loam
 Bt2—17 to 26 inches; clay loam
 Bt3—26 to 32 inches; loam
 2Ab—32 to 38 inches; silty clay loam
 2Btb—38 to 54 inches; silty clay loam
 2Btkb1—54 to 66 inches; silty clay loam
 2Btkb2—66 to 80 inches; silty clay loam

Minor Components

Naron

Composition: About 20 percent
Slope: 3 to 6 percent
Drainage class: Well drained
Ecological site: Sandy (pe21-28)

Carbika

Slope: 0 to 1 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

Carway

Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are in cropland, but some areas are in pasture or range. This mapunit is moderately well suited for the most commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the predominant crops grown. The hazard for wind and water erosion is slight. The potential for high shrink-swell may limit some of the engineering practices of this mapunit.

2205—Jamash-Piedmont clay loams, 1 to 3 percent slopes

Map Unit Composition

Jamash: 60 percent
 Piedmont: 40 percent

Component Descriptions

Jamash

MLRA: 80A - Central Rolling Red Prairies
Landform: Pediment on upland
Parent material: Residuum weathered from shale, unspecified
Slope: 1 to 3 percent
Depth to restrictive feature: 12 to 15 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Very low (About 2.5 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Shallow Prairie (pe24-32)
Land capability (nonirrigated): 4e

Typical Profile:

Ap—0 to 4 inches; clay loam
 Bw—4 to 11 inches; silty clay loam
 BC—11 to 15 inches; silty clay loam
 Cr1—15 to 28 inches; weathered bedrock
 Cr2—28 to 80 inches; weathered bedrock

Piedmont

MLRA: 80A - Central Rolling Red Prairies
Landform: Pediment on upland
Parent material: Residuum weathered from shale, clayey
Slope: 1 to 3 percent
Depth to restrictive feature: 32 to 36 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Low (About 5.4 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Clay Upland (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

Ap1—0 to 4 inches; clay loam
 Ap2—4 to 7 inches; clay loam
 Bt1—7 to 13 inches; clay
 Bt2—13 to 20 inches; clay
 Btk—20 to 24 inches; silty clay
 BCk—24 to 32 inches; silty clay
 Cr—32 to 80 inches; weathered bedrock

Minor Components

Unnamed Wet Soils

General Considerations: Some areas are used as cropland, but most areas are used for pasture or range. Many areas of this map unit are also in the Conservation Reserve Program. This map unit is poorly suited for the commonly grown crops such as wheat and grain sorghum. The hazard of wind erosion is severe and water erosion is slight. Wind erosion can be controlled through conservation tillage practices. The shallow depth to bedrock and slow permeability can limit some engineering uses of this soil.

2381—Kanza-Ninnescah sandy loams, 0 to 2 percent slopes, Commonly flooded

Map Unit Composition

Kanza: 50 percent
 Ninnescah: 50 percent

Component Descriptions

Kanza

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Alluvium
Slope: 0 to 2 percent
Drainage class: Poorly drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Low (About 5.7 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: Frequent
Depth to seasonal water saturation: About 0 to 36 inches
Runoff class: Very low
Ecological site: Subirrigated (pe21-28)
Land capability (nonirrigated): 5w

Typical Profile:

A1—0 to 4 inches; sandy loam
 A2—4 to 9 inches; loamy fine sand
 AC—9 to 17 inches; loamy fine sand
 C1—17 to 33 inches; loamy fine sand
 C2—33 to 80 inches; sand

Ninnescah

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Loamy alluvium
Slope: 0 to 2 percent
Drainage class: Poorly drained
Slowest permeability: Moderately rapid (About 1.98 in/hr)
Available water capacity: Moderate (About 7.4 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Occasional
Depth to seasonal water saturation: About 24 to 24 inches
Runoff class: Very low
Ecological site: Subirrigated (pe21-28)
Land capability (nonirrigated): 5w

Typical Profile:

Ak1—0 to 6 inches; sandy loam
 Ak2—6 to 14 inches; sandy loam
 Ak3—14 to 19 inches; sandy loam
 Bkg1—19 to 30 inches; sandy loam
 Bkg2—30 to 37 inches; sandy loam
 Cg1—37 to 52 inches; sandy loam
 Cg2—52 to 80 inches; loamy sand

General Considerations: Most areas are in pasture or range. This map unit is poorly suited for the most commonly grown crops. The hazard for wind and water erosion is slight. The water tables, flooding, and depth to sand limit most engineering uses for this mapunit.

2390—Kaskan loam, 0 To 1 Percent, rarely flooded

Map Unit Composition

Kaskan: 85 percent
 Minor components: 15 percent

Component Descriptions

Kaskan

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Loamy alluvium

Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Moderate (About 8.7 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: Rare
Depth to seasonal water saturation: About 60 to 60 inches
Runoff class: Very low
Ecological site: Loamy Lowland (pe21-28)
Land capability (nonirrigated): 2w

Typical Profile:

Ap—0 to 7 inches; loam
 A—7 to 17 inches; clay loam
 Bw1—17 to 24 inches; loam
 Bw2—24 to 35 inches; fine sandy loam
 BC—35 to 41 inches; loamy fine sand
 C1—41 to 47 inches; fine sand
 C2—47 to 66 inches; sand
 C3—66 to 80 inches; stratified gravelly coarse sand to sand

Minor Components

Tobin

Composition: About 15 percent
Slope: 0 to 1 percent
Drainage class: Well drained
Ecological site: Loamy Lowland (pe25-34)

General Considerations: Most areas are in cropland, but some are in pasture or range. This map unit is moderately well suited for most commonly grown crops. Wheat and grain sorghum are the predominant crops. The hazard for wind and water erosion is slight. The water table and rare chance of flooding may limit some of the engineering practices.

2556—Langdon fine sand, 0 to 15 percent slopes

Map Unit Composition

Langdon: 50 percent
 Minor components: 50 percent

Component Descriptions

Langdon

MLRA: 79 - Great Bend Sand Plains
Landform: Dune on paleoterrace on river valley
Parent material: Sandy eolian deposits

Slope: 0 to 15 percent
Drainage class: Somewhat excessively drained
Slowest permeability: Rapid (About 6.00 in/hr)
Available water capacity: Low (About 3.2 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Choppy Sands (pe21-28)
Land capability (nonirrigated): 6e

Typical Profile:

A—0 to 8 inches; fine sand
 E&Bt—8 to 47 inches; stratified sand to loamy sand
 C—47 to 64 inches; fine sand
 E&Btb—64 to 80 inches; stratified sand to loamy sand

Minor Components

Turon

Composition: About 25 percent
Slope: 0 to 10 percent
Drainage class: Well drained
Ecological site: Sands (pe21-28)

Tivin

Composition: About 25 percent
Slope: 1 to 15 percent
Drainage class: Somewhat excessively drained
Ecological site: Choppy Sands (pe21-28)

Carway

Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Ecological site: Subirrigated (pe21-28)

Warnut

Slope: 0 to 1 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are in pasture or range. This mapunit is poorly suited for the most commonly grown crops. The hazard for wind erosion is severe and water erosion is moderate. The sandy textures limit most engineering practices.

2812—Mahone loamy fine sand, 0 to 2 percent slopes, rarely flooded

Map Unit Composition

Mahone: 95 percent
Minor components: 5 percent

Component Descriptions

Mahone

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Loamy alluvium
Slope: 0 to 2 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Moderate (About 8.9 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Rare
Depth to seasonal water saturation: About 60 to 60 inches
Runoff class: Very low
Ecological site: Loamy Lowland (pe21-28)
Land capability (nonirrigated): 2w

Typical Profile:

Ap—0 to 8 inches; loamy fine sand
A—8 to 14 inches; fine sandy loam
Bw1—14 to 20 inches; fine sandy loam
Bw2—20 to 25 inches; very fine sandy loam
Bw3—25 to 33 inches; silt loam
2C—33 to 39 inches; stratified silt loam to fine sandy loam
2Ab1—39 to 42 inches; clay loam
2Ab2—42 to 48 inches; fine sandy loam
2Bwb1—48 to 54 inches; very fine sandy loam
2Bwb2—54 to 61 inches; fine sandy loam
2Ab—61 to 66 inches; fine sandy loam
2Bwb—66 to 71 inches; fine sandy loam
3BC—71 to 78 inches; loamy fine sand
3C—78 to 80 inches; coarse sand

Minor Components

Yaggy

Composition: About 5 percent
Slope: 0 to 2 percent
Drainage class: Somewhat poorly drained
Ecological site: Sandy Lowland (pe21-28)

General Considerations: Most areas are in cropland, but some are in pasture or range. Some areas are also in the Conservation Reserve Program. This map unit is somewhat poorly suited for most commonly grown crops. Wheat and grain sorghum are

major crops. The hazard for wind erosion is severe and water erosion is slight. The high water tables and depth to sand will many engineering practices.

2948—Nalim loam, 0 to 1 percent slopes

Map Unit Composition

Nalim: 80 percent
Minor components: 20 percent

Component Descriptions

Nalim

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 10.4 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Loamy Upland (pe24-32)
Land capability (irrigated): 2e
Land capability (nonirrigated): 2e

Typical Profile:

Ap—0 to 6 inches; loam
Bt1—6 to 9 inches; loam
Bt2—9 to 13 inches; clay loam
Bt3—13 to 21 inches; clay loam
Bt4—21 to 31 inches; clay loam
Bt5—31 to 39 inches; sandy clay loam
Bt6—39 to 44 inches; gravelly sandy clay loam
Bt7—44 to 52 inches; sandy clay loam
BC—52 to 62 inches; loamy coarse sand
C1—62 to 72 inches; gravelly loamy coarse sand
C2—72 to 80 inches; stratified sand to gravelly loamy coarse sand

Minor Components

Farnum

Composition: About 20 percent
Slope: 0 to 1 percent
Drainage class: Well drained
Ecological site: Loamy Upland (pe21-28)

Unnamed Wet Soils

General Considerations: Most areas are used as cropland. This mapunit is well suited to all commonly grown crops. Wheat, grain sorghum, and soybeans are the major crops. A few areas are planted to irrigated corn. The hazard of water erosion is slight and wind erosion is moderate. This problem can be overcome by using conservation tillage and residue management. This mapunit is moderately well suited for most engineering uses.

3051—Ost loam, 0 to 1 percent slopes**Map Unit Composition**

Ost: 90 percent
Minor components: 10 percent

Component Descriptions**Ost**

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 10.0 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 2c

Typical Profile:

Ap—0 to 8 inches; loam
Bt1—8 to 12 inches; loam
Bt2—12 to 18 inches; loam
Bk1—18 to 23 inches; clay loam
Bk2—23 to 38 inches; clay loam
BCk—38 to 54 inches; loam
C—54 to 80 inches; loam

Minor Components**Clark**

Composition: About 10 percent

Slope: 0 to 1 percent
Drainage class: Well drained
Ecological site: Limy Upland (pe21-28)

Unnamed Wet Soils

General Considerations: Most areas are used as cropland. This mapunit is well suited to all commonly grown crops. Wheat, grain sorghum, and soybeans are the predominant crops. The hazard of wind and water erosion is slight. This mapunit is well suited for most engineering practices.

3052—Ost-Clark loams, 1 to 3 percent slopes**Map Unit Composition**

Ost: 55 percent
Clark: 45 percent

Component Descriptions**Ost**

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 10.0 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 2c

Typical Profile:

Ap—0 to 8 inches; loam
Bt1—8 to 12 inches; loam
Bt2—12 to 18 inches; loam
Bk1—18 to 23 inches; clay loam
Bk2—23 to 38 inches; clay loam
BCk—38 to 54 inches; loam
C—54 to 80 inches; loam

Clark

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley

Parent material: Loamy alluvium
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 10.4 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Limy Upland (pe21-28)
Land capability (nonirrigated): 2c

Typical Profile:

Ap—0 to 11 inches; loam
 Bw—11 to 16 inches; loam
 Bk1—16 to 28 inches; loam
 Bk2—28 to 45 inches; fine sandy loam
 Bck1—45 to 65 inches; fine sandy loam
 Ck2—65 to 80 inches; very fine sandy loam

Minor Components
Unnamed Wet Soils

General Considerations: Most areas are used as cropland. This mapunit is well suited to all commonly grown crops. Wheat, grain sorghum, and soybeans are the predominant crops. The hazard of wind erosion is moderate and water erosion is slight. This mapunit is well suited for most engineering practices.

Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Loamy Upland (pe21-28)
Land capability (irrigated): 1
Land capability (nonirrigated): 2c

Typical Profile:

Ap1—0 to 5 inches; silt loam
 Ap2—5 to 10 inches; silt loam
 Bt1—10 to 14 inches; silty clay loam
 Bt2—14 to 22 inches; silty clay loam
 Btss1—22 to 28 inches; silty clay loam
 Btss2—28 to 34 inches; silty clay loam
 Btss3—34 to 39 inches; silty clay loam
 BC—39 to 48 inches; silt loam
 2Btkssb1—48 to 61 inches; silty clay loam
 2Btkssb2—61 to 71 inches; silty clay loam
 2Btkssb3—71 to 80 inches; clay loam

Minor Components

Carbika

Slope: 0 to 1 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are used for cropland but some areas are in pasture. This mapunit is well suited for most commonly grown crops. Wheat, grain sorghum, soybeans and irrigated corn are the predominant crops in the area. The hazard of wind and water erosion is slight. The slow permeability and high shrink-swell can limit the engineering uses of the soil.

3170—Penalosa silt loam, 0 to 1 percent slopes

Map Unit Composition

Penalosa: 100 percent

Component Descriptions

Penalosa

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Drainage class: Moderately well drained
Slowest permeability: Slow (About 0.06 in/hr)
Available water capacity: High (About 10.9 inches)
Shrink-swell potential: High (About 7.5 LEP)

3171—Penalosa silt loam, 1 to 3 percent slopes

Map Unit Composition

Penalosa: 100 percent

Component Descriptions

Penalosa

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 1 to 3 percent
Drainage class: Moderately well drained
Slowest permeability: Slow (About 0.06 in/hr)
Available water capacity: High (About 10.9 inches)
Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Loamy Upland (pe21-28)

Land capability (irrigated): 1

Land capability (nonirrigated): 2c

Typical Profile:

Ap1—0 to 5 inches; silt loam

Ap2—5 to 10 inches; silty clay loam

Bt1—10 to 14 inches; silty clay loam

Bt2—14 to 22 inches; silty clay loam

Btss1—22 to 28 inches; silty clay loam

Btss2—28 to 34 inches; silty clay loam

Btss3—34 to 39 inches; silty clay loam

BC—39 to 48 inches; silt loam

2Btkssb1—48 to 61 inches; silty clay loam

2Btkssb2—61 to 71 inches; silty clay loam

2Btkssb3—71 to 80 inches; clay loam

Minor Components

Unnamed Wet Soils

General Considerations: Most areas are used for cropland but some areas are in pasture. This mapunit is well suited for most commonly grown crops. Wheat, grain sorghum, soybeans and irrigated corn are the predominant crops in the area. The hazard of wind and water erosion is slight. The slow permeability and high shrink-swell can limit the engineering uses of the soil.

3180—Pratt fine sand, 5 to 10 percent slopes

Map Unit Composition

Pratt: 85 percent

Minor components: 15 percent

Component Descriptions

Pratt

MLRA: 79 - Great Bend Sand Plains

Landform: Dune on paleoterrace on river valley

Parent material: Sandy eolian deposits

Slope: 5 to 10 percent

Drainage class: Well drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Moderate (About 6.3 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sands (pe21-28)

Land capability (irrigated): 3e

Land capability (nonirrigated): 3e

Typical Profile:

Ap—0 to 8 inches; fine sand

Bt—8 to 24 inches; loamy fine sand

E&Bt—24 to 64 inches; stratified fine sand to loamy fine sand

C—64 to 80 inches; fine sand

Minor Components

Attica

Composition: About 15 percent

Slope: 5 to 10 percent

Drainage class: Well drained

Ecological site: Sandy (pe21-28)

General Considerations: Most areas are in pasture or range, but some are in cropland. This mapunit is poorly suited for the most commonly grown crops. The hazard for wind erosion is severe and water erosion is moderate. This mapunit is poorly suited for most engineering practices due to the sandy textures.

3181—Pratt-Turon fine sand, 1 to 5 percent slopes

Map Unit Composition

Pratt: 45 percent

Turon: 30 percent

Minor components: 25 percent

Component Descriptions

Pratt

MLRA: 79 - Great Bend Sand Plains

Landform: Dune on paleoterrace on river valley

Parent material: Sandy eolian deposits

Slope: 1 to 5 percent

Drainage class: Well drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Moderate (About 6.3 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sands (pe21-28)

Land capability (irrigated): 3e
Land capability (nonirrigated): 3e

Typical Profile:

Ap—0 to 8 inches; fine sand
 Bt—8 to 24 inches; loamy fine sand
 E&Bt—24 to 64 inches; stratified fine sand to loamy fine sand
 C—64 to 80 inches; fine sand

Turon

MLRA: 79 - Great Bend Sand Plains
Landform: Dune on paleoterrace on river valley
Parent material: Sandy eolian deposits over alluvium
Slope: 1 to 5 percent
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Moderate (About 7.1 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Sands (pe21-28)
Land capability (irrigated): 3e
Land capability (nonirrigated): 3e

Typical Profile:

Ap—0 to 8 inches; fine sand
 Bt—8 to 28 inches; loamy fine sand
 E&Bt—28 to 40 inches; stratified loamy fine sand to fine sandy loam
 2Btb1—40 to 58 inches; silty clay
 2Btb2—58 to 75 inches; silty clay
 2Btb3—75 to 80 inches; silty clay

Minor Components

Hayes

Composition: About 25 percent
Slope: 1 to 5 percent
Drainage class: Well drained
Ecological site: Sandy (pe21-28)

Carway

Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Ecological site: Subirrigated (pe21-28)

Warnut

Slope: 0 to 1 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are in cropland, but some are in pasture and range. Some areas are also in the Conservation Reserve Program. This mapunit is

somewhat poorly suited for the most commonly grown crops. Wheat, grain sorghum, and irrigated corn are the predominant crops. The hazard for wind erosion is severe and water erosion is slight. Wind erosion can be controlled by plant residue management, conservation tillage, and tall grass barriers. This mapunit is moderately well suited for most engineering practices.

3445—Shellabarger sandy loam, 3 to 7 percent slopes

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 3 to 7 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Moderate (About 8.5 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Sandy (pe21-28)
Land capability (nonirrigated): 2e

Typical Profile:

Ap—0 to 6 inches; sandy loam
 Bt1—6 to 11 inches; sandy clay loam
 Bt2—11 to 19 inches; sandy clay loam
 Bt3—19 to 33 inches; sandy loam
 BC—33 to 47 inches; coarse sandy loam
 C1—47 to 59 inches; loamy sand
 C2—59 to 73 inches; sand
 C3—73 to 80 inches; sand

General Considerations: Most areas are used as cropland or hayland, but some areas are in pasture or range. This map unit is moderately well suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind erosion is slight

and water erosion is severe for these soils. Ephemeral gully erosion potential is moderate for these soils. Wind and water erosion can be controlled by maintaining plant residue through the use of a conservation tillage system, strip cropping, field windbreaks, contour farming, tall grass barriers, terraces and grassed waterways. The moderate water holding capacity of these soils can limit production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. These soils are moderately well suited for most engineering uses of these soils, except where steep slopes can limit the practice.

3510—Saltcreek-Funmar-Farnum complex, 1 to 3 percent slopes

Map Unit Composition

Saltcreek: 50 percent
Funmar: 30 percent
Farnum: 20 percent

Component Descriptions

Saltcreek

MLRA: 79 - Great Bend Sand Plains
Landform: Dune on paleoterrace on river valley
Parent material: Loamy eolian deposits over alluvium
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Slow (About 0.06 in/hr)
Available water capacity: High (About 9.0 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Sandy (pe21-28)
Land capability (irrigated): 1
Land capability (nonirrigated): 3e

Typical Profile:

Ap—0 to 5 inches; fine sandy loam
Bt1—5 to 10 inches; sandy clay loam
Bt2—10 to 26 inches; sandy clay loam
Bt3—26 to 39 inches; fine sandy loam
2Btb—39 to 56 inches; silty clay
2Btkb1—56 to 66 inches; silty clay loam
2Btkb2—66 to 80 inches; silty clay loam

Funmar

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium over alluvium
Slope: 1 to 3 percent
Drainage class: Moderately well drained
Slowest permeability: Slow (About 0.06 in/hr)
Available water capacity: High (About 10.3 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Loamy Upland (pe21-28)
Land capability (irrigated): 1
Land capability (nonirrigated): 2c

Typical Profile:

Ap—0 to 6 inches; loam
A—6 to 12 inches; loam
Bt1—12 to 17 inches; loam
Bt2—17 to 26 inches; clay loam
Bt3—26 to 32 inches; loam
2Ab—32 to 38 inches; silty clay loam
2Btb—38 to 54 inches; silty clay loam
2Btkb1—54 to 66 inches; silty clay loam
2Btkb2—66 to 80 inches; silty clay loam

Farnum

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Alluvium
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 10.7 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Loamy Upland (pe21-28)
Land capability (irrigated): 1
Land capability (nonirrigated): 2c

Typical Profile:

Ap—0 to 5 inches; loam
A—5 to 15 inches; loam
Bt1—15 to 21 inches; loam
Bt2—21 to 34 inches; sandy clay loam
Bt3—34 to 48 inches; loam
Bt4—48 to 61 inches; clay loam
Bt5—61 to 73 inches; clay loam

Btk—73 to 80 inches; loam

Minor Components

Carway

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Ecological site: Subirrigated (pe21-28)

Carbika

Slope: 0 to 1 percent

Drainage class: Poorly drained

Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are in cropland, but some areas are in pasture or range. This mapunit is well suited for most commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn. The hazard for wind and water erosion is slight. The potential for high shrink-swell may limit some engineering practices for this mapunit.

3530—Shellabarger, eroded And Albion Soils, 7 to 15 percent slopes

Map Unit Composition

Shellabarger: 45 percent

Albion: 40 percent

Minor components: 15 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 7 to 15 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.5 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very high

Ecological site: Sandy (pe21-28)

Land capability (nonirrigated): 2e

Typical Profile:

Ap—0 to 5 inches; sandy loam

Bt1—5 to 11 inches; sandy clay loam

Bt2—11 to 19 inches; sandy clay loam

Bt3—19 to 33 inches; sandy loam

BC—33 to 47 inches; coarse sandy loam

C1—47 to 59 inches; loamy sand

C2—59 to 73 inches; sand

C3—73 to 80 inches; sand

Albion

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 7 to 15 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Moderate (About 7.3 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very high

Ecological site: Sandy (pe21-28)

Land capability (nonirrigated): 3e

Typical Profile:

Ap—0 to 9 inches; sandy loam

Bt1—9 to 16 inches; sandy loam

Bt2—16 to 27 inches; sandy loam

BC—27 to 48 inches; loamy coarse sand

C—48 to 80 inches; sand

Minor Components

Clark

Composition: About 15 percent

Slope: 7 to 15 percent

Drainage class: Well drained

Ecological site: Limy Upland (pe21-28)

Unnamed Wet Soils

General Considerations: Most areas are used for pasture or range. This map unit is poorly suited for cropland. The steep slopes of this map unit will limit most engineering practices for this soil.

3531—Shellabarger And Nalim Soils, 3 to 7 percent slopes

Map Unit Composition

Shellabarger: 50 percent

Nalim: 50 percent

Component Descriptions

Shellabarger*MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 3 to 7 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* Moderate (About 8.5 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Medium*Ecological site:* Sandy (pe21-28)*Land capability (nonirrigated):* 2e*Typical Profile:*

- Ap—0 to 6 inches; sandy loam
- Bt1—6 to 11 inches; sandy clay loam
- Bt2—11 to 19 inches; sandy clay loam
- Bt3—19 to 33 inches; sandy loam
- BC—33 to 47 inches; coarse sandy loam
- C1—47 to 59 inches; loamy sand
- C2—59 to 73 inches; sand
- C3—73 to 80 inches; sand

Nalim*MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 3 to 7 percent*Drainage class:* Well drained*Slowest permeability:* Moderately slow (About 0.20 in/hr)*Available water capacity:* High (About 10.4 inches)*Shrink-swell potential:* Moderate (About 4.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Medium*Ecological site:* Loamy Upland (pe24-32)*Land capability (irrigated):* 2e*Land capability (nonirrigated):* 2e*Typical Profile:*

- Ap—0 to 6 inches; loam
- Bt1—6 to 9 inches; loam
- Bt2—9 to 13 inches; clay loam
- Bt3—13 to 21 inches; clay loam
- Bt4—21 to 31 inches; clay loam
- Bt5—31 to 39 inches; sandy clay loam
- Bt6—39 to 44 inches; gravelly sandy clay loam
- Bt7—44 to 52 inches; sandy clay loam
- BC—52 to 62 inches; loamy coarse sand

C1—62 to 72 inches; gravelly loamy coarse sand

C2—72 to 80 inches; stratified sand to gravelly loamy coarse sand

General Considerations: Most areas are used as cropland or hayland, but some areas are in pasture or range. This map unit is moderately well suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind erosion is slight and water erosion is severe for these soils. Ephemeral gully erosion potential is moderate for these soils. Wind and water erosion can be controlled by maintaining plant residue through the use of a conservation tillage system, strip cropping, field windbreaks, contour farming, tall grass barriers, terraces and grassed waterways. The moderate water holding capacity of these soils can limit production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. These soils are moderately well suited for most engineering uses of these soils, except where steep slopes can limit the practice.

3532—Shellabarger loamy sand, 0 to 3 percent slopes**Map Unit Composition**

Shellabarger: 80 percent

Minor components: 20 percent

Component Descriptions**Shellabarger***MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 0 to 3 percent*Drainage class:* Well drained*Slowest permeability:* Moderate (About 0.60 in/hr)*Available water capacity:* Moderate (About 8.1 inches)*Shrink-swell potential:* Low (About 1.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Very low*Ecological site:* Sandy (pe21-28)*Land capability (nonirrigated):* 2e

Typical Profile:

A—0 to 6 inches; loamy sand
 Bt1—6 to 11 inches; sandy clay loam
 Bt2—11 to 19 inches; sandy clay loam
 Bt3—19 to 33 inches; sandy loam
 BC—33 to 47 inches; coarse sandy loam
 C1—47 to 59 inches; loamy sand
 C2—59 to 73 inches; sand
 C3—73 to 80 inches; sand

Minor Components**Albion**

Composition: About 20 percent
Slope: 0 to 3 percent
Drainage class: Well drained
Ecological site: Sandy (pe21-28)

General Considerations: Most areas are used as cropland, but some areas are in pasture or range. This map unit is moderately well suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind erosion is severe and the hazard of water erosion is moderate for these soils. Ephemeral gully erosion potential is moderate for these soils. Wind and water erosion can be controlled maintaining plant residue through the use of a conservation tillage system, strip cropping, field windbreaks, contour farming, tall grass barriers, terraces and grassed waterways. The moderate water holding capacity of these soils can limit production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. In some places, soil test results may show soil reaction (pH) in the strongly acid range. Additions of lime may be required for optimum nutrient balance. The moderately rapid permeability and relatively shallow depths to sandy textures can limit some of the engineering uses of these soils.

3533—Shellabarger sandy loam, 0 to 1 percent slopes

Map Unit Composition

Shellabarger: 85 percent
 Minor components: 15 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.5 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Sandy (pe21-28)

Land capability (nonirrigated): 2e

Typical Profile:

Ap—0 to 7 inches; sandy loam
 Bt1—7 to 11 inches; sandy clay loam
 Bt2—11 to 19 inches; sandy clay loam
 Bt3—19 to 33 inches; sandy loam
 BC—33 to 47 inches; coarse sandy loam
 C1—47 to 59 inches; loamy sand
 C2—59 to 73 inches; sand
 C3—73 to 80 inches; sand

Minor Components**Nalim**

Composition: About 15 percent

Slope: 0 to 1 percent

Drainage class: Well drained

Ecological site: Loamy Upland (pe24-32)

Unnamed Wet Soils

General Considerations: Most areas are used as cropland, but some areas are in pasture or range. This map unit is moderately well suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind erosion is severe and the hazard of water erosion is slight. Wind erosion can be controlled by maintaining plant residue through the use of a conservation tillage system. The moderate water holding capacity can hurt production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. In some places, soil test results may show soil reaction (pH) in the strongly acid range. Additions of lime may be required for optimum nutrient balance. The moderately rapid permeability and relatively shallow depths to sandy textures can limit some of the engineering uses of this soil.

3534—Shellabarger sandy loam, 1 to 3 percent slopes

Map Unit Composition

Shellabarger: 85 percent
Minor components: 15 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.5 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sandy (pe21-28)

Land capability (nonirrigated): 2e

Typical Profile:

Ap—0 to 7 inches; sandy loam
Bt1—7 to 11 inches; sandy clay loam
Bt2—11 to 19 inches; sandy clay loam
Bt3—19 to 33 inches; sandy loam
BC—33 to 47 inches; coarse sandy loam
C1—47 to 59 inches; loamy sand
C2—59 to 73 inches; sand
C3—73 to 80 inches; sand

Minor Components

Albion

Composition: About 15 percent

Slope: 1 to 3 percent

Drainage class: Well drained

Ecological site: Sandy (pe21-28)

Unnamed Wet Soils

General Considerations: Most areas are used as cropland, but some areas are in pasture or range. This map unit is moderately well suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind erosion is severe and the hazard of water erosion is moderate for these soils. Ephemeral gully erosion potential is moderate for these soils. Wind

and water erosion can be controlled by maintaining plant residue through the use of a conservation tillage system, strip cropping, field windbreaks, contour farming, tall grass barriers, terraces and grassed waterways. The moderate water holding capacity of these soils can limit production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. In some places, soil test results may show soil reaction (pH) in the strongly acid range. Additions of lime may be required for optimum nutrient balance. The moderately rapid permeability and relatively shallow depths to sandy textures can limit some of the engineering uses of these soils.

3535—Shellabarger-Nalim complex, 1 to 3 percent slopes

Map Unit Composition

Shellabarger: 55 percent
Nalim: 45 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Moderate (About 8.5 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sandy (pe21-28)

Land capability (nonirrigated): 2e

Typical Profile:

Ap—0 to 7 inches; sandy loam
Bt1—7 to 11 inches; sandy clay loam
Bt2—11 to 19 inches; sandy clay loam
Bt3—19 to 33 inches; sandy loam
BC—33 to 47 inches; coarse sandy loam
C1—47 to 59 inches; loamy sand
C2—59 to 73 inches; sand
C3—73 to 80 inches; sand

Nalim*MLRA:* 79 - Great Bend Sand Plains*Landform:* Paleoterrace on river valley*Parent material:* Loamy alluvium*Slope:* 1 to 3 percent*Drainage class:* Well drained*Slowest permeability:* Moderately slow (About 0.20 in/hr)*Available water capacity:* High (About 10.4 inches)*Shrink-swell potential:* Moderate (About 4.5 LEP)*Flooding hazard:* None*Depth to seasonal water saturation:* More than 6 feet*Runoff class:* Low*Ecological site:* Loamy Upland (pe24-32)*Land capability (irrigated):* 2e*Land capability (nonirrigated):* 2e*Typical Profile:*

Ap—0 to 6 inches; loam

Bt1—6 to 9 inches; loam

Bt2—9 to 13 inches; clay loam

Bt3—13 to 21 inches; clay loam

Bt4—21 to 31 inches; clay loam

Bt5—31 to 39 inches; sandy clay loam

Bt6—39 to 44 inches; gravelly sandy clay loam

Bt7—44 to 52 inches; sandy clay loam

BC—52 to 62 inches; loamy coarse sand

C1—62 to 72 inches; gravelly loamy coarse sand

C2—72 to 80 inches; stratified sand to gravelly loamy coarse sand

Minor Components**Unnamed Wet Soils**

General Considerations: Most areas are used as cropland, but some areas are in pasture or range. This map unit is moderately well suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind and water erosion is moderate for these soils. Ephemeral gully erosion potential is moderate for these soils. Wind and water erosion can be controlled by maintaining plant residue through the use of a conservation tillage system, strip cropping, field windbreaks, contour farming, tall grass barriers, terraces and grassed waterways. The moderate water holding capacity of these soils can limit production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. These soils are

moderately well suited for most engineering uses of these soils.

3926—Water**3966—Willowbrook fine sandy loam, 0 to 1 percent slope, occasionally flooded****Map Unit Composition**

Willowbrook: 90 percent

Minor components: 10 percent

Component Descriptions**Willowbrook***MLRA:* 79 - Great Bend Sand Plains*Landform:* Flood plain on river valley*Parent material:* Loamy alluvium over sandy alluvium*Slope:* 0 to 1 percent*Drainage class:* Somewhat poorly drained*Slowest permeability:* Moderately rapid (About 2.00 in/hr)*Available water capacity:* Low (About 5.7 inches)*Shrink-swell potential:* Low (About 1.7 LEP)*Flooding hazard:* Occasional*Ponding hazard:* None*Depth to seasonal water saturation:* About 24 to 48 inches*Runoff class:* Very low*Ecological site:* Subirrigated (pe21-28)*Land capability (irrigated):* 2e*Land capability (nonirrigated):* 3e*Typical Profile:*

Ap1—0 to 4 inches; fine sandy loam

Ap2—4 to 9 inches; fine sandy loam

AB—9 to 13 inches; fine sandy loam

Bw—13 to 17 inches; fine sandy loam

Bk1—17 to 19 inches; loam

Bk2—19 to 26 inches; fine sandy loam

2C1—26 to 45 inches; coarse sand

2C2—45 to 51 inches; coarse sand

2C3—51 to 80 inches; stratified gravelly coarse sand to sand

Minor Components**Nickerson***Composition:* About 10 percent*Slope:* 0 to 1 percent*Drainage class:* Moderately well drained*Ecological site:* Sandy (pe21-28)**Kanza**

Slope: 0 to 2 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

Ninnescah

Slope: 0 to 2 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are used for pasture or range, some areas are used for hay production. This map unit is poorly suited for most commonly grown crops. The hazard for water erosion is slight and wind erosion is severe. Depth to sand and water tables can limit most engineering uses for this map unit. Most areas are used for pasture or range, some areas are used for hay production. This map unit is poorly suited for most commonly grown crops. The hazard for water erosion is slight and wind erosion is severe. Depth to sand and water tables can limit most engineering uses for this map unit.

4005—Yaggy-Saxman complex, 0 to 2 percent slopes, occasionally flooded

Map Unit Composition

Yaggy: 60 percent
 Saxman: 30 percent
 Minor components: 10 percent

Component Descriptions

Yaggy

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Loamy alluvium over sandy alluvium
Slope: 0 to 2 percent
Drainage class: Somewhat poorly drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Low (About 4.5 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Occasional
Depth to seasonal water saturation: About 24 to 48 inches
Runoff class: Very low
Ecological site: Sandy Lowland (pe21-28)
Land capability (irrigated): 2e
Land capability (nonirrigated): 3e

Typical Profile:

Ap1—0 to 5 inches; fine sandy loam
 Ap2—5 to 11 inches; fine sandy loam
 2C1—11 to 14 inches; stratified very fine sandy loam to silt loam
 3C2—14 to 24 inches; fine sand
 3C3—24 to 31 inches; fine sand
 3C4—31 to 42 inches; fine sand
 3C5—42 to 53 inches; stratified gravelly coarse sand
 3C6—53 to 69 inches; stratified gravelly coarse sand to sand
 3C7—69 to 80 inches; stratified gravelly coarse sand to sand

Saxman

MLRA: 79 - Great Bend Sand Plains
Landform: Flood plain on river valley
Parent material: Sandy alluvium
Slope: 0 to 2 percent
Drainage class: Moderately well drained
Slowest permeability: Rapid (About 5.95 in/hr)
Available water capacity: Low (About 4.4 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Rare
Depth to seasonal water saturation: About 24 to 36 inches
Runoff class: Very low
Ecological site: Sandy Lowland (pe21-28)
Land capability (irrigated): 2e
Land capability (nonirrigated): 3e

Typical Profile:

Ap1—0 to 4 inches; loamy sand
 Ap2—4 to 8 inches; loamy sand
 A—8 to 13 inches; loamy sand
 AC—13 to 22 inches; loamy sand
 C1—22 to 30 inches; sand
 C2—30 to 37 inches; sand
 C3—37 to 48 inches; sand
 C4—48 to 54 inches; fine sand
 C5—54 to 80 inches; stratified gravelly coarse sand

Minor Components

Solvay

Composition: About 10 percent
Slope: 0 to 2 percent
Drainage class: Somewhat poorly drained
Ecological site: Subirrigated (pe21-28)

Kanza

Slope: 0 to 2 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

Ninnescah

Slope: 0 to 2 percent
Drainage class: Poorly drained
Ecological site: Subirrigated (pe21-28)

General Considerations: Most areas are used for pasture or range, some areas are used for hay production. This map unit is poorly suited for most commonly grown crops. The hazard for water erosion is slight and wind erosion is severe. Depth to sand and water tables can limit most engineering uses for this map unit.

4110—Zellmont And Poxmash sandy loams, 0 to 3 percent slopes

Map Unit Composition

Zellmont: 70 percent
Poxmash: 30 percent

Component Descriptions

Zellmont

MLRA: 80A - Central Rolling Red Prairies

Landform: Strath terrace on river valley

Parent material: Loamy alluvium over residuum weathered from permian shale

Slope: 0 to 3 percent

Depth to restrictive feature: 20 to 39 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: Low (About 4.9 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sandy (pe21-28)

Land capability (nonirrigated): 2e

Typical Profile:

Ap—0 to 8 inches; sandy loam
Bt1—8 to 18 inches; sandy clay loam
Bt2—18 to 26 inches; sandy clay loam
2C—26 to 32 inches; loam
Cr—32 to 80 inches; weathered bedrock

Poxmash

MLRA: 80A - Central Rolling Red Prairies

Landform: Strath terrace on river valley

Parent material: Alluvium over residuum weathered from permian shale

Slope: 0 to 3 percent

Depth to restrictive feature: 48 to 53 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Low (About 4.9 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sandy (pe21-28)

Land capability (nonirrigated): 3e

Typical Profile:

Ap—0 to 5 inches; sandy loam
A—5 to 9 inches; sandy loam
Bt1—9 to 15 inches; sandy loam
Bt2—15 to 20 inches; loamy sand
C1—20 to 33 inches; sand
C2—33 to 48 inches; sand
2Cr—48 to 80 inches; weathered bedrock

Minor Components

Unnamed Wet Soils

General Considerations: Most areas are used as cropland, but some areas are in pasture or range. Some areas are also in the Conservation Reserve Program. This map unit is moderately well suited to all of the commonly grown crops. Wheat, grain sorghum, soybeans, and irrigated corn are the main crops. The hazard of wind erosion is severe and the hazard of water erosion is moderate for these soils. Ephemeral gully erosion potential is moderate for these soils. Wind and water erosion can be controlled maintaining plant residue through the use of a conservation tillage system, strip cropping, field windbreaks, contour farming, tall grass barriers, terraces and grassed waterways. The moderate water holding capacity of these soils can limit production. This problem can be minimized by increasing organic matter, leaving plant residue, and conservation tillage. In some places, soil test results may show soil reaction (pH) in the strongly acid range. Additions of lime may be required for optimum nutrient balance. The moderately rapid permeability and relatively shallow depths to bedrock can limit some of the engineering uses of these soils.

Aa—Albion sandy loam, 0 to 1 percent slopes

Map Unit Composition

Albion: 100 percent

Component Descriptions

Albion

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Low (About 5.8 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Sandy (pe24-32)

Land capability (nonirrigated): 3s

Typical Profile:

H1—0 to 8 inches; sandy loam

H2—8 to 16 inches; sandy loam

H3—16 to 26 inches; coarse sandy loam

H4—26 to 60 inches;

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Sandy (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 8 inches; sandy loam

H2—8 to 16 inches; sandy loam

H3—16 to 26 inches; coarse sandy loam

H4—26 to 60 inches; sand

Ac—Albion sandy loam, 3 to 6 percent slopes

Map Unit Composition

Albion: 100 percent

Component Descriptions

Albion

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Low (About 5.8 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sandy (pe24-32)

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 8 inches; sandy loam

H2—8 to 16 inches; sandy loam

H3—16 to 26 inches; loamy sand

H4—26 to 60 inches; sand

Ab—Albion sandy loam, 1 to 3 percent slopes

Map Unit Composition

Albion: 100 percent

Component Descriptions

Albion

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Low (About 5.8 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Ad—Albion sandy loam, 6 to 15 percent slopes

Map Unit Composition

Albion: 100 percent

Component Descriptions

Albion

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 6 to 15 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Low (About 5.8 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Sandy (pe24-32)

Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 8 inches; sandy loam

H2—8 to 16 inches; sandy loam

H3—16 to 26 inches; coarse sandy loam

H4—26 to 60 inches; sand

Minor Components

Unnamed Wet Soils

Phase: Sandy, Depression

Unnamed Wet Soils

Phase: Sandy, Drainageway

AED—Arents, Earthen Dam

Ba—Blanket silt loam, 0 to 1 percent slopes

Map Unit Composition

Blanket: 100 percent

Component Descriptions

Blanket

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Clayey alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: High (About 9.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 2c

Typical Profile:

H1—0 to 18 inches; silt loam

H2—18 to 50 inches; silty clay

H3—50 to 60 inches; silty clay loam

Minor Components

Unnamed Wet Soils

Phase: Clayey, Depression

Bb—Blanket silt loam, 1 to 3 percent slopes

Map Unit Composition

Blanket: 100 percent

Component Descriptions

Blanket

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Clayey alluvium

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: High (About 9.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 18 inches; silt loam

H2—18 to 50 inches; silty clay

H3—50 to 60 inches; silty clay loam

Bc—Blanket silty clay loam, 1 to 4 percent slopes, eroded

Map Unit Composition

Blanket: 100 percent

Component Descriptions

Blanket

MLRA: 80A - Central Rolling Red Prairies

Landform: Paleoterrace on river valley

Parent material: Clayey alluvium

Slope: 1 to 4 percent

Drainage class: Well drained

Slowest permeability: Moderately slow (About 0.20 in/hr)

Available water capacity: High (About 9.0 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 5 inches; silty clay loam

H2—5 to 40 inches; silty clay

H3—40 to 60 inches; silty clay loam

Available water capacity: Moderate (About 8.3 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Rare

Depth to seasonal water saturation: More than 6 feet

Runoff class: Negligible

Ecological site: Sandy Terrace (pe24-32)

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 16 inches; fine sandy loam

H2—16 to 32 inches; fine sandy loam

H3—32 to 60 inches; fine sandy loam

Cb—Carwile fine sandy loam, 0 to 1 percent slopes

Map Unit Composition

Carwile: 100 percent

Component Descriptions

Carwile

MLRA: 80A - Central Rolling Red Prairies

Landform: Depression on paleoterrace on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Slow (About 0.06 in/hr)

Available water capacity: High (About 9.4 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: About 0 to 0 inches

Runoff class: Negligible

Ecological site: Sandy (pe24-32)

Land capability (nonirrigated): 2w

Typical Profile:

H1—0 to 10 inches; fine sandy loam

H2—10 to 18 inches; clay loam

H3—18 to 36 inches; clay

H4—36 to 60 inches; sandy clay loam

Minor Components

Unnamed Wet Soils

Phase: Loamy, Depression

Ca—Canadian fine sandy loam, rarely flooded

Map Unit Composition

Canadian: 100 percent

Component Descriptions

Canadian

MLRA: 80A - Central Rolling Red Prairies

Landform: River valley, flood plain

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 1.98 in/hr)

Cc—Case-Clark clay loams, 2 to 6 percent slopes

Map Unit Composition

Case: 60 percent
Clark: 40 percent

Component Descriptions

Case

MLRA: 80A - Central Rolling Red Prairies
Landform: Paleoterrace on river valley
Parent material: Alluvium
Slope: 2 to 6 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 10.3 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Limy Upland (pe24-32)
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 8 inches; clay loam
H2—8 to 60 inches; clay loam

Clark

MLRA: 80A - Central Rolling Red Prairies
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 2 to 6 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 10.4 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Limy Upland (pe24-32)
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 11 inches; clay loam
H2—11 to 60 inches; clay loam

Cd—Case-Clark clay loams, 6 to 15 percent slopes

Map Unit Composition

Case: 60 percent
Clark: 40 percent

Component Descriptions

Case

MLRA: 80A - Central Rolling Red Prairies
Landform: Paleoterrace on river valley
Parent material: Alluvium
Slope: 6 to 15 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 10.3 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: High
Ecological site: Limy Upland (pe24-32)
Land capability (nonirrigated): 6e

Typical Profile:

H1—0 to 8 inches; clay loam
H2—8 to 60 inches; clay loam

Clark

MLRA: 80A - Central Rolling Red Prairies
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 6 to 8 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 10.4 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: High
Ecological site: Limy Upland (pe24-32)
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 11 inches; clay loam
H2—11 to 60 inches; clay loam

Ce—Clark clay loam, 0 to 1 percent slopes

Map Unit Composition

Clark: 100 percent

Component Descriptions

Clark

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Limy Upland (pe24-32)

Land capability (nonirrigated): 2c

Typical Profile:

H1—0 to 11 inches; clay loam

H2—11 to 60 inches; clay loam

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.4 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Limy Upland (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 11 inches; clay loam

H2—11 to 60 inches; clay loam

Da—Dillwyn-Plevna complex, occasionally flooded

Map Unit Composition

Dillwyn: 60 percent

Plevna: 40 percent

Component Descriptions

Dillwyn

MLRA: 79 - Great Bend Sand Plains

Landform: Dune on paleoterrace on river valley, interdune on paleoterrace on river valley

Parent material: Sandy eolian deposits

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Low (About 4.9 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Occasional

Depth to seasonal water saturation: About 12 to 36 inches

Runoff class: Negligible

Ecological site: Subirrigated (pe24-32)

Land capability (nonirrigated): 4w

Typical Profile:

H1—0 to 8 inches; loamy fine sand

H2—8 to 60 inches; loamy fine sand

Plevna

MLRA: 79 - Great Bend Sand Plains

Landform: Flood plain on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Poorly drained

Cf—Clark clay loam, 1 to 4 percent slopes

Map Unit Composition

Clark: 100 percent

Component Descriptions

Clark

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Loamy alluvium

Slope: 1 to 4 percent

Drainage class: Well drained

Slowest permeability: Moderately rapid (About 2.00 in/hr)

Available water capacity: Moderate (About 6.5 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: Frequent

Depth to seasonal water saturation: About 0 to 24 inches

Runoff class: Negligible

Ecological site: Subirrigated (pe24-32)

Land capability (nonirrigated): 5w

Typical Profile:

H1—0 to 11 inches; fine sandy loam

H2—11 to 36 inches; fine sandy loam

H3—36 to 60 inches; sand

Minor Components

Unnamed Wet Soils

Phase: Sandy, Depression

Fa—Farnum sandy loam, 0 to 2 percent slopes

Map Unit Composition

Farnum: 100 percent

Component Descriptions

Farnum

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 0 to 2 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 9.7 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Sandy (pe24-32)

Land capability (irrigated): 2e

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 16 inches; sandy loam

H2—16 to 50 inches; clay loam

H3—50 to 60 inches; clay loam

Minor Components

Carwile

Unnamed Wet Soils

Phase: Loamy, Depression

Unnamed Wet Soils

Phase: Loamy, Drainageway

Fb—Farnum loam, 0 to 1 percent slopes

Map Unit Composition

Farnum: 100 percent

Component Descriptions

Farnum

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.5 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Very low

Ecological site: Loamy Upland (pe24-32)

Land capability (irrigated): 1

Land capability (nonirrigated): 2c

Typical Profile:

H1—0 to 13 inches; loam

H2—13 to 18 inches; loam

H3—18 to 52 inches; clay loam

H4—52 to 60 inches; fine sandy loam

Minor Components

Carwile

Unnamed Wet Soils

Phase: Loamy, Depression

Fc—Farnum loam, 1 to 3 percent slopes**Map Unit Composition**

Farnum: 100 percent

Component Descriptions**Farnum**

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 1 to 3 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.5 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Loamy Upland (pe24-32)

Land capability (irrigated): 2e

Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 13 inches; loam

H2—13 to 18 inches; loam

H3—18 to 52 inches; sandy clay loam

H4—52 to 60 inches; fine sandy loam

Available water capacity: High (About 10.5 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 13 inches; loam

H2—13 to 18 inches; loam

H3—18 to 52 inches; sandy clay loam

H4—52 to 60 inches; fine sandy loam

Fe—Farnum clay loam, 2 to 6 percent slopes, eroded**Map Unit Composition**

Farnum: 100 percent

Component Descriptions**Farnum**

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 2 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: High (About 10.0 inches)

Shrink-swell potential: Moderate (About 4.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Medium

Ecological site: Loamy Upland (pe24-32)

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 8 inches; clay loam

H2—8 to 40 inches; clay loam

H3—40 to 60 inches; clay loam

Fd—Farnum loam, 3 to 6 percent slopes**Map Unit Composition**

Farnum: 100 percent

Component Descriptions**Farnum**

MLRA: 79 - Great Bend Sand Plains

Landform: Paleoterrace on river valley

Parent material: Alluvium

Slope: 3 to 6 percent

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Ff—Farnum-Natrustolls complex, 0 to 1 percent slopes

Map Unit Composition

Farnum: 60 percent
Natrustolls: 40 percent

Component Descriptions

Farnum

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 10.5 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 4s

Typical Profile:

H1—0 to 13 inches; loam
H2—13 to 18 inches; loam
H3—18 to 52 inches; sandy clay loam
H4—52 to 60 inches; fine sandy loam

Natrustolls

MLRA: 79 - Great Bend Sand Plains
Slope: 0 to 1 percent
Drainage class: Moderately well drained
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Land capability (nonirrigated): 6s

Minor Components

Unnamed Wet Soils

Phase: Loamy, Depression

Ka—Kaski loam, occasionally flooded

Map Unit Composition

Kaski: 100 percent

Component Descriptions

Kaski

MLRA: 80A - Central Rolling Red Prairies
Landform: Flood plain on river valley
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 10.6 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: Occasional
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Loamy Lowland (pe24-32)
Land capability (nonirrigated): 2w

Typical Profile:

H1—0 to 28 inches; loam
H2—28 to 42 inches; loam
H3—42 to 60 inches; loam

Minor Components

Unnamed Wet Soils

Phase: Loamy, Depression

Unnamed Wet Soils

Phase: Loamy, Drainageway

Kb—Kingman silty clay loam, occasionally flooded

Map Unit Composition

Kingman: 100 percent

Component Descriptions

Kingman

MLRA: 80A - Central Rolling Red Prairies
Landform: Flood plain
Parent material: Alluvium
Slope: 0 to 2 percent
Drainage class: Poorly drained

Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 11.4 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: Occasional
Depth to seasonal water saturation: About 0 to 24 inches
Runoff class: Very low
Ecological site: Subirrigated (pe24-32)
Land capability (nonirrigated): 5w

Typical Profile:

H1—0 to 18 inches; silty clay loam
 H2—18 to 48 inches; silty clay loam
 H3—48 to 60 inches; silty clay loam

La—Lincoln loamy sand, occasionally flooded

Map Unit Composition

Lincoln: 100 percent

Component Descriptions

Lincoln

MLRA: 80A - Central Rolling Red Prairies
Landform: Flood plain on river valley
Parent material: Alluvium
Slope: 0 to 2 percent
Drainage class: Somewhat excessively drained
Slowest permeability: Rapid (About 5.95 in/hr)
Available water capacity: Low (About 3.3 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Occasional
Depth to seasonal water saturation: About 60 to 72 inches
Runoff class: Negligible
Ecological site: Sandy Lowland (pe24-32)
Land capability (nonirrigated): 6w

Typical Profile:

H1—0 to 10 inches; loamy fine sand
 H2—10 to 60 inches; stratified fine sand to clay loam

Minor Components

Unnamed Wet Soils

Phase: Sandy, Drainageway

Ma—Mclain silt loam, rarely flooded

Map Unit Composition

Mclain: 100 percent

Component Descriptions

Mclain

MLRA: 80A - Central Rolling Red Prairies
Landform: Flood plain
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Moderately well drained
Slowest permeability: Impermeable (About 0.00 in/hr)
Available water capacity: High (About 10.6 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: Rare
Depth to seasonal water saturation: More than 6 feet
Runoff class: Negligible
Ecological site: Loamy Terrace (pe24-32)
Land capability (nonirrigated): 1

Typical Profile:

H1—0 to 14 inches; silt loam
 H2—14 to 42 inches; silty clay loam
 H3—42 to 60 inches; silty clay loam

Minor Components

Unnamed Wet Soils

Phase: Loamy, Depression

Na—Nashville silt loam, 1 to 3 percent slopes

Map Unit Composition

Nashville: 100 percent

Component Descriptions

Nashville

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland
Parent material: Residuum
Slope: 1 to 3 percent
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Moderate (About 6.1 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 2e

Typical Profile:
 H1—0 to 28 inches; silt loam
 Cr—28 to 28 inches; weathered bedrock

Nb—Nashville-Quinlan complex, 5 to 15 percent slopes

Map Unit Composition

Nashville: 60 percent
 Quinlan: 40 percent

Component Descriptions

Nashville

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland
Parent material: Residuum
Slope: 5 to 12 percent
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Moderate (About 6.1 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: High
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 4e

Typical Profile:
 H1—0 to 28 inches; silt loam
 Cr—28 to 28 inches; weathered bedrock

Quinlan

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland
Parent material: Residuum

Slope: 5 to 15 percent
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Very low (About 2.5 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: High
Ecological site: Shallow Prairie (pe24-32)
Land capability (nonirrigated): 6e

Typical Profile:
 H1—0 to 13 inches; loam
 Cr—13 to 13 inches; weathered bedrock

Minor Components

Unnamed Wet Soils

Phase: Loamy, Depression

Unnamed Wet Soils

Phase: Loamy, Drainageway

Oa—Wellsford clay loam, 1 to 4 percent slopes

Map Unit Composition

Owens: 100 percent

Component Descriptions

Owens

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland
Parent material: Residuum
Slope: 1 to 4 percent
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Very low (About 1.9 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Red Clay Prairie (pe24-32)
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 6 inches; clay loam
 H2—6 to 16 inches; clay
 Cr—16 to 16 inches; weathered bedrock

Pa—Pond Creek silt loam, 1 to 3 percent slopes

Map Unit Composition

Pond Creek: 100 percent

Component Descriptions

Pond Creek

MLRA: 80A - Central Rolling Red Prairies
Landform: Terrace
Parent material: Alluvium
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Moderately slow (About 0.20 in/hr)
Available water capacity: High (About 11.1 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 10 inches; silt loam
 H2—10 to 60 inches; silty clay loam

Pb—Pratt loamy fine sand, 1 to 5 percent slopes

Map Unit Composition

Pratt: 100 percent

Component Descriptions

Pratt

MLRA: 79 - Great Bend Sand Plains
Landform: Dune on paleoterrace on river valley
Parent material: Sandy eolian deposits
Slope: 3 to 8 percent
Drainage class: Well drained

Slowest permeability: Rapid (About 5.95 in/hr)
Available water capacity: Moderate (About 6.4 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sands (pe24-32)

Land capability (irrigated): 3e

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 12 inches; loamy fine sand
 H2—12 to 36 inches; loamy fine sand
 H3—36 to 60 inches; loamy fine sand

Minor Components

Carwile

Unnamed Wet Soils

Phase: Sandy, Depression

Pc—Pratt-Carwile complex, 0 to 5 percent slopes

Map Unit Composition

Pratt: 60 percent

Carwile: 40 percent

Component Descriptions

Pratt

MLRA: 79 - Great Bend Sand Plains
Landform: Dune on paleoterrace on river valley
Parent material: Sandy eolian deposits
Slope: 2 to 6 percent
Drainage class: Well drained
Slowest permeability: Rapid (About 5.95 in/hr)
Available water capacity: Moderate (About 6.4 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Sands (pe24-32)
Land capability (irrigated): 3e
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 12 inches; loamy fine sand
 H2—12 to 36 inches; loamy fine sand

H3—36 to 60 inches; fine sand

Carwile

MLRA: 79 - Great Bend Sand Plains

Landform: Depression on paleoterrace on river valley

Parent material: Alluvium

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Slowest permeability: Slow (About 0.06 in/hr)

Available water capacity: High (About 9.4 inches)

Shrink-swell potential: High (About 7.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: About 0 to 0 inches

Runoff class: Negligible

Ecological site: Sandy (pe24-32)

Land capability (nonirrigated): 2w

Typical Profile:

H1—0 to 10 inches; fine sandy loam

H2—10 to 18 inches; sandy clay loam

H3—18 to 36 inches; clay loam

H4—36 to 60 inches; sandy clay loam

Minor Components

Unnamed Wet Soils

Phase: Sandy, Depression

Pd—Pratt-Tivoli loamy fine sands, 5 to 15 percent slopes

Map Unit Composition

Pratt: 50 percent

Tivoli: 50 percent

Component Descriptions

Pratt

MLRA: 79 - Great Bend Sand Plains

Landform: Dune on paleoterrace on river valley

Parent material: Sandy eolian deposits

Slope: 5 to 12 percent

Drainage class: Well drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Moderate (About 6.4 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sands (pe24-32)

Land capability (irrigated): 3e

Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 12 inches; loamy fine sand

H2—12 to 36 inches; loamy fine sand

H3—36 to 60 inches; fine sand

Tivoli

MLRA: 79 - Great Bend Sand Plains

Landform: Dune on paleoterrace on river valley

Parent material: Sandy eolian deposits

Slope: 5 to 15 percent

Drainage class: Excessively drained

Slowest permeability: Rapid (About 5.95 in/hr)

Available water capacity: Low (About 3.3 inches)

Shrink-swell potential: Low (About 1.5 LEP)

Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet

Runoff class: Low

Ecological site: Sands (pe24-32)

Land capability (nonirrigated): 7e

Typical Profile:

H1—0 to 8 inches; loamy fine sand

H2—8 to 60 inches; fine sand

Minor Components

Carwile

Unnamed Wet Soils

Phase: Sandy, Depression

Qa—Quinlan loam, 1 to 3 percent slopes

Map Unit Composition

Quinlan: 100 percent

Component Descriptions

Quinlan

MLRA: 80A - Central Rolling Red Prairies

Landform: Hillslope on upland

Parent material: Residuum

Slope: 1 to 3 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Very low (About 2.5 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Shallow Prairie (pe24-32)
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 13 inches; loam
 Cr—13 to 13 inches; weathered bedrock

Qb—Quinlan loam, 3 to 5 percent slopes

Map Unit Composition

Quinlan: 100 percent

Component Descriptions

Quinlan

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland
Parent material: Residuum
Slope: 3 to 5 percent
Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Very low (About 2.5 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Shallow Prairie (pe24-32)
Land capability (nonirrigated): 4e

Typical Profile:

H1—0 to 13 inches; loam
 Cr—13 to 13 inches; weathered bedrock

Minor Components

Unnamed Wet Soils

Phase: Loamy, Drainageway

Ra—Renfrow clay loam, 1 to 3 percent slopes

Map Unit Composition

Renfrow: 100 percent

Component Descriptions

Renfrow

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland
Parent material: Residuum
Slope: 0 to 3 percent
Drainage class: Well drained
Slowest permeability: Very slow (About 0.00 in/hr)
Available water capacity: Moderate (About 7.6 inches)
Shrink-swell potential: High (About 7.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Clay Upland (pe24-32)
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 8 inches; clay loam
 H2—8 to 12 inches; clay loam
 H3—12 to 50 inches; clay

Rb—Ruella clay loam, 1 to 4 percent slopes

Map Unit Composition

Ruella: 100 percent

Component Descriptions

Ruella

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland
Parent material: Alluvium
Slope: 1 to 4 percent
Depth to restrictive feature: 9 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)

Available water capacity: Very low (About 2.0 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 10 inches; clay loam
 H2—10 to 60 inches; clay loam

Rc—Ruella-Rock outcrop complex, 3 to 40 percent slopes

Map Unit Composition

Ruella: 60 percent
 Rock outcrop: 40 percent

Component Descriptions

Ruella

MLRA: 80A - Central Rolling Red Prairies
Landform: Hillslope on upland
Parent material: Alluvium
Slope: 3 to 6 percent
Depth to restrictive feature: 9 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Very low (About 2.0 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Loamy Upland (pe24-32)
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 10 inches; clay loam
 H2—10 to 60 inches; clay loam

Rock outcrop

MLRA: 80A - Central Rolling Red Prairies
Slope: 3 to 40 percent
Drainage class: Excessively drained
Flooding hazard: None

Depth to seasonal water saturation: More than 6 feet
Runoff class: Very high
Land capability (nonirrigated): 8s

Sa—Shellabarger loamy sand, 0 to 3 percent slopes

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 0 to 3 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: Moderate (About 8.2 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Sandy (pe24-32)
Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 12 inches; loamy sand
 H2—12 to 38 inches; sandy clay loam
 H3—38 to 60 inches; fine sandy loam

Sb—Shellabarger sandy loam, 1 to 3 percent slopes

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley

Parent material: Loamy alluvium
Slope: 1 to 3 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 9.2 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Very low
Ecological site: Sandy (pe24-32)
Land capability (nonirrigated): 2e

Typical Profile:

H1—0 to 10 inches; sandy loam
 H2—10 to 45 inches; sandy clay loam
 H3—45 to 60 inches; coarse sandy loam

Minor Components

Unnamed Wet Soils

Phase: Loamy, Depression

Sc—Shellabarger sandy loam, 3 to 6 percent slopes

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 3 to 6 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 9.2 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Sandy (pe24-32)
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 10 inches; sandy loam
 H2—10 to 45 inches; sandy clay loam

H3—45 to 60 inches; coarse sandy loam

Sd—Shellabarger sandy loam, 3 to 6 percent slopes, eroded

Map Unit Composition

Shellabarger: 100 percent

Component Descriptions

Shellabarger

MLRA: 79 - Great Bend Sand Plains
Landform: Paleoterrace on river valley
Parent material: Loamy alluvium
Slope: 3 to 6 percent
Drainage class: Well drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 9.2 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Low
Ecological site: Sandy (pe24-32)
Land capability (nonirrigated): 3e

Typical Profile:

H1—0 to 10 inches; sandy loam
 H2—10 to 45 inches; sandy clay loam
 H3—45 to 60 inches; coarse sandy loam

Minor Components

Unnamed Wet Soils

Phase: Loamy, Drainageway

Ta—Tivoli fine sand, 15 to 30 percent slopes

Map Unit Composition

Tivoli: 100 percent

Component Descriptions

Tivoli

MLRA: 79 - Great Bend Sand Plains
Landform: Dune on paleoterrace on river valley

Parent material: Sandy eolian deposits
Slope: 10 to 30 percent
Drainage class: Excessively drained
Slowest permeability: Rapid (About 5.95 in/hr)
Available water capacity: Very low (About 3.0 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: None
Depth to seasonal water saturation: More than 6 feet
Runoff class: Medium
Ecological site: Choppy Sands (pe24-32)
Land capability (nonirrigated): 7e

Typical Profile:
 H1—0 to 7 inches; fine sand
 H2—7 to 60 inches; fine sand

Minor Components **Plevna**

Unnamed Wet Soils
Phase: Sandy, Depression

Typical Profile:
 H1—0 to 12 inches; fine sandy loam
 H2—12 to 36 inches; sandy loam
 H3—36 to 60 inches; sand

Minor Components **Plevna**

Unnamed Wet Soils
Phase: Sandy, Depression

Unnamed Wet Soils
Phase: Sandy, Drainageway

Za—Zenda clay loam, occasionally flooded

Map Unit Composition

Zenda: 100 percent

W—Water

Wa—Waldeck fine sandy loam, occasionally flooded

Map Unit Composition

Waldeck: 100 percent

Component Descriptions

Waldeck

MLRA: 80A - Central Rolling Red Prairies
Landform: Flood plain on river valley
Parent material: Alluvium
Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Slowest permeability: Moderately rapid (About 2.00 in/hr)
Available water capacity: Moderate (About 6.9 inches)
Shrink-swell potential: Low (About 1.5 LEP)
Flooding hazard: Occasional
Depth to seasonal water saturation: About 24 to 48 inches
Runoff class: Negligible
Ecological site: Subirrigated (pe24-32)
Land capability (nonirrigated): 3w

Component Descriptions

Zenda

MLRA: 80A - Central Rolling Red Prairies
Landform: Dune on paleoterrace on river valley
Parent material: Sandy eolian deposits
Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Slowest permeability: Moderate (About 0.60 in/hr)
Available water capacity: High (About 10.4 inches)
Shrink-swell potential: Moderate (About 4.5 LEP)
Flooding hazard: Occasional
Depth to seasonal water saturation: About 24 to 48 inches
Runoff class: Very low
Ecological site: Subirrigated (pe24-32)
Land capability (nonirrigated): 2w

Typical Profile:
 H1—0 to 13 inches; clay loam
 H2—13 to 60 inches; clay loam

Minor Components
Unnamed Wet Soils
Phase: Loamy, Depression

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in the following table. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in the "Acres and Proportionate Extent of Soils" table. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described in other tables in this document."

Map symbol	Mapunit name	Farmland Classification
007FA	Farnum fine sandy loam, 0 to 1 percent slopes	All areas are prime farmland
077KR	Kirkland-renfrow clay loams, 1 to 3 percent slopes	All areas are prime farmland
077PC	Pond creek silt loam, 0 to 1 percent slopes	All areas are prime farmland
077SB	Shellabarger fine sandy loam, 0 to 1 percent slopes	All areas are prime farmland
077SE	Shellabarger fine sandy loam, 1 to 3 percent slopes	All areas are prime farmland
077SF	Shellabarger fine sandy loam, 3 to 6 percent slopes	All areas are prime farmland
077SG	Shellabarger fine sandy loam, 3 to 6 percent slopes, eroded	All areas are prime farmland
077SH	Stoneburg fine sandy loam, 1 to 3 percent slopes	All areas are prime farmland
151CN	Clark fine sandy loam, 1 to 3 percent slopes	All areas are prime farmland
151CO	Clark-ost clay loams, 0 to 1 percent slopes	All areas are prime farmland
151ND	Naron fine sandy loam, 0 to 1 percent slopes	All areas are prime farmland
151NF	Naron fine sandy loam, 1 to 3 percent slopes	All areas are prime farmland
151OC	Ost clay loam, 0 to 1 percent slopes	All areas are prime farmland
151OS	Ost clay loam, 1 to 4 percent slopes	All areas are prime farmland
151SE	Shellabarger fine sandy loam, 1 to 4 percent slopes	All areas are prime farmland
173MA	Milan loam, 1 to 3 percent slopes	All areas are prime farmland
173RA	Renfrow silty clay loam, 1 to 3 percent slopes	All areas are prime farmland
173TA	Tabler silty clay loam, 0 to 1 percent slopes	All areas are prime farmland
191RA	Renfrow-grainola complex, 1 to 3 percent slopes	All areas are prime farmland
1004	Albion sandy loam, 0 to 1 percent slopes	All areas are prime farmland
1005	Albion sandy loam, 1 to 3 percent slopes	All areas are prime farmland
1011	Albion-shellabarger sandy loams, 1 to 3 percent slopes	All areas are prime farmland
1359	Clark-ost loams, 3 to 7 percent slopes	All areas are prime farmland
1728	Funmar and farnum loams, 3 to 6 percent slopes	All areas are prime farmland
2390	Kaskan loam, 0 to 1 percent, rarely flooded	All areas are prime farmland
2948	Nalim loam, 0 to 1 percent slopes	All areas are prime farmland
3051	Ost loam, 0 to 1 percent slopes	All areas are prime farmland
3052	Ost-clark loams, 1 to 3 percent slopes	All areas are prime farmland
3170	Penalosa silt loam, 0 to 1 percent slopes	All areas are prime farmland
3171	Penalosa silt loam, 1 to 3 percent slopes	All areas are prime farmland
3445	Shellabarger sandy loam, 3 to 7 percent slopes	All areas are prime farmland
3510	Saltcreek-funmar-farnum complex, 1 to 3 percent slopes	All areas are prime farmland
3533	Shellabarger sandy loam, 0 to 1 percent slopes	All areas are prime farmland
3534	Shellabarger sandy loam, 1 to 3 percent slopes	All areas are prime farmland
3535	Shellabarger-nalim complex, 1 to 3 percent slopes	All areas are prime farmland
Ba	Blanket silt loam, 0 to 1 percent slopes	All areas are prime farmland
Bb	Blanket silt loam, 1 to 3 percent slopes	All areas are prime farmland
Bc	Blanket silty clay loam, 1 to 4 percent slopes, eroded	All areas are prime farmland
Ca	Canadian fine sandy loam, rarely flooded	All areas are prime farmland
Cc	Case-clark clay loams, 2 to 6 percent slopes	All areas are prime farmland
Ce	Clark clay loam, 0 to 1 percent slopes	All areas are prime farmland
Cf	Clark clay loam, 1 to 4 percent slopes	All areas are prime farmland
Fa	Farnum sandy loam, 0 to 2 percent slopes	All areas are prime farmland
Fb	Farnum loam, 0 to 1 percent slopes	All areas are prime farmland
Fc	Farnum loam, 1 to 3 percent slopes	All areas are prime farmland
Fd	Farnum loam, 3 to 6 percent slopes	All areas are prime farmland
Fe	Farnum clay loam, 2 to 6 percent slopes, eroded	All areas are prime farmland
Ka	Kaski loam, occasionally flooded	All areas are prime farmland
Ma	Mclain silt loam, rarely flooded	All areas are prime farmland
Na	Nashville silt loam, 1 to 3 percent slopes	All areas are prime farmland
Pa	Pond creek silt loam, 1 to 3 percent slopes	All areas are prime farmland
Ra	Renfrow clay loam, 1 to 3 percent slopes	All areas are prime farmland
Rb	Ruella clay loam, 1 to 4 percent slopes	All areas are prime farmland
Sb	Shellabarger sandy loam, 1 to 3 percent slopes	All areas are prime farmland
Sc	Shellabarger sandy loam, 3 to 6 percent slopes	All areas are prime farmland
Sd	Shellabarger sandy loam, 3 to 6 percent slopes, eroded	All areas are prime farmland
Wa	Waldeck fine sandy loam, occasionally flooded	All areas are prime farmland
Za	Zenda clay loam, occasionally flooded	All areas are prime farmland
Aa	Albion sandy loam, 0 to 1 percent slopes	Prime farmland if irrigated
Ab	Albion sandy loam, 1 to 3 percent slopes	Prime farmland if irrigated

SOIL RATING FOR PLANT GROWTH, modified 1998
Kingman County, Kansas

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The "Soil Rating for Plant Growth, modified 1998" (SRPG) is a relative rating of the capacity of a soil to produce a specific plant under a defined management system. The index is determined from yield data on a few benchmark soils and is used to calculate yields, the net returns from crops, land assessment values, and taxes and to perform risk analysis when land management decisions are made. Specific information on plants and yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Map symbol	Soil name	Crop Index
007AE	Albion And Shellabarger Soils, 4 To 15 Percent Slopes-----	47
007FA	Farnum Fine Sandy Loam, 0 To 1 Percent Slopes-----	68
077KA	Kanza Loamy Fine Sand, Frequently Flooded-----	27
077KR	Kirkland-Renfrow Clay Loams, 1 To 3 Percent Slopes-----	61
077NN	Nashville Silt Loam, 3 To 6 Percent Slopes, Eroded-----	53
077PC	Pond Creek Silt Loam, 0 To 1 Percent Slopes-----	76
077RC	Renfrow-Vernon Clay Loams, 1 To 3 Percent Slopes-----	48
077SB	Shellabarger Fine Sandy Loam, 0 To 1 Percent Slopes-----	70
077SE	Shellabarger Fine Sandy Loam, 1 To 3 Percent Slopes-----	69
077SF	Shellabarger Fine Sandy Loam, 3 To 6 Percent Slopes-----	66
077SG	Shellabarger Fine Sandy Loam, 3 To 6 Percent Slopes, Eroded-----	66
077SH	Stoneburg Fine Sandy Loam, 1 To 3 Percent Slopes-----	61
1004	Albion Sandy Loam, 0 To 1 Percent Slopes-----	60
1005	Albion Sandy Loam, 1 To 3 Percent Slopes-----	60
1006	Albion Sandy Loam, 3 To 7 Percent Slopes, Eroded-----	56
1011	Albion-Shellabarger Sandy Loams, 1 To 3 Percent Slopes-----	60
1017	Albion And Shellabarger Sandy Loams, 7 To 15 Percent Slopes-----	51
1061	Arents, Earthen Dam-----	0
1359	Clark-Ost Loams, 3 To 7 Percent Slopes-----	33
151AO	Albion Sandy Loam, 3 To 7 Percent Slopes, Eroded-----	41
151CN	Clark Fine Sandy Loam, 1 To 3 Percent Slopes-----	34
151CO	Clark-Ost Clay Loams, 0 To 1 Percent Slopes-----	35
151KP	Kanza-Plevna Complex, Frequently Flooded-----	27
151ND	Naron Fine Sandy Loam, 0 To 1 Percent Slopes-----	67
151NF	Naron Fine Sandy Loam, 1 To 3 Percent Slopes-----	67
151OC	Ost Clay Loam, 0 To 1 Percent Slopes-----	39
151OS	Ost Clay Loam, 1 To 4 Percent Slopes-----	38
151PN	Pratt Loamy Fine Sand, 5 To 10 Percent Slopes-----	34
151SE	Shellabarger Fine Sandy Loam, 1 To 4 Percent Slopes-----	64
151ZS	Zenda-Drummond Complex, Occasionally Flooded-----	39
1555	Dillhut-Plev Complex, 0 To 2 Percent Slopes-----	30
1728	Funmar And Farnum Loams, 3 To 6 Percent Slopes-----	74
173MA	Milan Loam, 1 To 3 Percent Slopes-----	78
173PB	Plevna Fine Sandy Loam, Frequently Flooded-----	30
173RA	Renfrow Silty Clay Loam, 1 To 3 Percent Slopes-----	65
173RC	Renfrow-Wellsford Clay Loams, 1 To 4 Percent Slopes-----	44
173TA	Tabler Silty Clay Loam, 0 To 1 Percent Slopes-----	67
191RA	Renfrow-Grainola Complex, 1 To 3 Percent Slopes-----	60
2205	Jamash-Piedmont Clay Loams, 1 To 3 Percent Slopes-----	24
2381	Kanza-Ninnescah Sandy Loams, 0 To 2 Percent Slopes, Commonly Flooded-----	35
2390	Kaskan Loam, 0 To 1 Percent, Rarely Flooded-----	73
2556	Langdon Fine Sand, 0 To 15 Percent Slopes-----	26
2812	Mahone Loamy Fine Sand, 0 To 2 Percent Slopes, Rarely Flooded-----	47
2948	Nalim Loam, 0 To 1 Percent Slopes-----	77
3051	Ost Loam, 0 To 1 Percent Slopes-----	36
3052	Ost-Clark Loams, 1 To 3 Percent Slopes-----	34
3170	Penalosa Silt Loam, 0 To 1 Percent Slopes-----	75
3171	Penalosa Silt Loam, 1 To 3 Percent Slopes-----	75
3180	Pratt Fine Sand, 5 To 10 Percent Slopes-----	37
3181	Pratt-Turon Fine Sand, 1 To 5 Percent Slopes-----	43
3445	Shellabarger Sandy Loam, 3 To 7 Percent Slopes-----	66
3510	Saltcreek-Funmar-Farnum Complex, 1 To 3 Percent Slopes-----	66
3530	Shellabarger, Eroded And Albion Soils, 7 To 15 Percent Slopes-----	51
3531	Shellabarger And Nalim Soils, 3 To 7 Percent Slopes-----	70
3532	Shellabarger Loamy Sand, 0 To 3 Percent Slopes-----	63
3533	Shellabarger Sandy Loam, 0 To 1 Percent Slopes-----	70
3534	Shellabarger Sandy Loam, 1 To 3 Percent Slopes-----	66
3535	Shellabarger-Nalim Complex, 1 To 3 Percent Slopes-----	71
3926	Water-----	0
3966	Willowbrook Fine Sandy Loam, 0 To 1 Percent Slope, Occasionally Flooded-----	44
4005	Yaggy-Saxman Complex, 0 To 2 Percent Slopes, Occasionally Flooded-----	33
4110	Zellmont And Poxmash Sandy Loams, 0 To 3 Percent Slopes-----	45
990	Abbyville Loam, 0 To 1 Percent Slope-----	31
991	Abbyville-Kisiwa Complex, 0 To 2 Percent Slopes, Flooded-----	19
AED	Arents, Earthen Dam-----	0
Aa	Albion Sandy Loam, 0 To 1 Percent Slopes-----	43
Ab	Albion Sandy Loam, 1 To 3 Percent Slopes-----	42
Ac	Albion Sandy Loam, 3 To 6 Percent Slopes-----	41
Ad	Albion Sandy Loam, 6 To 15 Percent Slopes-----	36
Ba	Blanket Silt Loam, 0 To 1 Percent Slopes-----	70
Bb	Blanket Silt Loam, 1 To 3 Percent Slopes-----	69
Bc	Blanket Silty Clay Loam, 1 To 4 Percent Slopes, Eroded-----	65
Ca	Canadian Fine Sandy Loam, Rarely Flooded-----	56
Cb	Carwile Fine Sandy Loam, 0 To 1 Percent Slopes-----	22
Cc	Case-Clark Clay Loams, 2 To 6 Percent Slopes-----	42
Cd	Case-Clark Clay Loams, 6 To 15 Percent Slopes-----	38
Ce	Clark Clay Loam, 0 To 1 Percent Slopes-----	36
Cf	Clark Clay Loam, 1 To 4 Percent Slopes-----	35
Da	Dillwyn-Plevna Complex, Occasionally Flooded-----	31
Fa	Farnum Sandy Loam, 0 To 2 Percent Slopes-----	71
Fb	Farnum Loam, 0 To 1 Percent Slopes-----	76

The "Soil Rating for Plant Growth, modified 1998" (SRPG) is a relative rating of the capacity of a soil to produce a specific plant under a defined management system. The index is determined from yield data on a few benchmark soils and is used to calculate yields, the net returns from crops, land assessment values, and taxes and to perform risk analysis when land management decisions are made. Specific information on plants and yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Map symbol	Soil name	Crop Index
Fc	Farnum Loam, 1 To 3 Percent Slopes-----	75
Fd	Farnum Loam, 3 To 6 Percent Slopes-----	72
Fe	Farnum Clay Loam, 2 To 6 Percent Slopes, Eroded-----	71
Ff	Farnum-Natrustolls Complex, 0 To 1 Percent Slopes-----	61
Ka	Kaski Loam, Occasionally Flooded-----	73
Kb	Kingman Silty Clay Loam, Occasionally Flooded-----	60
La	Lincoln Loamy Sand, Occasionally Flooded-----	23
Ma	Mclain Silt Loam, Rarely Flooded-----	68
Na	Nashville Silt Loam, 1 To 3 Percent Slopes-----	49
Nb	Nashville-Quinlan Complex, 5 To 15 Percent Slopes-----	29
Oa	Wellsford Clay Loam, 1 To 4 Percent Slopes-----	8
Pa	Pond Creek Silt Loam, 1 To 3 Percent Slopes-----	75
Pb	Pratt Loamy Fine Sand, 1 To 5 Percent Slopes-----	38
Pc	Pratt-Carwile Complex, 0 To 5 Percent Slopes-----	32
Pd	Pratt-Tivoli Loamy Fine Sands, 5 To 15 Percent Slopes-----	29
Qa	Quinlan Loam, 1 To 3 Percent Slopes-----	7
Qb	Quinlan Loam, 3 To 5 Percent Slopes-----	7
Ra	Renfrow Clay Loam, 1 To 3 Percent Slopes-----	64
Rb	Ruella Clay Loam, 1 To 4 Percent Slopes-----	7
Rc	Ruella-Rock Outcrop Complex, 3 To 40 Percent Slopes-----	12
Sa	Shellabarger Loamy Sand, 0 To 3 Percent Slopes-----	64
Sb	Shellabarger Sandy Loam, 1 To 3 Percent Slopes-----	71
Sc	Shellabarger Sandy Loam, 3 To 6 Percent Slopes-----	68
Sd	Shellabarger Sandy Loam, 3 To 6 Percent Slopes, Eroded-----	68
Ta	Tivoli Fine Sand, 15 To 30 Percent Slopes-----	13
W	Water-----	0
Wa	Waldeck Fine Sandy Loam, Occasionally Flooded-----	42
Za	Zenda Clay Loam, Occasionally Flooded-----	60

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(Entries under "Erosion factors--T" apply to the entire profile. Entries under "K", "Kf", "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer)

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro- logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
007AE:ALBION----	55	N/A	6e	Not prime farmland	B	Sandy (pe20-25)	3	.20	.20	4	3	86
007AE:SHELLABARG ER-----	45	N/A	6e	Not prime farmland	B	Sandy (pe20-25)	3	.20	.20	5	3	86
007FA:FARNUM----	100	1-	2e	All areas are prime farmland	B	Sandy (pe24-32)	3	.20	.20	5	3	86
077KA:KANZA-----	100	N/A	5w	Not prime farmland	D	Subirrigated (pe24-32)	2	.17	.20	5	2	134
077KR:KIRKLAND--	70	N/A	3e	All areas are prime farmland	D	Clay Upland (pe24-32)	7	.43	.43	5	6	48
077KR:RENFROW---	30	N/A	3e	All areas are prime farmland	D	Clay Upland (pe24-32)	7	.43	.43	5	6	48
077NN:NASHVILLE-	100	N/A	4e	Not prime farmland	B	Loamy Upland (pe24-32)	7	.32	.32	3	6	48
077PC:POND CREEK	100	N/A	1	All areas are prime farmland	B	Loamy Upland (pe24-32)	7	.37	.37	5	6	48
077RC:RENFROW---	65	N/A	3e	Not prime farmland	D	Clay Upland (pe24-32)	7	.43	.43	5	6	48
077RC:VERNON----	35	4e-	4e	Not prime farmland	D	Red Clay Prairie (pe24-32)	4	.37	.37	4	4	86
077SB:SHELLABARG ER-----	100	N/A	2e	All areas are prime farmland	B	Sandy (pe24-32)	3	.20	.20	5	3	86
077SE:SHELLABARG ER-----	100	N/A	2e	All areas are prime farmland	B	Sandy (pe24-32)	3	.20	.20	5	3	86
077SF:SHELLABARG ER-----	100	N/A	3e	All areas are prime farmland	B	Sandy (pe24-32)	3	.20	.20	5	3	86
077SG:SHELLABARG ER-----	100	N/A	3e	All areas are prime farmland	B	Sandy (pe24-32)	3	.20	.20	5	3	86
077SH:SHELLABARG ER-----	100	N/A	3e	All areas are prime farmland	B	Sandy (pe24-32)	3	.24	.24	3	3	86
1004:ALBION-----	90	N/A	3e	All areas are prime farmland	B	Sandy (pe21-28)	3	.20	.24	4	3	86
1005:ALBION-----	75	N/A	3e	All areas are prime farmland	B	Sandy (pe21-28)	3	.20	.24	4	3	86

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Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro- logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
1006:ALBION-----	100	N/A	4e	Not prime farmland	B	Sandy (pe24-32)	3	.20	.20	4	3	86
	100	N/A	3e	Not prime farmland	B	Sandy (pe21-28)	3	.20	.24	4	3	86
1011:ALBION-----	70	N/A	3e	All areas are prime farmland	B	Sandy (pe21-28)	3	.20	.24	4	3	86
1011:SHELLABARGE R-----	30	N/A	2e	All areas are prime farmland	B	Sandy (pe21-28)	3	.20	.20	5	3	86
1017:ALBION-----	45	N/A	3e	Not prime farmland	B	Sandy (pe21-28)	3	.20	.24	4	3	86
1017:SHELLABARGE R-----	40	N/A	2e	Not prime farmland	B	Sandy (pe21-28)	3	.20	.20	5	3	86
1061:ARENTS, EARTHEN DAM----	100	N/A	8	Not prime farmland		Unspecified		---	---	-	---	---
1359:CLARK-----	70	N/A	2c	All areas are prime farmland	B	Limy Upland (pe21-28)	5	.28	.28	5	4L	86
1359:OST-----	30	N/A	2c	All areas are prime farmland	B	Loamy Upland (pe24-32)	7	.28	.28	5	6	48
151AO:ALBION----	100	N/A	4e	Not prime farmland	B	Sandy (pe24-32)	3	.20	.20	4	3	86
151CN:CLARK-----	100	N/A	3e	All areas are prime farmland	B	Limy Upland (pe24-32)	3	.20	.20	5	3	86
151CO:CLARK-----	70	N/A	2c	All areas are prime farmland	B	Limy Upland (pe24-32)	5	.28	.28	5	4L	86
151CO:OST-----	30	N/A	2c	All areas are prime farmland	B	Loamy Upland (pe24-32)	7	.32	.32	5	6	48
151KP:KANZA-----	50	N/A	5w	Not prime farmland	D	Unspecified	2	.17	.17	5	2	134
151KP:PLEVNA----	50	N/A	5w	Not prime farmland	D	Subirrigated (pe21-28)	3	.20	.20	5	3	86
151ND:NARON-----	100	1-	2e	All areas are prime farmland	B	Sandy (pe21-28)	3	.20	.20	5	3	86
151NF:NARON-----	100	2e-	3e	All areas are prime farmland	B	Sandy (pe21-28)	3	.20	.20	5	3	86
151OC:OST-----	100	N/A	2c	All areas are prime farmland	B	Loamy Lowland (pe21-28)	7	.32	.32	5	6	48
151OS:OST-----	100	N/A	2e	All areas are prime farmland	B	Loamy Upland (pe21-28)	7	.32	.32	5	6	48

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Field Office Thunderbook: Soils Properties for Conservation Planning--Continued

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro- logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
151PN:PRATT-----	100	N/A	6e	Not prime farmland	A	Sands (pe21-28)	2	.17	.17	5	2	134
151SE:SHELLABARG ER-----	100	N/A	2e	All areas are prime farmland	B	Sandy (pe21-28)	3	.20	.20	5	3	86
151ZS:ZENDA-----	50	N/A	4s	Not prime farmland	C	Subirrigated (pe21-28)	7	.28	.28	5	6	48
151ZS:DRUMMOND--	50	N/A	6s	Not prime farmland	D	Saline Lowland (pe21-28)	5	.49	.49	2	4L	86
1555:DILLHUT----	35	3e-	3e	Not prime farmland	B	Sands (pe21-28)	1	.15	.15	5	1	220
1555:PLEV-----	35	N/A	5w	Not prime farmland	B	Subirrigated (pe21-28)	2	.17	.17	5	2	134
1728:FARNUM-----	40	1-	2c	All areas are prime farmland	B	Loamy Upland (pe21-28)	7	.28	.28	5	6	56
1728:FUNMAR-----	40	1-	2c	All areas are prime farmland	C	Loamy Upland (pe21-28)	7	.28	.28	5	6	56
173MA:MILAN-----	100	2e-	2e	All areas are prime farmland	B	Loamy Upland (pe24-32)	7	.28	.28	5	6	48
173PB:PLEVNA----	100	N/A	5w	Not prime farmland	D	Subirrigated (pe24-32)	3	.20	.20	5	3	86
173RA:RENFROW---	100	N/A	3e	All areas are prime farmland	D	Red Clay Prairie (pe24-32)	8	.43	.43	5	7	38
173RC:RENFROW---	65	N/A	3e	Not prime farmland	D	Red Clay Prairie (pe24-32)	7	.43	.43	5	6	48
173RC:WELLSFORD-	35	N/A	4e	Not prime farmland	D	Red Clay Prairie (pe24-32)	4	.32	.32	2	4	86
173TA:TABLER----	100	N/A	2s	All areas are prime farmland	D	Clay Upland (pe25-34)	8	.43	.43	5	7	38
191RA:RENFROW---	70	N/A	3e	All areas are prime farmland	D	Clay Upland (pe24-32)	7	.43	.43	5	6	48
191RA:GRAINOLA--	30	N/A	3e	All areas are prime farmland	D	Clay Upland (pe24-32)	7	.43	.43	3	6	48
2205:JAMASH-----	60	N/A	4e	Not prime farmland	D	Shallow Prairie (pe24-32)	8	.37	.37	2	7	38
2205:PIEDMONT---	40	N/A	3e	Not prime farmland	D	Clay Upland (pe24-32)	8	.37	.37	3	7	38
2381:KANZA-----	50	N/A	5w	Not prime farmland	D	Subirrigated (pe21-28)	3	.20	.20	5	3	86

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Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro- logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
2381:NINNESCAH--	50	N/A	5w	Not prime farmland	B	Subirrigated (pe21-28)	3	.20	.20	5	3	86
2390:KASKAN----	85	N/A	2w	All areas are prime farmland	B	Loamy Lowland (pe21-28)	7	.28	.28	4	6	48
2556:LANGDON----	50	N/A	6e	Not prime farmland	A	Choppy Sands (pe21-28)	1	.15	.15	5	1	220
2812:MAHONE-----	95	N/A	2w	Not prime farmland	C	Loamy Lowland (pe21-28)	2	.17	.17	5	2	134
2948:NALIM-----	80	2e-	2e	All areas are prime farmland	B	Loamy Upland (pe24-32)	6	.28	.28	5	5	56
3051:OST-----	90	N/A	2c	All areas are prime farmland	B	Loamy Upland (pe24-32)	7	.28	.28	5	6	48
3052:OST-----	55	N/A	2c	All areas are prime farmland	B	Loamy Upland (pe24-32)	7	.28	.28	5	6	48
3052:CLARK-----	45	N/A	2c	All areas are prime farmland	B	Limy Upland (pe21-28)	5	.28	.28	5	4L	86
3170:PENALOSA---	100	1-	2c	All areas are prime farmland	C	Loamy Upland (pe21-28)	7	.37	.37	5	6	48
3171:PENALOSA---	100	1-	2c	All areas are prime farmland	C	Loamy Upland (pe21-28)	7	.37	.37	5	6	48
3180:PRATT-----	85	3e-	3e	Not prime farmland	A	Sands (pe21-28)	1	.15	.15	5	1	220
3181:PRATT-----	45	3e-	3e	Not prime farmland	A	Sands (pe21-28)	1	.15	.15	5	1	220
3181:TURON-----	30	3e-	3e	Not prime farmland	A	Sands (pe21-28)	1	.15	.15	5	1	220
3445:SHELLABARGE R-----	100	N/A	2e	All areas are prime farmland	B	Sandy (pe21-28)	3	.20	.20	5	3	86
3510:SALTCREEK--	50	1-	3e	All areas are prime farmland	C	Sandy (pe21-28)	3	.20	.20	5	3	86
3510:FUNMAR-----	30	1-	2c	All areas are prime farmland	C	Loamy Upland (pe21-28)	7	.28	.28	5	6	56
3510:FARNUM-----	20	1-	2c	All areas are prime farmland	B	Loamy Upland (pe21-28)	7	.28	.28	5	6	56
3530:SHELLABARGE R-----	45	N/A	2e	Not prime farmland	B	Sandy (pe21-28)	3	.20	.20	5	3	86

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Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro- logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
3530:ALBION-----	40	N/A	3e	Not prime farmland	B	Sandy (pe21-28)	3	.20	.24	4	3	86
3531:SHELLABARGE R-----	50	N/A	2e	Not prime farmland	B	Sandy (pe21-28)	3	.20	.20	5	3	86
3531:NALIM-----	50	2e-	2e	Not prime farmland	B	Loamy Upland (pe24-32)	6	.28	.28	5	5	86
3532:SHELLABARGE R-----	80	N/A	2e	Not prime farmland	B	Sandy (pe21-28)	2	.17	.17	5	2	134
3533:SHELLABARGE R-----	85	N/A	2e	All areas are prime farmland	B	Sandy (pe21-28)	3	.20	.20	5	3	86
3534:SHELLABARGE R-----	85	N/A	2e	All areas are prime farmland	B	Sandy (pe21-28)	3	.20	.20	5	3	86
3535:SHELLABARGE R-----	55	N/A	2e	All areas are prime farmland	B	Sandy (pe21-28)	3	.20	.20	5	3	86
3535:NALIM-----	45	2e-	2e	All areas are prime farmland	B	Loamy Upland (pe24-32)	6	.28	.28	5	5	86
3926:WATER-----	100	N/A	N/A			Unspecified		---	---	-	---	---
3966:WILLOWBROOK	90	2e-	3e	Not prime farmland	B	Subirrigated (pe21-28)	3	.20	.20	4	3	86
4005:YAGGY-----	60	2e-	3e	Not prime farmland	C	Sandy Lowland (pe21-28)	3	.20	.20	3	3	86
4005:SAXMAN-----	30	2e-	3e	Not prime farmland	A	Sandy Lowland (pe21-28)	2	.20	.20	5	2	134
4110:ZELLMONT---	70	N/A	2e	Not prime farmland	B	Sandy (pe21-28)	3	.20	.20	3	3	86
4110:POXMASH----	30	N/A	3e	Not prime farmland	B	Sandy (pe21-28)	3	.20	.20	4	3	86
990:ABBYVILLE---	95	3s-	3s	Not prime farmland	C	Saline Subirrigated (pe21-28)	7	.43	.43	2	6	48
991:ABBYVILLE---	45	3s-	3s	Not prime farmland	C	Saline Subirrigated (pe21-28)	3	.32	.32	2	3	86
991:KISIWA-----	40	N/A	4s	Not prime farmland	D	Saline Subirrigated (pe21-28)	7	.43	.43	2	6	48
AED:ARENTS, EARTHEN DAM----	100	N/A	N/A	Not prime farmland		Unspecified		---	---	-	---	---
Aa:ALBION-----	100	N/A	3s	Prime farmland if irrigated	B	Sandy (pe24-32)	3	.20	.20	4	3	86

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Field Office Thunderbook: Soils Properties for Conservation Planning--Continued

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro- logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
Ab:ALBION-----	100	N/A	3e	Prime farmland if irrigated	B	Sandy (pe24-32)	3	.20	.20	4	3	86
Ac:ALBION-----	100	N/A	4e	Not prime farmland	B	Sandy (pe24-32)	3	.20	.20	4	3	86
Ad:ALBION-----	100	N/A	6e	Not prime farmland	B	Sandy (pe24-32)	3	.20	.20	4	3	86
Ba:BLANKET-----	100	N/A	2c	All areas are prime farmland	C	Loamy Upland (pe24-32)	6	.37	.37	5	5	56
Bb:BLANKET-----	100	N/A	2e	All areas are prime farmland	C	Loamy Upland (pe24-32)	6	.37	.37	5	5	56
Bc:BLANKET-----	100	N/A	3e	All areas are prime farmland	C	Loamy Upland (pe24-32)	7	.37	.37	5	6	48
Ca:CANADIAN-----	100	N/A	2e	All areas are prime farmland	B	Sandy Terrace (pe24-32)	3	.20	.20	5	3	86
Cb:CARWILE-----	100	N/A	2w	Not prime farmland	D	Sandy (pe24-32)	3	.24	.24	5	3	86
Cc:CASE-----	60	N/A	4e	All areas are prime farmland	B	Limy Upland (pe24-32)	5	.32	.32	5	4L	86
Cc:CLARK-----	40	N/A	4e	All areas are prime farmland	B	Limy Upland (pe24-32)	5	.28	.28	5	4L	86
Cd:CASE-----	60	N/A	6e	Not prime farmland	B	Limy Upland (pe24-32)	5	.32	.32	5	4L	86
Cd:CLARK-----	40	N/A	4e	Not prime farmland	B	Limy Upland (pe24-32)	5	.28	.28	5	4L	86
Ce:CLARK-----	100	N/A	2c	All areas are prime farmland	B	Limy Upland (pe24-32)	5	.28	.28	5	4L	86
Cf:CLARK-----	100	N/A	3e	All areas are prime farmland	B	Limy Upland (pe24-32)	5	.28	.28	5	4L	86
Da:DILLWYN-----	60	N/A	4w	Not prime farmland	A	Subirrigated (pe24-32)	2	.17	.17	5	2	134
Da:PLEVNA-----	40	N/A	5w	Not prime farmland	D	Subirrigated (pe24-32)	3	.20	.20	5	3	86
Fa:FARNUM-----	100	2e-	3e	All areas are prime farmland	B	Sandy (pe24-32)	3	.20	.20	5	3	86
Fb:FARNUM-----	100	1-	2c	All areas are prime farmland	B	Loamy Upland (pe24-32)	7	.28	.28	5	6	48

Kingman County, Kansas: Published
Field Office Thunderbook: Soils Properties for Conservation Planning--Continued

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro- logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
Fc:FARNUM-----	100	2e-	2e	All areas are prime farmland	B	Loamy Upland (pe24-32)	7	.28	.28	5	6	48
Fd:FARNUM-----	100	N/A	3e	All areas are prime farmland	B	Loamy Upland (pe24-32)	7	.28	.28	5	6	48
Fe:FARNUM-----	100	N/A	4e	All areas are prime farmland	B	Loamy Upland (pe24-32)	7	.28	.28	5	6	48
Ff:FARNUM-----	60	N/A	4s	Not prime farmland	B	Loamy Upland (pe24-32)	7	.28	.28	5	6	48
Ff:NATRUSTOLLS--	40	N/A	6s	Not prime farmland		Unspecified		---	---	-	---	---
Ka:KASKI-----	100	N/A	2w	All areas are prime farmland	B	Loamy Lowland (pe24-32)	7	.28	.28	5	6	48
Kb:KINGMAN-----	100	N/A	5w	Not prime farmland	D	Subirrigated (pe24-32)	5	.32	.32	5	4L	86
La:LINCOLN-----	100	N/A	6w	Not prime farmland	A	Sandy Lowland (pe24-32)	2	.17	.17	5	2	134
Ma:MCLAIN-----	100	N/A	1	All areas are prime farmland	C	Loamy Terrace (pe24-32)	7	.43	.43	5	6	48
Na:NASHVILLE----	100	N/A	2e	All areas are prime farmland	B	Loamy Upland (pe24-32)	7	.32	.32	3	6	48
Nb:NASHVILLE----	60	N/A	4e	Not prime farmland	B	Loamy Upland (pe24-32)	7	.32	.32	3	6	48
Nb:QUINLAN-----	40	N/A	6e	Not prime farmland	C	Shallow Prairie (pe24-32)	5	.37	.37	2	4L	86
Oa:OWENS-----	100	N/A	4e	Not prime farmland	D	Red Clay Prairie (pe24-32)	4	.32	.32	2	4	86
Pa:POND CREEK---	100	N/A	2e	All areas are prime farmland	B	Loamy Upland (pe24-32)	7	.37	.37	5	6	48
Pb:PRATT-----	100	3e-	4e	Not prime farmland	A	Sands (pe24-32)	2	.17	.17	5	2	134
Pc:PRATT-----	60	3e-	3e	Not prime farmland	A	Sands (pe24-32)	2	.17	.17	5	2	134
Pc:CARWILE-----	40	N/A	2w	Not prime farmland	D	Sandy (pe24-32)	3	.24	.24	5	3	86
Pd:PRATT-----	50	3e-	4e	Not prime farmland	A	Sands (pe24-32)	2	.17	.17	5	2	134
Pd:TIVOLI-----	50	N/A	7e	Not prime farmland	A	Sands (pe24-32)	2	.17	.17	5	2	134

Kingman County, Kansas: Published
Field Office Thunderbook: Soils Properties for Conservation Planning--Continued

Map symbol and soil name	Percent	Irr Cap Class	Nonirr Cap Class	Prime Farmland	Hydro- logic Group	Range site name	Windbreak suitability group	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
Qa:QUINLAN-----	100	N/A	3e	Not prime farmland	C	Shallow Prairie (pe24-32)	5	.37	.37	2	4L	86
Qb:QUINLAN-----	100	N/A	4e	Not prime farmland	C	Shallow Prairie (pe24-32)	5	.37	.37	2	4L	86
Ra:RENFROW-----	100	N/A	3e	All areas are prime farmland	D	Clay Upland (pe24-32)	7	.43	.43	5	6	48
Rb:RUELLA-----	100	N/A	2e	All areas are prime farmland	B	Loamy Upland (pe24-32)	5	.32	.32	5	4L	86
Rc:RUELLA-----	60	N/A	3e	Not prime farmland	B	Loamy Upland (pe24-32)	5	.32	.32	5	4L	86
Rc:ROCK OUTCROP-	40	N/A	8s	Not prime farmland	D	Unspecified		---	---	-	---	---
Sa:SHELLABARGER-	100	N/A	2e	Not prime farmland	B	Sandy (pe24-32)	2	.20	.20	5	2	134
Sb:SHELLABARGER-	100	N/A	2e	All areas are prime farmland	B	Sandy (pe24-32)	3	.20	.20	5	3	86
Sc:SHELLABARGER-	100	N/A	3e	All areas are prime farmland	B	Sandy (pe24-32)	3	.20	.20	5	3	86
Sd:SHELLABARGER-	100	N/A	3e	All areas are prime farmland	B	Sandy (pe24-32)	3	.20	.20	5	3	86
Ta:TIVOLI-----	100	N/A	7e	Not prime farmland	A	Choppy Sands (pe24-32)	1	.17	.17	5	1	250
W:WATER-----	100	N/A	N/A			Unspecified		---	---	-	---	---
Wa:WALDECK-----	100	N/A	3w	All areas are prime farmland	C	Subirrigated (pe24-32)	3	.20	.20	4	3	86
Za:ZENDA-----	100	N/A	2w	All areas are prime farmland	C	Subirrigated (pe24-32)	7	.28	.28	5	6	48

RANGELAND PRODUCTIVITY
Kingman County, Kansas

Use and Explanation of Rangeland, Grazed Forest Land, Native Pastureland Interpretations

Information in this subsection can be used to plan the use and management of soils for rangeland, grazed forest land, and native pasture. Different kinds of soils vary in their capacity to produce native grasses and other plants suitable for grazing. Information in this subsection provides groupings of similar soils and estimates of potential forage production, which can be used to determine livestock stocking rates.

Rangeland. Range is land on which the native vegetation (climax or natural potential plant community) is predominantly grasses, grasslike plants, forbs, and shrubs suitable for grazing and browsing. Range includes natural grasslands, savannas, many wetlands, some deserts, tundra, and certain shrub and forb communities. Rangeland receives no regular or frequent cultural treatment. The composition and production of the plant community are determined by soil, climate, topography, overstory canopy, and grazing management.

Grazed Forest Land. Includes land on which the understory includes, as an integral part of the forest plant community, plants that can be grazed without significantly impairing other forest values.

Native Pasture. Includes land on which the native vegetation (climax or natural potential plant community) is forest but which is used and managed primarily for production of native plants for forage. Native pasture includes cut-over forest land and forest land cleared and now managed for native or naturalized forage plants.

Rangeland

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management based on the relationship between the soils and vegetation and water.

The Rangeland, Grazed Forest land, Native Pastureland Interpretations shows, for each soil that supports rangeland vegetation, the ecological site and the potential annual production of vegetation in favorable, normal, unfavorable years. An explanation of the column headings in this table follows.

An ecological site is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of a site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Total dry-weight production is the amount of vegetation that can be expected to grow annually on well managed rangeland that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, average, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Range management requires a knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in chapter 4 of the National Range and Pasture Handbook, which is available in local offices of the Natural Resources Conservation Service. The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

RANGELAND PRODUCTIVITY--Continued
Kingman County, Kansas

(Only the soils that support rangeland vegetation suitable for grazing are rated.) Refer to range site description to determine the percentage allowable of grasses, forbs, and shrubs for the range ecological site.

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Average year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
007AE:				
Albion-----	Sandy (pe20-25)	4,000	3,000	2,000
Shellabarger-----	Sandy (pe20-25)	4,500	3,200	2,000
007FA:				
Farnum-----	Sandy (pe24-32)	5,000	3,500	2,500
077KA:				
Kanza-----	Subirrigated (pe24-32)	9,000	8,000	7,000
077KR:				
Kirkland-----	Clay Upland (pe24-32)	4,000	2,800	2,000
Renfrow-----	Clay Upland (pe24-32)	4,000	2,800	2,000
077NN:				
Nashville-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
077PC:				
Pond Creek-----	Loamy Upland (pe24-32)	5,500	3,850	2,750
077RC:				
Renfrow-----	Clay Upland (pe24-32)	4,000	2,800	2,000
Vernon-----	Red Clay Prairie (pe24-32)	2,500	1,700	1,000
077SB:				
Shellabarger-----	Sandy (pe24-32)	4,500	3,200	2,000
077SE:				
Shellabarger-----	Sandy (pe24-32)	4,500	3,200	2,000
077SF:				
Shellabarger-----	Sandy (pe24-32)	4,500	3,200	2,000
077SG:				
Shellabarger-----	Sandy (pe24-32)	4,500	3,200	2,000
077SH:				
Shellabarger-----	Sandy (pe24-32)	7,000	5,000	3,500
151AO:				
Albion-----	Sandy (pe24-32)	4,000	3,000	2,000
151CN:				
Clark-----	Limy Upland (pe24-32)	5,000	4,000	3,000
151CO:				
Clark-----	Limy Upland (pe24-32)	5,000	4,000	3,000
Ost-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
151KP:				
Kanza-----	---	---	---	---
Plevna-----	Subirrigated (pe21-28)	9,000	8,000	7,000
151ND:				
Naron-----	Sandy (pe21-28)	4,500	3,000	2,000
151NF:				
Naron-----	Sandy (pe21-28)	4,500	3,000	2,000
151OC:				
Ost-----	Loamy Lowland (pe21-28)	5,500	4,000	2,500
151OS:				
Ost-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
151PN:				
Pratt-----	Sands (pe21-28)	4,500	3,500	2,500
151SE:				
Shellabarger-----	Sandy (pe21-28)	4,500	3,200	2,000
151ZS:				
Drummond-----	Saline Lowland (pe21-28)	7,000	5,800	5,000
Zenda-----	Subirrigated (pe21-28)	9,000	8,000	7,000
173MA:				
Milan-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
173PB:				
Plevna-----	Subirrigated (pe24-32)	9,000	8,000	7,000
173RA:				
Renfrow-----	Red Clay Prairie (pe24-32)	4,000	2,800	2,000
173RC:				
Renfrow-----	Red Clay Prairie (pe24-32)	4,000	2,800	2,000
Wellsford-----	Red Clay Prairie (pe24-32)	3,000	2,000	1,500
173TA:				
Tabler-----	Clay Upland (pe25-34)	3,800	2,600	1,800
191RA:				
Renfrow-----	Clay Upland (pe24-32)	4,000	2,800	2,000
Grainola-----	Clay Upland (pe24-32)	4,000	2,800	2,000
990:				
Abbyville-----	Saline Subirrigated (pe21-28)	7,000	6,000	5,000
991:				
Abbyville, rarely flooded-----	Saline Subirrigated (pe21-28)	7,000	6,000	5,000
Kisiwa, occasionally flooded-----	Saline Subirrigated (pe21-28)	7,000	6,000	5,000
1004:				
Albion-----	Sandy (pe21-28)	4,000	3,000	2,000
1005:				
Albion-----	Sandy (pe21-28)	4,000	3,000	2,000
1006:				
Albion-----	Sandy (pe21-28)	4,000	3,000	2,000
1011:				
Albion-----	Sandy (pe21-28)	4,000	3,000	2,000
Shellabarger-----	Sandy (pe21-28)	4,000	3,000	2,000
1017:				
Shellabarger, Eroded-----	Sandy (pe21-28)	4,000	3,000	2,000
Albion-----	Sandy (pe21-28)	4,000	3,000	2,000
1061:				
Arents, Earthen Dam-----	---	---	---	---

RANGELAND PRODUCTIVITY--Continued
Kingman County, Kansas

(Only the soils that support rangeland vegetation suitable for grazing are rated.) Refer to range site description to determine the percentage allowable of grasses, forbs, and shrubs for the range ecological site.

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Average year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
1359:				
Clark-----	Limy Upland (pe21-28)	4,500	3,500	3,000
Ost-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
1555:				
Dillhut-----	Sands (pe21-28)	4,500	3,500	2,500
Plev-----	Subirrigated (pe21-28)	9,500	8,500	7,500
1728:				
Farnum-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
Funmar-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
2205:				
Jamash-----	Shallow Prairie (pe24-32)	3,200	2,400	1,700
Piedmont-----	Clay Upland (pe24-32)	5,000	3,500	2,500
2381:				
Kanza-----	Subirrigated (pe21-28)	9,500	8,500	7,500
Ninnescah-----	Subirrigated (pe21-28)	9,500	8,500	7,500
2390:				
Kaskan-----	Loamy Lowland (pe21-28)	7,000	5,500	4,500
2556:				
Langdon-----	Choppy Sands (pe21-28)	3,000	2,150	1,550
2812:				
Mahone-----	Loamy Lowland (pe21-28)	7,000	5,500	4,500
2948:				
Nalim-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
3051:				
Ost-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
3052:				
Ost-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Clark-----	Limy Upland (pe21-28)	4,500	3,500	3,000
3170:				
Penalosa-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
3171:				
Penalosa-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
3180:				
Pratt-----	Sands (pe21-28)	4,500	3,500	2,500
3181:				
Pratt-----	Sands (pe21-28)	4,500	3,500	2,500
Turon-----	Sands (pe21-28)	4,500	3,500	2,500
3445:				
Shellabarger, Moderately Eroded---	Sandy (pe21-28)	4,000	3,000	2,000
3510:				
Saltcreek-----	Sandy (pe21-28)	4,000	3,000	2,000
Funmar-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
Farnum-----	Loamy Upland (pe21-28)	5,500	4,000	2,500
3530:				
Shellabarger, Eroded-----	Sandy (pe21-28)	4,000	3,000	2,000
Albion-----	Sandy (pe21-28)	4,000	3,000	2,000
3531:				
Shellabarger, Moderately Eroded---	Sandy (pe21-28)	4,000	3,000	2,000
Nalim-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
3532:				
Shellabarger-----	Sandy (pe21-28)	4,000	3,000	2,000
3533:				
Shellabarger-----	Sandy (pe21-28)	4,000	3,000	2,000
3534:				
Shellabarger-----	Sandy (pe21-28)	4,000	3,000	2,000
3535:				
Shellabarger-----	Sandy (pe21-28)	4,000	3,000	2,000
Nalim-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
3926:				
Water-----	---	---	---	---
3966:				
Willowbrook-----	Subirrigated (pe21-28)	9,500	8,500	7,500
4005:				
Yaggy-----	Sandy Lowland (pe21-28)	6,000	4,750	3,500
Saxman-----	Sandy Lowland (pe21-28)	6,000	4,750	3,500
4110:				
Zellmont-----	Sandy (pe21-28)	4,000	3,000	2,000
Poxmash-----	Sandy (pe21-28)	4,000	3,000	2,000
Aa:				
Albion-----	Sandy (pe24-32)	4,000	3,000	2,000
Ab:				
Albion-----	Sandy (pe24-32)	4,000	3,000	2,000
Ac:				
Albion-----	Sandy (pe24-32)	4,000	3,000	2,000
Ad:				
Albion-----	Sandy (pe24-32)	4,000	3,000	2,000
AED:				
Arents, Earthen Dam-----	---	---	---	---
Ba:				
Blanket-----	Loamy Upland (pe24-32)	6,500	5,000	3,000
Bb:				
Blanket-----	Loamy Upland (pe24-32)	6,500	5,000	3,000
Bc:				
Blanket-----	Loamy Upland (pe24-32)	6,500	5,000	3,000
Ca:				

RANGELAND PRODUCTIVITY--Continued
Kingman County, Kansas

(Only the soils that support rangeland vegetation suitable for grazing are rated.) Refer to range site description to determine the percentage allowable of grasses, forbs, and shrubs for the range ecological site.

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Average year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
Canadian-----	Sandy Terrace (pe24-32)	8,500	6,100	4,500
Cb:				
Carwile-----	Sandy (pe24-32)	5,000	3,800	3,000
Cc:				
Case-----	Limy Upland (pe24-32)	5,000	4,000	3,000
Clark-----	Limy Upland (pe24-32)	5,000	4,000	3,000
Cd:				
Case-----	Limy Upland (pe24-32)	5,000	4,000	3,000
Clark-----	Limy Upland (pe24-32)	5,000	4,000	3,000
Ce:				
Clark-----	Limy Upland (pe24-32)	5,000	4,000	3,000
Cf:				
Clark-----	Limy Upland (pe24-32)	5,000	4,000	3,000
Da:				
Dillwyn-----	Subirrigated (pe24-32)	9,000	8,000	7,000
Plevna-----	Subirrigated (pe24-32)	9,000	8,000	7,000
Fa:				
Farnum-----	Sandy (pe24-32)	5,000	3,500	2,500
Pb:				
Farnum-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Pc:				
Farnum-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Fd:				
Farnum-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Fe:				
Farnum-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Ff:				
Farnum-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Natrustolls-----	---	---	---	---
Ka:				
Kaski-----	Loamy Lowland (pe24-32)	7,000	6,000	4,500
Kb:				
Kingman-----	Subirrigated (pe24-32)	9,000	8,000	7,000
La:				
Lincoln-----	Sandy Lowland (pe24-32)	3,000	2,300	1,800
Ma:				
Mclain-----	Loamy Terrace (pe24-32)	8,500	6,100	4,500
Na:				
Nashville-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Nb:				
Nashville-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Quinlan-----	Shallow Prairie (pe24-32)	2,500	1,800	1,300
Oa:				
Owens-----	Red Clay Prairie (pe24-32)	3,000	2,000	1,500
Pa:				
Pond Creek-----	Loamy Upland (pe24-32)	5,500	3,850	2,750
Pb:				
Pratt-----	Sands (pe24-32)	4,500	3,500	2,500
Pc:				
Pratt-----	Sands (pe24-32)	4,500	3,500	2,500
Carwile-----	Sandy (pe24-32)	5,000	3,800	3,000
Pd:				
Pratt-----	Sands (pe24-32)	4,500	3,500	2,500
Tivoli-----	Sands (pe24-32)	2,000	1,400	1,000
Qa:				
Quinlan-----	Shallow Prairie (pe24-32)	2,500	1,800	1,300
Qb:				
Quinlan-----	Shallow Prairie (pe24-32)	2,500	1,800	1,300
Ra:				
Renfrow-----	Clay Upland (pe24-32)	4,000	2,800	2,000
Rb:				
Ruella-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Rc:				
Ruella-----	Loamy Upland (pe24-32)	5,500	4,000	2,500
Rock Outcrop-----	---	---	---	---
Sa:				
Shellabarger-----	Sandy (pe24-32)	4,500	3,200	2,000
Sb:				
Shellabarger-----	Sandy (pe24-32)	4,500	3,200	2,000
Sc:				
Shellabarger-----	Sandy (pe24-32)	4,500	3,200	2,000
Sd:				
Shellabarger-----	Sandy (pe24-32)	4,500	3,200	2,000
Ta:				
Tivoli-----	Choppy Sands (pe24-32)	2,000	1,400	1,000
W:				
Water-----	---	---	---	---
Wa:				
Waldeck-----	Subirrigated (pe24-32)	9,000	8,000	7,000
Za:				
Zenda-----	Subirrigated (pe24-32)	9,000	8,000	7,000

BUILDING SITE DEVELOPMENT
Kingman County, Kansas

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. The following tables show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
007AE: Albion-----	55	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Shellabarger-----	45	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
007FA: Farnum-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
077KA: Kanza-----	100	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
077KR: Kirkland-----	70	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
Renfrow-----	30	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
077NN: Nashville-----	100	Not limited		Somewhat limited Depth to soft bedrock	0.46	Somewhat limited Slope	0.12
077PC: Pond Creek-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
077RC: Renfrow-----	65	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
Vernon-----	35	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to soft bedrock	1.00 0.29	Very limited Shrink-swell	1.00
077SB: Shellabarger-----	100	Not limited		Not limited		Not limited	
077SE: Shellabarger-----	100	Not limited		Not limited		Not limited	
077SF: Shellabarger-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
077SG: Shellabarger-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
077SH: Shellabarger-----	100	Not limited		Somewhat limited Depth to soft bedrock	0.00	Not limited	
151AO: Albion-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
151CN: Clark-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
151CO: Clark-----	70	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Ost-----	30	Not limited		Not limited		Not limited	
151KP: Kanza-----	50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Plevna-----	50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
151ND: Naron-----	100	Not limited		Not limited		Not limited	
151NF: Naron-----	100	Not limited		Not limited		Not limited	
151OC: Ost-----	100	Not limited		Not limited		Not limited	
151OS: Ost-----	100	Not limited		Not limited		Not limited	
151PN: Pratt-----	100	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
151SE: Shellabarger-----	100	Not limited		Not limited		Not limited	

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151ZS: Drummond-----	50	Very limited Shrink-swell	1.00	Somewhat limited Depth to saturated zone	0.95	Very limited Shrink-swell	1.00
Zenda-----	50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.95 0.50	Very limited Flooding Shrink-swell	1.00 0.50
173MA: Milan-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
173PB: Plevna-----	100	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
173RA: Renfrow-----	100	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
173RC: Renfrow-----	65	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
Wellsford-----	35	Very limited Depth to soft bedrock Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to soft bedrock	1.00 1.00	Very limited Depth to soft bedrock Shrink-swell	1.00 1.00
173TA: Tabler-----	100	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
191RA: Renfrow-----	70	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
Grainola-----	30	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to soft bedrock	1.00 0.06	Very limited Shrink-swell	1.00
990: Abbyville-----	95	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.95 0.50	Somewhat limited Shrink-swell	0.50
991: Abbyville, rarely flooded-----	45	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.95 0.50	Very limited Flooding Shrink-swell	1.00 0.50
Kisiwa, occasionally flooded-----	40	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50
1004: Albion-----	90	Not limited		Not limited		Not limited	
1005: Albion-----	75	Not limited		Not limited		Not limited	
1006: Albion-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
1011: Albion-----	70	Not limited		Not limited		Not limited	
Shellabarger-----	30	Not limited		Not limited		Not limited	
1017: Shellabarger, Eroded	40	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Albion-----	45	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
1061: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1359: Clark-----	70	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Ost-----	30	Not limited		Not limited		Slope Somewhat limited Slope	0.00 0.12
1555: Dillhut-----	35	Not limited		Not limited		Not limited	
Plev-----	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
1728: Farnum-----	40	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Funmar-----	40	Not limited		Somewhat limited Shrink-swell	0.50	Not limited	
2205: Jamash-----	60	Very limited Depth to soft bedrock Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to soft bedrock	1.00 1.00	Very limited Depth to soft bedrock Shrink-swell	1.00 1.00
Piedmont-----	40	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to soft bedrock	1.00 0.29	Very limited Shrink-swell	1.00
2381: Kanza-----	50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Ninnescah-----	50	Very limited Flooding Depth to saturated zone	1.00 0.44	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.44
2390: Kaskan-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.16	Very limited Flooding	1.00
2556: Langdon-----	50	Somewhat limited Slope	0.00	Somewhat limited Slope	0.00	Very limited Slope	1.00
2812: Mahone-----	95	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.16	Very limited Flooding	1.00
2948: Nalim-----	80	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
3051: Ost-----	90	Not limited		Not limited		Not limited	
3052: Ost-----	55	Not limited		Not limited		Not limited	
Clark-----	45	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
3170: Penalosa-----	100	Somewhat limited Shrink-swell	0.50	Very limited Shrink-swell	1.00	Somewhat limited Shrink-swell	0.50
3171: Penalosa-----	100	Somewhat limited Shrink-swell	0.50	Very limited Shrink-swell	1.00	Somewhat limited Shrink-swell	0.50
3180: Pratt-----	85	Not limited		Not limited		Somewhat limited Slope	0.86
3181: Pratt-----	45	Not limited		Not limited		Not limited	
Turon-----	30	Not limited		Not limited		Not limited	
3445: Shellabarger, Moderately Eroded--	100	Not limited		Not limited		Somewhat limited Slope	0.00

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3510: Saltcreek-----	50	Not limited		Very limited Shrink-swell	1.00	Not limited	
Funmar-----	30	Not limited		Somewhat limited Shrink-swell	0.50	Not limited	
Farnum-----	20	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
3530: Shellabarger, Eroded	45	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Albion-----	40	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
3531: Shellabarger, Moderately Eroded--	50	Not limited		Not limited		Somewhat limited	
Nalim-----	50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Slope Somewhat limited Shrink-swell Slope	0.00 0.50 0.00
3532: Shellabarger-----	80	Not limited		Not limited		Not limited	
3533: Shellabarger-----	85	Not limited		Not limited		Not limited	
3534: Shellabarger-----	85	Not limited		Not limited		Not limited	
3535: Shellabarger-----	55	Not limited		Not limited		Not limited	
Nalim-----	45	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
3926: Water-----	100	Not rated		Not rated		Not rated	
3966: Willowbrook-----	90	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.95	Very limited Flooding	1.00
4005: Yaggy-----	60	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.95	Very limited Flooding	1.00
Saxman-----	30	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding	1.00
4110: Zellmont-----	70	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to soft bedrock	0.50 0.29	Somewhat limited Shrink-swell	0.50
Poxmash-----	30	Not limited		Not limited		Not limited	
Aa: Albion-----	100	Not limited		Not limited		Not limited	
Ab: Albion-----	100	Not limited		Not limited		Not limited	
Ac: Albion-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
Ad: Albion-----	100	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
AED: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
Ba: Blanket-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Bb: Blanket-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Bc: Blanket-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Ca: Canadian-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Cb: Carwile-----	100	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
Cc: Case-----	60	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.00
Clark-----	40	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.00
Cd: Case-----	60	Somewhat limited Shrink-swell Slope	0.50 0.37	Somewhat limited Shrink-swell Slope	0.50 0.37	Very limited Slope Shrink-swell	1.00 0.50
Clark-----	40	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.86 0.50
Ce: Clark-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Cf: Clark-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Da: Dillwyn-----	60	Somewhat limited Depth to saturated zone	0.44	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.44
Plevna-----	40	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Fa: Farnum-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Fb: Farnum-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Fc: Farnum-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Fd: Farnum-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
Fe: Farnum-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.00
Ff: Farnum-----	60	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Natrustolls-----	40	Not rated		Not rated		Not rated	
Ka: Kaski-----	100	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
Kb: Kingman-----	100	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
La: Lincoln-----	100	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.03	Very limited Flooding	1.00
Ma: Mclain-----	100	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00
Na: Nashville-----	100	Not limited		Somewhat limited Depth to soft bedrock	0.64	Not limited	

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Nb: Nashville-----	60	Somewhat limited Slope	0.04	Somewhat limited Depth to soft bedrock Slope	0.64	Very limited Slope	1.00
Quinlan-----	40	Somewhat limited Depth to soft bedrock Slope	1.00	Very limited Depth to soft bedrock Slope	1.00	Very limited Depth to soft bedrock Slope	1.00
Oa: Owens-----	100	Very limited Depth to soft bedrock Shrink-swell	1.00	Very limited Shrink-swell Depth to soft bedrock	1.00	Very limited Depth to soft bedrock Shrink-swell	1.00
Pa: Pond Creek-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Pb: Pratt-----	100	Not limited		Not limited		Somewhat limited Slope	0.48
Pc: Pratt-----	60	Not limited		Not limited		Somewhat limited Slope	0.00
Carwile-----	40	Very limited Depth to saturated zone Shrink-swell	1.00	Very limited Depth to saturated zone Shrink-swell	1.00	Very limited Depth to saturated zone Shrink-swell	1.00
Pd: Pratt-----	50	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Tivoli-----	50	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Qa: Quinlan-----	100	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock	1.00
Qb: Quinlan-----	100	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock Slope	0.00
Ra: Renfrow-----	100	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
Rb: Ruella-----	100	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock	1.00
Rc: Ruella-----	60	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock Slope	0.12
Rock Outcrop-----	40	Not rated		Not rated		Not rated	
Sa: Shellabarger-----	100	Not limited		Not limited		Not limited	
Sb: Shellabarger-----	100	Not limited		Not limited		Not limited	
Sc: Shellabarger-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
Sd: Shellabarger-----	100	Not limited		Not limited		Somewhat limited Slope	0.12
Ta: Tivoli-----	100	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
W: Water-----	100	Not rated		Not rated		Not rated	
Wa: Waldeck-----	100	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.95	Very limited Flooding	1.00

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Za: Zenda-----	100	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.95 0.50	Very limited Flooding Shrink-swell	1.00 0.50

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
007AE: Albion-----	55	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Slope	0.16
Shellabarger-----	45	Somewhat limited Slope	0.16	Somewhat limited Slope Cutbanks cave	0.16 0.10	Somewhat limited Slope	0.16
007FA: Farnum-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
077KA: Kanza-----	100	Very limited Flooding Depth to saturated zone	1.00 0.75	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.80	Very limited Flooding Depth to saturated zone Droughty	1.00 0.75 0.04
077KR: Kirkland-----	70	Very limited Shrink-swell	1.00	Somewhat limited Too clayey Cutbanks cave	0.50 0.10	Not limited	
Renfrow-----	30	Very limited Shrink-swell	1.00	Somewhat limited Too clayey Cutbanks cave	0.12 0.10	Not limited	
077NN: Nashville-----	100	Not limited		Somewhat limited Depth to soft bedrock Cutbanks cave	0.46 0.10	Somewhat limited Depth to bedrock	0.46
077PC: Pond Creek-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
077RC: Renfrow-----	65	Very limited Shrink-swell	1.00	Somewhat limited Too clayey Cutbanks cave	0.12 0.10	Not limited	
Vernon-----	35	Very limited Shrink-swell	1.00	Somewhat limited Too clayey Depth to dense layer Depth to soft bedrock Cutbanks cave	0.50 0.50 0.29 0.10	Very limited Sodium content Depth to bedrock Droughty	1.00 0.29 0.15
077SB: Shellabarger-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
077SE: Shellabarger-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
077SF: Shellabarger-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
077SG: Shellabarger-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
077SH: Shellabarger-----	100	Not limited		Somewhat limited Cutbanks cave Depth to soft bedrock	0.10 0.00	Somewhat limited Depth to bedrock	0.00
151AO: Albion-----	100	Not limited		Very limited Cutbanks cave	1.00	Not limited	
151CN: Clark-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
151CO: Clark-----	70	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Ost-----	30	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151KP: Kanza-----	50	Very limited Flooding Depth to saturated zone	1.00 0.75	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.80	Very limited Flooding Depth to saturated zone Droughty	1.00 0.75 0.02
Plevna-----	50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
151ND: Naron-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
151NF: Naron-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
151OC: Ost-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
151OS: Ost-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
151PN: Pratt-----	100	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Slope	0.16
151SE: Shellabarger-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
151ZS: Drummond-----	50	Very limited Shrink-swell	1.00	Somewhat limited Depth to saturated zone Too clayey Cutbanks cave	0.95 0.28 0.10	Very limited Salinity Droughty	1.00 0.68
Zenda-----	50	Very limited Flooding Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Flooding Cutbanks cave	0.95 0.60 0.10	Somewhat limited Flooding	0.60
173MA: Milan-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
173PB: Plevna-----	100	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00
173RA: Renfrow-----	100	Very limited Shrink-swell	1.00	Somewhat limited Too clayey Cutbanks cave	0.12 0.10	Not limited	
173RC: Renfrow-----	65	Very limited Shrink-swell	1.00	Somewhat limited Too clayey Cutbanks cave	0.12 0.10	Not limited	
Wellsford-----	35	Very limited Depth to soft bedrock Shrink-swell	1.00 1.00	Very limited Depth to soft bedrock Too clayey Cutbanks cave	1.00 0.28 0.10	Very limited Depth to bedrock Droughty	1.00 1.00
173TA: Tabler-----	100	Very limited Shrink-swell	1.00	Somewhat limited Too clayey Cutbanks cave	0.28 0.10	Not limited	

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
191RA: Renfrow-----	70	Very limited Shrink-swell	1.00	Somewhat limited Too clayey Cutbanks cave	0.12 0.10	Not limited	
Grainola-----	30	Very limited Shrink-swell	1.00	Somewhat limited Too clayey Cutbanks cave Depth to soft bedrock	0.28 0.10 0.06	Somewhat limited Depth to bedrock Content of large stones	0.06 0.03
990: Abbyville-----	95	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.95 0.10	Very limited Sodium content	1.00
991: Abbyville, rarely flooded-----	45	Very limited Low strength Shrink-swell Flooding	1.00 0.50 0.40	Somewhat limited Depth to saturated zone Cutbanks cave	0.95 0.10	Very limited Sodium content	1.00
Kisiwa, occasionally flooded-----	40	Very limited Ponding Depth to saturated zone Flooding Low strength Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Cutbanks cave Flooding Too clayey	1.00 1.00 1.00 0.60 0.08	Very limited Ponding Sodium content Depth to saturated zone Flooding	1.00 1.00 1.00 0.60
1004: Albion-----	90	Not limited		Very limited Cutbanks cave	1.00	Not limited	
1005: Albion-----	75	Not limited		Very limited Cutbanks cave	1.00	Not limited	
1006: Albion-----	100	Not limited		Very limited Cutbanks cave	1.00	Not limited	
1011: Albion-----	70	Not limited		Very limited Cutbanks cave	1.00	Not limited	
Shellabarger-----	30	Not limited		Very limited Cutbanks cave	1.00	Not limited	
1017: Shellabarger, Eroded	40	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Slope	0.16
Albion-----	45	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Slope	0.16
1061: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
1359: Clark-----	70	Somewhat limited Low strength Shrink-swell	0.78 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Ost-----	30	Somewhat limited Low strength	0.78	Somewhat limited Cutbanks cave	0.10	Not limited	
1555: Dillhut-----	35	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.15
Plev-----	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Very limited Depth to saturated zone Droughty	1.00 0.92
1728: Farnum-----	40	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Funmar-----	40	Very limited Low strength	1.00	Somewhat limited Cutbanks cave	0.10	Not limited	

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2205: Jamash-----	60	Very limited Depth to soft bedrock Low strength	1.00 1.00	Very limited Depth to soft bedrock Depth to dense layer	1.00 0.50	Very limited Depth to bedrock Droughty	1.00 0.86
Piedmont-----	40	Shrink-swell Very limited Shrink-swell Low strength	1.00 1.00 1.00	Cutbanks cave Somewhat limited Too clayey Depth to dense layer Depth to soft bedrock Cutbanks cave	0.10 0.88 0.50 0.29 0.10	Somewhat limited Depth to bedrock	0.29
2381: Kanza-----	50	Very limited Flooding Depth to saturated zone	1.00 0.75	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 1.00 0.80	Very limited Flooding Depth to saturated zone Droughty	1.00 0.75 0.00
Ninnescah-----	50	Very limited Flooding Depth to saturated zone	1.00 0.19	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 1.00 0.60	Somewhat limited Flooding Depth to saturated zone	0.60 0.19
2390: Kaskan-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.16	Not limited	
2556: Langdon-----	50	Somewhat limited Slope	0.00	Very limited Cutbanks cave Slope	1.00 0.00	Somewhat limited Droughty Slope	0.97 0.00
2812: Mahone-----	95	Somewhat limited Flooding	0.40	Somewhat limited Depth to saturated zone Cutbanks cave	0.16 0.10	Not limited	
2948: Nalim-----	80	Very limited Low strength Shrink-swell	1.00 0.50	Very limited Cutbanks cave	1.00	Not limited	
3051: Ost-----	90	Somewhat limited Low strength	0.78	Somewhat limited Cutbanks cave	0.10	Not limited	
3052: Ost-----	55	Somewhat limited Low strength	0.78	Somewhat limited Cutbanks cave	0.10	Not limited	
Clark-----	45	Somewhat limited Low strength Shrink-swell	0.78 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
3170: Penalosa-----	100	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
3171: Penalosa-----	100	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
3180: Pratt-----	85	Not limited		Very limited Cutbanks cave	1.00	Not limited	
3181: Pratt-----	45	Not limited		Very limited Cutbanks cave	1.00	Not limited	
Turon-----	30	Not limited		Very limited Cutbanks cave Too clayey	1.00 0.01	Not limited	
3445: Shellabarger, Moderately Eroded--	100	Not limited		Very limited Cutbanks cave	1.00	Not limited	

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3510: Saltcreek-----	50	Not limited		Somewhat limited Cutbanks cave Too clayey	0.10 0.00	Not limited	
Funmar-----	30	Very limited Low strength	1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
Farnum-----	20	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
3530: Shellabarger, Eroded	45	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Slope	0.16
Albion-----	40	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Slope	0.16
3531: Shellabarger, Moderately Eroded--	50	Not limited		Very limited		Not limited	
Nalim-----	50	Very limited Low strength Shrink-swell	1.00 0.50	Cutbanks cave Very limited Cutbanks cave	1.00 1.00	Not limited	
3532: Shellabarger-----	80	Not limited		Very limited Cutbanks cave	1.00	Not limited	
3533: Shellabarger-----	85	Not limited		Very limited Cutbanks cave	1.00	Not limited	
3534: Shellabarger-----	85	Not limited		Very limited Cutbanks cave	1.00	Not limited	
3535: Shellabarger-----	55	Not limited		Very limited Cutbanks cave	1.00	Not limited	
Nalim-----	45	Very limited Low strength Shrink-swell	1.00 0.50	Very limited Cutbanks cave	1.00	Not limited	
3926: Water-----	100	Not rated		Not rated		Not rated	
3966: Willowbrook-----	90	Very limited Flooding	1.00	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 0.95 0.60	Somewhat limited Flooding	0.60
4005: Yaggy-----	60	Very limited Flooding	1.00	Very limited Cutbanks cave Depth to saturated zone Flooding Depth to dense layer	1.00 0.95 0.60 0.50	Somewhat limited Flooding Droughty	0.60 0.04
Saxman-----	30	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Somewhat limited Droughty	0.15
4110: Zellmont-----	70	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to dense layer Depth to soft bedrock Cutbanks cave	0.50 0.29 0.10	Somewhat limited Depth to bedrock	0.29
Poxmash-----	30	Not limited		Very limited Cutbanks cave Depth to dense layer	1.00 0.50	Not limited	
Aa: Albion-----	100	Not limited		Very limited Cutbanks cave	1.00	Not limited	
Ab: Albion-----	100	Not limited		Very limited Cutbanks cave	1.00	Not limited	

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ac: Albion-----	100	Not limited		Very limited Cutbanks cave	1.00	Not limited	
Ad: Albion-----	100	Somewhat limited Slope	0.37	Very limited Cutbanks cave Slope	1.00 0.37	Somewhat limited Slope	0.37
AED: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
Ba: Blanket-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave Too clayey	0.10 0.03	Not limited	
Bb: Blanket-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave Too clayey	0.10 0.03	Not limited	
Bc: Blanket-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave Too clayey	0.10 0.03	Not limited	
Ca: Canadian-----	100	Somewhat limited Flooding	0.40	Somewhat limited Cutbanks cave	0.10	Not limited	
Cb: Carwile-----	100	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Too clayey Cutbanks cave	1.00 0.28 0.10	Very limited Depth to saturated zone	1.00
Cc: Case-----	60	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Clark-----	40	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Cd: Case-----	60	Somewhat limited Shrink-swell Slope	0.50 0.37	Somewhat limited Slope Cutbanks cave	0.37 0.10	Somewhat limited Slope	0.37
Clark-----	40	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Ce: Clark-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Cf: Clark-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Da: Dillwyn-----	60	Somewhat limited Depth to saturated zone	0.19	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.22
Plevna-----	40	Very limited Flooding	1.00	Depth to saturated zone Very limited Depth to saturated zone Cutbanks cave	1.00 1.00 1.00	Depth to saturated zone Very limited Flooding	0.19 1.00
		Depth to saturated zone	1.00	Flooding	0.80	Depth to saturated zone	1.00
Fa: Farnum-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Fb: Farnum-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Fc: Farnum-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Fd: Farnum-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Fe: Farnum-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ff: Farnum-----	60	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Natrustolls-----	40	Not rated		Not rated		Not rated	
Ka: Kaski-----	100	Very limited Flooding Shrink-swell	1.00 0.50	Somewhat limited Flooding Cutbanks cave	0.60 0.10	Somewhat limited Flooding	0.60
Kb: Kingman-----	100	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.60	Flooding	0.60
		Shrink-swell	0.50	Cutbanks cave	0.10		
La: Lincoln-----	100	Very limited Flooding	1.00	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.92
				Flooding	0.60	Flooding	0.60
				Depth to saturated zone	0.03		
Ma: Mclain-----	100	Very limited Shrink-swell Flooding	1.00 0.40	Somewhat limited Cutbanks cave	0.10	Not limited	
				Too clayey	0.03		
Na: Nashville-----	100	Not limited		Somewhat limited Depth to soft bedrock	0.64	Somewhat limited Depth to bedrock	0.65
				Cutbanks cave	0.10		
Nb: Nashville-----	60	Somewhat limited Slope	0.04	Somewhat limited Depth to soft bedrock	0.64	Somewhat limited Depth to bedrock	0.65
				Cutbanks cave	0.10	Slope	0.04
				Slope	0.04		
Quinlan-----	40	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Very limited Depth to bedrock	1.00
		Slope	0.16	Slope	0.16	Droughty	0.87
				Cutbanks cave	0.10	Slope	0.16
Oa: Owens-----	100	Very limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Very limited Depth to bedrock	1.00
		Shrink-swell	1.00	Too clayey	0.28	Droughty	1.00
				Cutbanks cave	0.10		
Pa: Pond Creek-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Pb: Pratt-----	100	Not limited		Very limited Cutbanks cave	1.00	Not limited	
Pc: Pratt-----	60	Not limited		Very limited Cutbanks cave	1.00	Not limited	
Carwile-----	40	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Shrink-swell	1.00	Too clayey	0.28		
				Cutbanks cave	0.10		
Pd: Pratt-----	50	Somewhat limited Slope	0.04	Very limited Cutbanks cave	1.00	Somewhat limited Slope	0.04
				Slope	0.04		
Tivoli-----	50	Somewhat limited Slope	0.16	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.95
				Slope	0.16	Slope	0.16
Qa: Quinlan-----	100	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Very limited Depth to bedrock	1.00
				Cutbanks cave	0.10	Droughty	0.87

BUILDING SITE DEVELOPMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Qb: Quinlan-----	100	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty	1.00 0.87
Ra: Renfrow-----	100	Very limited Shrink-swell	1.00	Somewhat limited Too clayey Cutbanks cave	0.12 0.10	Not limited	
Rb: Ruella-----	100	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty	1.00 1.00
Rc: Ruella-----	60	Somewhat limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty	1.00 1.00
Rock Outcrop-----	40	Not rated		Not rated		Not rated	
Sa: Shellabarger-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Sb: Shellabarger-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Sc: Shellabarger-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Sd: Shellabarger-----	100	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Ta: Tivoli-----	100	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 1.00
W: Water-----	100	Not rated		Not rated		Not rated	
Wa: Waldeck-----	100	Very limited Flooding	1.00	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 0.95 0.60	Somewhat limited Flooding	0.60
Za: Zenda-----	100	Very limited Flooding Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Flooding Cutbanks cave	0.95 0.60 0.10	Somewhat limited Flooding	0.60

CONSTRUCTION MATERIALS
Kingman County, Kansas

Construction Materials

The following tables give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

The soils are rated good, fair, or poor as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

The soils are rated as a probable or improbable source of sand and gravel. A rating of probable means that the source material is likely to be in or below the soil. The numerical ratings in these columns indicate the degree of probability. The number 0.00 indicates that the soil is an improbable source. A number between 0.00 and 1.00 indicates the degree to which the soil is a probable source of sand or gravel.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In these tables, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
007AE: Albion-----	55	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.29 0.91
Shellabarger-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.09
007FA: Farnum-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.07
077KA: Kanza-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.57 0.65
077KR: Kirkland-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Renfrow-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
077NN: Nashville-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
077PC: Pond Creek-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
077RC: Renfrow-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Vernon-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
077SB: Shellabarger-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.09
077SE: Shellabarger-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.09
077SF: Shellabarger-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.09
077SG: Shellabarger-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.09
077SH: Shellabarger-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
151AO: Albion-----	100	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.91

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
151CN: Clark-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.08
151CO: Clark-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ost-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
151KP: Kanza-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.57 0.98
Plevna-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.09
151ND: Naron-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.08
151NF: Naron-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.08
151OC: Ost-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
151OS: Ost-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
151PN: Pratt-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.19 0.57
151SE: Shellabarger-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.09
151ZS: Drummond-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Zenda-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
173MA: Milan-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
173PB: Plevna-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.09
173RA: Renfrow-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
173RC: Renfrow-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Wellsford-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
173TA: Tabler-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
191RA: Renfrow-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Grainola-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
990: Abbyville-----	95	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.04
991: Abbyville, rarely flooded-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.04
Kisiwa, occasionally flooded-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.00
1004: Albion-----	90	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.67 0.91
1005: Albion-----	75	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.67 0.90
1006: Albion-----	100	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.67 0.90
1011: Albion-----	70	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.67 0.90
Shellabarger-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.88
1017: Shellabarger, Eroded	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.88
Albion-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.67 0.90
1061: Arents, Earthen Dam-	100	Not rated		Not rated	

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1359: Clark-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ost-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
1555: Dillhut-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.10 0.13
Plev-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.41 0.43
1728: Farnum-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Funmar-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2205: Jamash-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Piedmont-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
2381: Kanza-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.22 0.90
Ninnescah-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.10 0.12
2390: Kaskan-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.27
2556: Langdon-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.50 0.50
2812: Mahone-----	95	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.93
2948: Nalim-----	80	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.98
3051: Ost-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3052: Ost-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Clark-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
3170: Penalosa-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3171: Penalosa-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3180: Pratt-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.84 0.86
3181: Pratt-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.84 0.86
Turon-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.30
3445: Shellabarger, Moderately Eroded--	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.88
3510: Saltcreek-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Funmar-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Farnum-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
3530: Shellabarger, Eroded	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.88
Albion-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.67 0.90
3531: Shellabarger, Moderately Eroded--	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.88
Nalim-----	50	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.98
3532: Shellabarger-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.88
3533: Shellabarger-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.88
3534: Shellabarger-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.88

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
3535: Shellabarger-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.88
Nalim-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.98
3926: Water-----	100	Not rated		Not rated	
3966: Willowbrook-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.61
4005: Yaggy-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.16
Saxman-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.50
4110: Zellmont-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Poxmash-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.13
Aa: Albion-----	100	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.49
Ab: Albion-----	100	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.49
Ac: Albion-----	100	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.29 0.91
Ad: Albion-----	100	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.49
AED: Arents, Earthen Dam-	100	Not rated		Not rated	
Ba: Blanket-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Bb: Blanket-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Bc: Blanket-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ca: Canadian-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.07

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Cb: Carwile-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Cc: Case-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Clark-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Cd: Case-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Clark-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ce: Clark-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Cf: Clark-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Da: Dillwyn-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.18 0.18
Plevna-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.09
Fa: Farnum-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Fb: Farnum-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Fc: Farnum-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Fd: Farnum-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Fe: Farnum-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ff: Farnum-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Natrustolls-----	40	Not rated		Not rated	
Ka: Kaski-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Kb: Kingman-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.08
La: Lincoln-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.22 0.39
Ma: Mclain-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Na: Nashville-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Nb: Nashville-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Quinlan-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Oa: Owens-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Pa: Pond Creek-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Pb: Pratt-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.19 0.44
Pc: Pratt-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.19 0.44
Carwile-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Pd: Pratt-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.19 0.44
Tivoli-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.57 0.99
Qa: Quinlan-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Qb: Quinlan-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ra: Renfrow-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Rb: Ruella-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rc: Ruella-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock Outcrop-----	40	Not rated		Not rated	
Sa: Shellabarger-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.09
Sb: Shellabarger-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.09
Sc: Shellabarger-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.09
Sd: Shellabarger-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.09
Ta: Tivoli-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.99 0.99
W: Water-----	100	Not rated		Not rated	
Wa: Waldeck-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Good Thickest layer	0.09
Za: Zenda-----	100	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
007AE: Albion-----	55	Poor Too sandy Low content of organic matter Too acid	0.00 0.00 0.95	Good		Poor Too sandy Rock fragments Hard to reclaim Slope	0.00 0.00 0.68 0.84
Shellabarger-----	45	Poor Low content of organic matter Too acid	0.00 0.84	Good		Fair Slope	0.84
007FA: Farnum-----	100	Poor Low content of organic matter	0.00	Fair Shrink-swell	0.87	Good	
077KA: Kanza-----	100	Poor Wind erosion Low content of organic matter Too sandy Too acid Droughty	0.00 0.00 0.00 0.95 0.97	Fair Depth to saturated zone	0.14	Poor Too sandy Depth to saturated zone	0.00 0.14
077KR: Kirkland-----	70	Poor Too clayey Low content of organic matter Water erosion	0.00 0.00 0.90	Fair Shrink-swell	0.15	Poor Too Clayey	0.00
Renfrow-----	30	Poor Low content of organic matter Too clayey Water erosion	0.00 0.00 0.90	Fair Shrink-swell	0.16	Poor Too Clayey	0.00
077NN: Nashville-----	100	Poor Low content of organic matter Depth to bedrock Water erosion	0.00 0.54 0.90	Poor Depth to bedrock	0.00	Fair Depth to bedrock	0.54
077PC: Pond Creek-----	100	Poor Low content of organic matter Too acid No water erosion limitation	0.00 0.97 0.99	Fair Shrink-swell	0.90	Good	
077RC: Renfrow-----	65	Poor Low content of organic matter Too clayey Water erosion	0.00 0.00 0.90	Fair Shrink-swell	0.16	Poor Too Clayey	0.00
Vernon-----	35	Poor Too clayey Droughty Sodium content Low content of organic matter Depth to bedrock Carbonate content No water erosion limitation	0.00 0.05 0.10 0.50 0.71 0.97 0.99	Poor Depth to bedrock Shrink-swell	0.00 0.45	Poor Too Clayey Hard to reclaim Sodium content Depth to bedrock	0.00 0.10 0.10 0.71
077SB: Shellabarger-----	100	Poor Low content of organic matter Too acid	0.00 0.84	Good		Good	

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
077SE: Shellabarger-----	100	Poor Low content of organic matter Too acid	0.00 0.84	Good		Good	
077SF: Shellabarger-----	100	Poor Low content of organic matter Too acid	0.00 0.84	Good		Good	
077SG: Shellabarger-----	100	Poor Low content of organic matter Too acid	0.00 0.84	Good		Good	
077SH: Shellabarger-----	100	Poor Low content of organic matter Depth to bedrock Droughty	0.00 0.99 0.99	Poor Depth to bedrock	0.00	Fair Depth to bedrock	0.99
151AO: Albion-----	100	Poor Low content of organic matter Too acid	0.00 0.95	Good		Fair Hard to reclaim Rock fragments	0.68 0.72
151CN: Clark-----	100	Poor Low content of organic matter Carbonate content	0.00 0.68	Fair Shrink-swell	0.87	Fair Carbonate content	0.68
151CO: Clark-----	70	Poor Low content of organic matter Carbonate content	0.00 0.68	Fair Shrink-swell	0.87	Fair Carbonate content	0.68
Ost-----	30	Poor Low content of organic matter Carbonate content	0.00 0.68	Good		Fair Carbonate content	0.68
151KP: Kanza-----	50	Poor Wind erosion Low content of organic matter Too sandy Droughty Too acid	0.00 0.00 0.00 0.18 0.95	Fair Depth to saturated zone	0.14	Poor Too sandy Depth to saturated zone	0.00 0.14
Plevna-----	50	Poor Low content of organic matter	0.00	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
151ND: Naron-----	100	Poor Low content of organic matter	0.00	Good		Good	
151NF: Naron-----	100	Poor Low content of organic matter	0.00	Good		Good	
151OC: Ost-----	100	Poor Low content of organic matter Carbonate content	0.00 0.68	Good		Fair Carbonate content	0.68

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151OS: Ost-----	100	Poor Low content of organic matter Carbonate content	0.00 0.68	Good		Fair Carbonate content	0.68
151PN: Pratt-----	100	Poor Wind erosion Low content of organic matter Too sandy	0.00 0.00 0.00	Good		Poor Too sandy Slope	0.00 0.84
151SE: Shellabarger-----	100	Poor Low content of organic matter Too acid	0.00 0.84	Good		Good	
151ZS: Drummond-----	50	Poor Low content of organic matter Droughty Too clayey Water erosion Salinity	0.00 0.00 0.00 0.68 0.88	Fair		Poor Too Clayey Salinity	0.00 0.00
Zenda-----	50	Poor Low content of organic matter	0.00	Fair Shrink-swell	0.87	Good	
173MA: Milan-----	100	Poor Low content of organic matter Too acid	0.00 0.95	Fair Shrink-swell	0.89	Good	
173PB: Plevna-----	100	Poor Low content of organic matter	0.00	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
173RA: Renfrow-----	100	Poor Low content of organic matter Too clayey Water erosion	0.00 0.00 0.90	Fair Shrink-swell	0.16	Poor Too Clayey	0.00
173RC: Renfrow-----	65	Poor Low content of organic matter Too clayey Water erosion	0.00 0.00 0.90	Fair Shrink-swell	0.16	Poor Too Clayey	0.00
Wellsford-----	35	Poor Droughty Low content of organic matter Depth to bedrock Too clayey	0.00 0.00 0.00 0.00	Poor Depth to bedrock Shrink-swell	0.00 0.12	Poor Depth to bedrock Too Clayey	0.00 0.00
173TA: Tabler-----	100	Poor Too clayey Low content of organic matter Water erosion	0.00 0.00 0.90	Fair Shrink-swell	0.12	Poor Too Clayey	0.00
191RA: Renfrow-----	70	Poor Low content of organic matter Too clayey Water erosion	0.00 0.00 0.90	Fair Shrink-swell	0.16	Poor Too Clayey	0.00

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Grainola-----	30	Poor Low content of organic matter Too clayey Water erosion Depth to bedrock Droughty	0.00 0.00 0.90 0.93 0.95	Poor Depth to bedrock Shrink-swell	0.00 0.12	Poor Too Clayey Rock fragments Depth to bedrock	0.00 0.88 0.93
990: Abbyville-----	95	Poor Low content of organic matter Sodium content Too alkaline Water erosion	0.00 0.00 0.00 0.90	Poor Low strength Shrink-swell	0.00 0.87	Poor Sodium content Salinity	0.00 0.88
991: Abbyville, rarely flooded-----	45	Poor Low content of organic matter Sodium content Too alkaline	0.00 0.00 0.00	Poor Low strength Shrink-swell	0.00 0.87	Poor Sodium content Salinity	0.00 0.88
Kisiwa, occasionally flooded-----	40	Poor Sodium content Too alkaline Too clayey Water erosion Low content of organic matter	0.00 0.00 0.19 0.90 0.91	Poor Depth to saturated zone Shrink-swell	0.00 0.97	Poor Depth to saturated zone Sodium content Too Clayey	0.00 0.00 0.14
1004: Albion-----	90	Poor Low content of organic matter Too sandy Too acid	0.00 0.00 0.95	Good		Poor Too sandy Hard to reclaim Rock fragments	0.00 0.32 0.72
1005: Albion-----	75	Poor Low content of organic matter Too sandy Too acid	0.00 0.00 0.95	Good		Poor Too sandy Hard to reclaim Rock fragments	0.00 0.32 0.72
1006: Albion-----	100	Poor Low content of organic matter Too sandy Too acid	0.00 0.00 0.95	Good		Poor Too sandy Hard to reclaim Rock fragments	0.00 0.32 0.72
1011: Albion-----	70	Poor Low content of organic matter Too sandy Too acid	0.00 0.00 0.95	Good		Poor Too sandy Hard to reclaim Rock fragments	0.00 0.32 0.72
Shellabarger-----	30	Fair Low content of organic matter Too acid	0.12 0.84	Good		Good	
1017: Shellabarger, Eroded	40	Fair Low content of organic matter Too acid	0.12 0.84	Good		Fair Slope	0.84
Albion-----	45	Poor Low content of organic matter Too sandy Too acid	0.00 0.00 0.95	Good		Poor Too sandy Hard to reclaim Rock fragments Slope	0.00 0.32 0.72 0.84

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1061: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
1359: Clark-----	70	Poor Carbonate content Low content of organic matter	0.00 0.02	Fair Low strength Shrink-swell	0.22 0.87	Good	
Ost-----	30	Fair Low content of organic matter Carbonate content	0.08 0.68	Good		Fair Carbonate content	0.80
1555: Dillhut-----	35	Poor Wind erosion Low content of organic matter Too acid	0.00 0.00 0.99	Good		Good	
Plev-----	35	Poor Too sandy Wind erosion Low content of organic matter Too acid Droughty	0.00 0.00 0.00 0.95 0.99	Poor Depth to saturated zone	0.00	Poor Too sandy Depth to saturated zone	0.00 0.00
1728: Farnum-----	40	Fair Low content of organic matter Too acid	0.12 0.99	Poor Low strength Shrink-swell	0.00 0.96	Good	
Funmar-----	40	Fair Low content of organic matter No water erosion limitation	0.12 0.99	Poor Low strength	0.00	Good	
2205: Jamash-----	60	Poor Droughty Depth to bedrock Too clayey Carbonate content No water erosion limitation	0.00 0.00 0.15 0.92 0.99	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.27	Poor Hard to reclaim Depth to bedrock Too Clayey	0.00 0.00 0.13
Piedmont-----	40	Poor Too clayey Depth to bedrock Low content of organic matter Water erosion Droughty Carbonate content	0.00 0.71 0.88 0.90 0.95 0.97	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.46	Poor Too Clayey Rock fragments Depth to bedrock Hard to reclaim	0.00 0.12 0.71 0.71
2381: Kanza-----	50	Fair Low content of organic matter Too sandy Too acid	0.12 0.22 0.95	Fair Depth to saturated zone	0.14	Fair Depth to saturated zone Too sandy	0.14 0.22
Ninnescah-----	50	Fair Low content of organic matter Too sandy	0.08 0.91	Fair Depth to saturated zone	0.53	Fair Depth to saturated zone Too sandy	0.53 0.91
2390: Kaskan-----	85	Fair Low content of organic matter No water erosion limitation	0.12 0.99	Good		Good	

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2556: Langdon-----	50	Poor Wind erosion Low content of organic matter Too sandy Droughty Too acid	0.00 0.00 0.00 0.38 0.61	Good		Poor Too sandy Too acid	0.00 0.99
2812: Mahone-----	95	Poor Wind erosion Too acid Low content of organic matter	0.00 0.39 0.82	Good		Good	
2948: Nalim-----	80	Fair Low content of organic matter Too acid	0.88 0.95	Fair Shrink-swell	0.94	Fair Hard to reclaim Hard to reclaim	0.01 0.32
3051: Ost-----	90	Fair Low content of organic matter Carbonate content	0.08 0.68	Good		Fair Carbonate content	0.80
3052: Ost-----	55	Fair Low content of organic matter Carbonate content	0.08 0.68	Good		Fair Carbonate content	0.80
Clark-----	45	Poor Carbonate content Low content of organic matter	0.00 0.02	Fair Low strength Shrink-swell	0.22 0.87	Good	
3170: Penalosa-----	100	Fair Low content of organic matter Too clayey Water erosion Too acid	0.10 0.20 0.90 0.95	Poor Low strength Shrink-swell	0.00 0.61	Fair Too Clayey	0.18
3171: Penalosa-----	100	Fair Low content of organic matter Too clayey Water erosion Too acid	0.10 0.20 0.90 0.95	Poor Low strength Shrink-swell	0.00 0.61	Fair Too Clayey	0.18
3180: Pratt-----	85	Poor Wind erosion Too sandy Low content of organic matter Too acid	0.00 0.00 0.00 0.74	Good		Poor Too sandy	0.00
3181: Pratt-----	45	Poor Wind erosion Too sandy Low content of organic matter Too acid	0.00 0.00 0.00 0.74	Good		Poor Too sandy	0.00
Turon-----	30	Poor Too sandy Wind erosion Too acid Low content of organic matter	0.00 0.00 0.39 0.88	Good		Poor Too sandy Too acid	0.00 0.92

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3445: Shellabarger, Moderately Eroded--	100	Fair Low content of organic matter Too acid	0.12 0.84	Good		Good	
3510: Saltcreek-----	50	Fair Too acid Low content of organic matter No water erosion limitation	0.12 0.12 0.99	Poor Low strength Shrink-swell	0.00 0.95	Good	
Funmar-----	30	Fair Low content of organic matter No water erosion limitation	0.12 0.99	Poor Low strength	0.00	Good	
Farnum-----	20	Fair Low content of organic matter Too acid	0.12 0.99	Poor Low strength Shrink-swell	0.00 0.96	Good	
3530: Shellabarger, Eroded	45	Fair Low content of organic matter Too acid	0.12 0.84	Good		Fair Slope	0.84
Albion-----	40	Poor Low content of organic matter Too sandy Too acid	0.00 0.00 0.95	Good		Poor Too sandy Hard to reclaim Rock fragments Slope	0.00 0.32 0.72 0.84
3531: Shellabarger, Moderately Eroded--	50	Fair Low content of organic matter Too acid	0.12 0.84	Good		Good	
Nalim-----	50	Fair Low content of organic matter Too acid	0.88 0.95	Fair Shrink-swell	0.94	Fair Hard to reclaim Hard to reclaim	0.01 0.32
3532: Shellabarger-----	80	Poor Wind erosion Low content of organic matter Too acid	0.00 0.12 0.84	Good		Good	
3533: Shellabarger-----	85	Fair Low content of organic matter Too acid	0.12 0.84	Good		Good	
3534: Shellabarger-----	85	Fair Low content of organic matter Too acid	0.12 0.84	Good		Good	
3535: Shellabarger-----	55	Fair Low content of organic matter Too acid	0.12 0.84	Good		Good	
Nalim-----	45	Fair Low content of organic matter Too acid	0.88 0.95	Fair Shrink-swell	0.94	Fair Hard to reclaim Hard to reclaim	0.01 0.32

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3926: Water-----	100	Not rated		Not rated		Not rated	
3966: Willowbrook-----	90	Poor Too sandy Low content of organic matter Too acid	0.00 0.00 0.99	Good		Poor Too sandy Rock fragments	0.00 0.50
4005: Yaggy-----	60	Poor Too sandy Low content of organic matter Droughty	0.00 0.00 0.93	Good		Poor Too sandy	0.00
Saxman-----	30	Poor Wind erosion Low content of organic matter Too sandy Too acid Droughty	0.00 0.00 0.15 0.16 0.89	Fair Depth to saturated zone	0.89	Fair Too sandy Depth to saturated zone	0.15 0.89
4110: Zellmont-----	70	Fair Depth to bedrock Droughty Too acid Low content of organic matter	0.71 0.78 0.88 0.95	Poor Depth to bedrock Shrink-swell	0.00 0.99	Fair Depth to bedrock Hard to reclaim	0.71 0.71
Poxmash-----	30	Poor Too sandy Low content of organic matter Too acid Droughty	0.00 0.00 0.74 0.79	Fair Depth to bedrock	0.68	Poor Too sandy Rock fragments Hard to reclaim	0.00 0.00 0.32
Aa: Albion-----	100	Poor Low content of organic matter Too sandy Too acid	0.00 0.00 0.95	Good		Poor Rock fragments Too sandy Hard to reclaim	0.00 0.00 0.68
Ab: Albion-----	100	Poor Low content of organic matter Too sandy Too acid	0.00 0.00 0.95	Good		Poor Rock fragments Too sandy Hard to reclaim	0.00 0.00 0.68
Ac: Albion-----	100	Poor Too sandy Low content of organic matter Too acid	0.00 0.00 0.95	Good		Poor Too sandy Rock fragments Hard to reclaim	0.00 0.00 0.68
Ad: Albion-----	100	Poor Low content of organic matter Too sandy Too acid	0.00 0.00 0.95	Good		Poor Rock fragments Too sandy Slope Hard to reclaim	0.00 0.00 0.63 0.68
AED: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ba: Blanket-----	100	Poor Low content of organic matter Too clayey Water erosion	0.00 0.00 0.90	Fair Shrink-swell	0.94	Poor Too Clayey	0.00
Bb: Blanket-----	100	Poor Low content of organic matter Too clayey Water erosion	0.00 0.00 0.90	Fair Shrink-swell	0.94	Poor Too Clayey	0.00
Bc: Blanket-----	100	Poor Low content of organic matter Too clayey Water erosion	0.00 0.00 0.90	Fair Shrink-swell	0.87	Poor Too Clayey	0.00
Ca: Canadian-----	100	Poor Low content of organic matter	0.00	Good		Good	
Cb: Carwile-----	100	Poor Low content of organic matter Too clayey Too acid No water erosion limitation	0.00 0.00 0.97 0.99	Poor Depth to saturated zone Shrink-swell	0.00 0.22	Poor Depth to saturated zone Too Clayey	0.00 0.00
Cc: Case-----	60	Poor Low content of organic matter	0.00	Fair Shrink-swell	0.87	Good	
Clark-----	40	Poor Low content of organic matter Carbonate content	0.00 0.68	Fair Shrink-swell	0.87	Fair Carbonate content	0.68
Cd: Case-----	60	Poor Low content of organic matter	0.00	Fair Shrink-swell	0.87	Fair Slope	0.63
Clark-----	40	Poor Low content of organic matter Carbonate content	0.00 0.68	Fair Shrink-swell	0.87	Fair Carbonate content	0.68
Ce: Clark-----	100	Poor Low content of organic matter Carbonate content	0.00 0.68	Fair Shrink-swell	0.87	Fair Carbonate content	0.68
Cf: Clark-----	100	Poor Low content of organic matter Carbonate content	0.00 0.68	Fair Shrink-swell	0.87	Fair Carbonate content	0.68
Da: Dillwyn-----	60	Poor Wind erosion Low content of organic matter Too sandy Droughty	0.00 0.00 0.36 0.79	Fair Depth to saturated zone	0.53	Fair Too sandy Depth to saturated zone	0.36 0.53
Plevna-----	40	Poor Low content of organic matter	0.00	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Fa: Farnum-----	100	Poor Low content of organic matter	0.00	Fair Shrink-swell	0.98	Good	
Fb: Farnum-----	100	Poor Low content of organic matter	0.00	Fair Shrink-swell	0.98	Good	
Fc: Farnum-----	100	Poor Low content of organic matter	0.00	Fair Shrink-swell	0.98	Good	
Fd: Farnum-----	100	Poor Low content of organic matter	0.00	Fair Shrink-swell	0.98	Good	
Fe: Farnum-----	100	Poor Low content of organic matter	0.00	Fair Shrink-swell	0.99	Good	
Ff: Farnum-----	60	Poor Low content of organic matter	0.00	Fair Shrink-swell	0.98	Good	
Natrustolls-----	40	Not rated		Not rated		Not rated	
Ka: Kaski-----	100	Good		Fair Shrink-swell	0.99	Good	
Kb: Kingman-----	100	Poor Low content of organic matter Too clayey	0.00 0.98	Poor Depth to saturated zone Shrink-swell	0.00 0.96	Poor Depth to saturated zone Too Clayey	0.00 0.49
La: Lincoln-----	100	Poor Wind erosion Droughty Low content of organic matter Too sandy	0.00 0.04 0.08 0.22	Good		Fair Too sandy	0.22
Ma: McLain-----	100	Poor Low content of organic matter Too clayey Water erosion	0.00 0.00 0.90	Fair Shrink-swell	0.23	Poor Too Clayey	0.00
Na: Nashville-----	100	Fair Depth to bedrock	0.35	Poor Depth to bedrock	0.00	Fair Depth to bedrock	0.35
Nb: Nashville-----	60	Fair Depth to bedrock	0.35	Poor Depth to bedrock	0.00	Fair Depth to bedrock Slope	0.35 0.96
Quinlan-----	40	Poor Depth to bedrock Droughty Low content of organic matter No water erosion limitation	0.00 0.00 0.50 0.99	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope	0.00 0.84

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Oa: Owens-----	100	Poor Droughty Low content of organic matter Depth to bedrock Too clayey	0.00 0.00 0.00 0.00	Poor Depth to bedrock Shrink-swell	0.00 0.12	Poor Depth to bedrock Too Clayey	0.00 0.00
Pa: Pond Creek-----	100	Poor Low content of organic matter Too acid No water erosion limitation	0.00 0.97 0.99	Fair Shrink-swell	0.87	Good	
Pb: Pratt-----	100	Poor Wind erosion Low content of organic matter Too sandy	0.00 0.00 0.00	Good		Poor Too sandy	0.00
Pc: Pratt-----	60	Poor Wind erosion Low content of organic matter Too sandy	0.00 0.00 0.00	Good		Poor Too sandy	0.00
Carwile-----	40	Poor Low content of organic matter Too clayey Too acid No water erosion limitation	0.00 0.00 0.97 0.99	Poor Depth to saturated zone Shrink-swell	0.00 0.22	Poor Depth to saturated zone Too Clayey	0.00 0.00
Pd: Pratt-----	50	Poor Wind erosion Low content of organic matter Too sandy	0.00 0.00 0.00	Good		Poor Too sandy Slope	0.00 0.96
Tivoli-----	50	Poor Too sandy Wind erosion Low content of organic matter Droughty	0.00 0.00 0.00 0.03	Good		Poor Too sandy Slope	0.00 0.84
Qa: Quinlan-----	100	Poor Depth to bedrock Droughty Low content of organic matter No water erosion limitation	0.00 0.00 0.50 0.99	Poor Depth to bedrock	0.00	Poor Depth to bedrock	0.00
Qb: Quinlan-----	100	Poor Depth to bedrock Droughty Low content of organic matter No water erosion limitation	0.00 0.00 0.50 0.99	Poor Depth to bedrock	0.00	Poor Depth to bedrock	0.00
Ra: Renfrow-----	100	Poor Low content of organic matter Too clayey Water erosion	0.00 0.00 0.90	Fair Shrink-swell	0.15	Poor Too Clayey	0.00

CONSTRUCTION MATERIALS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rb: Ruella-----	100	Poor Droughty Depth to bedrock Too clayey	0.00 0.00 0.98	Poor Depth to bedrock	0.00	Poor Depth to bedrock Too Clayey	0.00 0.86
Rc: Ruella-----	60	Poor Droughty Depth to bedrock Too clayey	0.00 0.00 0.98	Poor Depth to bedrock	0.00	Poor Depth to bedrock Too Clayey	0.00 0.86
Rock Outcrop-----	40	Not rated		Not rated		Not rated	
Sa: Shellabarger-----	100	Poor Wind erosion Low content of organic matter Too acid	0.00 0.00 0.84	Good		Good	
Sb: Shellabarger-----	100	Poor Low content of organic matter Too acid	0.00 0.84	Good		Good	
Sc: Shellabarger-----	100	Poor Low content of organic matter Too acid	0.00 0.84	Good		Good	
Sd: Shellabarger-----	100	Poor Low content of organic matter Too acid	0.00 0.84	Good		Good	
Ta: Tivoli-----	100	Poor Too sandy Wind erosion Low content of organic matter Droughty	0.00 0.00 0.00 0.00	Fair Slope	0.50	Poor Too sandy Slope	0.00 0.00
W: Water-----	100	Not rated		Not rated		Not rated	
Wa: Waldeck-----	100	Poor Low content of organic matter	0.00	Good		Good	
Za: Zenda-----	100	Poor Low content of organic matter	0.00	Fair Shrink-swell	0.87	Good	

RECREATIONAL INTERPRETATIONS
Kingman County, Kansas

Recreation

The soils of the survey area are rated in the following tables according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in this table can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas.

The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

RECREATIONAL INTERPRETATIONS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
007AE: Albion-----	55	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope Gravel content	1.00 0.06
Shellabarger-----	45	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
007FA: Farnum-----	100	Not limited		Not limited		Not limited	
077KA: Kanza-----	100	Very limited Flooding Depth to saturated zone Too sandy	1.00 1.00 0.92	Somewhat limited Too sandy Depth to saturated zone Flooding	0.92 0.75 0.40	Very limited Flooding Depth to saturated zone Too sandy	1.00 1.00 0.92
077KR: Kirkland-----	70	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability Slope	0.45 0.00
Renfrow-----	30	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability Slope	0.45 0.00
077NN: Nashville-----	100	Not limited		Not limited		Somewhat limited Slope Depth to bedrock	0.87 0.46
077PC: Pond Creek-----	100	Not limited		Not limited		Not limited	
077RC: Renfrow-----	65	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability Slope	0.45 0.00
Vernon-----	35	Very limited Sodium content Restricted permeability	1.00 0.45	Very limited Sodium content Restricted permeability	1.00 0.45	Very limited Sodium content Restricted permeability Slope	1.00 0.45 0.00
077SB: Shellabarger-----	100	Not limited		Not limited		Not limited	
077SE: Shellabarger-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
077SF: Shellabarger-----	100	Not limited		Not limited		Somewhat limited Slope	0.87
077SG: Shellabarger-----	100	Not limited		Not limited		Somewhat limited Slope	0.87
077SH: Shellabarger-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
151AO: Albion-----	100	Not limited		Not limited		Somewhat limited Slope Gravel content	0.87 0.06
151CN: Clark-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
151CO: Clark-----	70	Not limited		Not limited		Not limited	
Ost-----	30	Not limited		Not limited		Not limited	
151KP: Kanza-----	50	Very limited Flooding Depth to saturated zone Too sandy	1.00 1.00 0.92	Somewhat limited Too sandy Depth to saturated zone Flooding	0.92 0.75 0.40	Very limited Flooding Depth to saturated zone Too sandy	1.00 1.00 0.92
Plevna-----	50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
151ND: Naron-----	100	Not limited		Not limited		Not limited	
151NF: Naron-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
151OC: Ost-----	100	Not limited		Not limited		Not limited	

RECREATIONAL INTERPRETATIONS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151OS: Ost-----	100	Not limited		Not limited		Somewhat limited Slope	0.13
151PN: Pratt-----	100	Somewhat limited Too sandy Slope	0.37 0.16	Somewhat limited Too sandy Slope	0.37 0.16	Very limited Slope Too sandy	1.00 0.37
151SE: Shellabarger-----	100	Not limited		Not limited		Somewhat limited Slope	0.13
151ZS: Drummond-----	50	Very limited Salinity Restricted permeability	1.00 0.45	Very limited Salinity Restricted permeability	1.00 0.45	Very limited Salinity Restricted permeability	1.00 0.45
Zenda-----	50	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
173MA: Milan-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
173PB: Plevna-----	100	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
173RA: Renfrow-----	100	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability Slope	0.45 0.00
173RC: Renfrow-----	65	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability Slope	0.45 0.13
Wellsford-----	35	Very limited Depth to bedrock Restricted permeability	1.00 0.45	Very limited Depth to bedrock Restricted permeability	1.00 0.45	Very limited Depth to bedrock Restricted permeability Slope	1.00 0.45 0.13
173TA: Tabler-----	100	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability	0.45
191RA: Renfrow-----	70	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability Slope	0.45 0.00
Grainola-----	30	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability Content of large stones Slope	0.39 0.03 0.00
990: Abbyville-----	95	Very limited Sodium content Restricted permeability	1.00 0.39	Very limited Sodium content Restricted permeability	1.00 0.39	Very limited Sodium content Restricted permeability	1.00 0.39
991: Abbyville, rarely flooded-----	45	Very limited Sodium content Flooding Restricted permeability	1.00 1.00 0.39	Very limited Sodium content Restricted permeability	1.00 0.39	Very limited Sodium content Restricted permeability	1.00 0.39
Kisiwa, occasionally flooded-----	40	Very limited Depth to saturated zone Sodium content Flooding Ponding Restricted permeability	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Sodium content Restricted permeability	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Sodium content Ponding Restricted permeability Flooding	1.00 1.00 1.00 1.00 0.60
1004: Albion-----	90	Somewhat limited		Somewhat limited		Somewhat limited	

RECREATIONAL INTERPRETATIONS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1005: Albion-----	75	Too sandy	0.02	Too sandy	0.02	Gravel content Too sandy	0.06 0.02
		Somewhat limited Too sandy	0.02	Somewhat limited Too sandy	0.02	Somewhat limited Slope Gravel content Too sandy	0.13 0.06 0.02
1006: Albion-----	100	Somewhat limited Too sandy	0.02	Somewhat limited Too sandy	0.02	Somewhat limited Slope Gravel content Too sandy	0.87 0.06 0.02
1011: Albion-----	70	Somewhat limited Too sandy	0.02	Somewhat limited Too sandy	0.02	Somewhat limited Slope Gravel content Too sandy	0.13 0.06 0.02
Shellabarger-----	30	Not limited		Not limited		Somewhat limited Slope	0.00
1017: Shellabarger, Eroded	40	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Albion-----	45	Somewhat limited Slope Too sandy	0.16 0.02	Somewhat limited Slope Too sandy	0.16 0.02	Very limited Slope Gravel content Too sandy	1.00 0.06 0.02
1061: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
1359: Clark-----	70	Not limited		Not limited		Somewhat limited Slope	0.50
Ost-----	30	Not limited		Not limited		Somewhat limited Slope	0.87
1555: Dillhut-----	35	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 0.00
Plev-----	35	Very limited Depth to saturated zone Too sandy	1.00 0.94	Very limited Depth to saturated zone Too sandy	1.00 0.94	Very limited Depth to saturated zone Too sandy	1.00 0.94
1728: Farnum-----	40	Not limited		Not limited		Somewhat limited Slope	0.13
Funmar-----	40	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability Slope	0.39 0.13
2205: Jamash-----	60	Very limited Depth to bedrock Restricted permeability	1.00 0.45	Very limited Depth to bedrock Restricted permeability	1.00 0.45	Very limited Depth to bedrock Restricted permeability Slope	1.00 0.45 0.00
Piedmont-----	40	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability Slope	0.45 0.00
2381: Kanza-----	50	Very limited Flooding	1.00	Somewhat limited Depth to saturated zone Flooding	0.75 0.40	Very limited Flooding	1.00
Ninnescah-----	50	Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.19	Depth to saturated zone	1.00
		Very limited Flooding	1.00			Somewhat limited Flooding	0.60
		Depth to saturated zone	0.44			Depth to saturated zone	0.44
2390: Kaskan-----	85	Very limited Flooding	1.00	Not limited		Not limited	
2556: Langdon-----	50	Very limited Too sandy Slope	1.00 0.00	Very limited Too sandy Slope	1.00 0.00	Very limited Too sandy Slope	1.00 1.00
2812: Mahone-----	95	Very limited Flooding Too sandy	1.00 0.11	Somewhat limited Too sandy	0.11	Somewhat limited Too sandy	0.11

RECREATIONAL INTERPRETATIONS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2948: Nalim-----	80	Not limited		Not limited		Not limited	
3051: Ost-----	90	Not limited		Not limited		Not limited	
3052: Ost-----	55	Not limited		Not limited		Somewhat limited Slope	0.00
Clark-----	45	Not limited		Not limited		Somewhat limited Slope	0.00
3170: Penalosa-----	100	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability	0.39
3171: Penalosa-----	100	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability	0.39
3180: Pratt-----	85	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 1.00
3181: Pratt-----	45	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 0.13
Turon-----	30	Somewhat limited Too sandy	0.98	Somewhat limited Too sandy	0.98	Somewhat limited Too sandy Slope	0.98 0.13
3445: Shellabarger, Moderately Eroded--	100	Not limited		Not limited		Somewhat limited Slope	0.50
3510: Saltcreek-----	50	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability Slope	0.39 0.00
Funmar-----	30	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability	0.39
Farnum-----	20	Not limited		Not limited		Not limited	
3530: Shellabarger, Eroded	45	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
Albion-----	40	Somewhat limited Slope Too sandy	0.16 0.02	Somewhat limited Slope Too sandy	0.16 0.02	Very limited Slope Gravel content Too sandy	1.00 0.06 0.02
3531: Shellabarger, Moderately Eroded--	50	Not limited		Not limited		Somewhat limited Slope	0.50
Nalim-----	50	Not limited		Not limited		Somewhat limited Slope	0.50
3532: Shellabarger-----	80	Somewhat limited Too sandy	0.82	Somewhat limited Too sandy	0.82	Somewhat limited Too sandy Slope	0.82 0.00
3533: Shellabarger-----	85	Not limited		Not limited		Not limited	
3534: Shellabarger-----	85	Not limited		Not limited		Somewhat limited Slope	0.00
3535: Shellabarger-----	55	Not limited		Not limited		Somewhat limited Slope	0.00
Nalim-----	45	Not limited		Not limited		Somewhat limited Slope	0.00
3926: Water-----	100	Not rated		Not rated		Not rated	
3966: Willowbrook-----	90	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
4005: Yaggy-----	60	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Saxman-----	30	Very limited Flooding Too sandy	1.00 0.39	Somewhat limited Too sandy	0.39	Somewhat limited Too sandy	0.39

RECREATIONAL INTERPRETATIONS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4110: Zellmont----- Poxmash-----	70 30	Not limited Somewhat limited Too sandy	0.04	Not limited Somewhat limited Too sandy	0.04	Not limited Somewhat limited Gravel content Too sandy	0.06 0.04
Aa: Albion-----	100	Not limited		Not limited		Somewhat limited Gravel content	0.06
Ab: Albion-----	100	Not limited		Not limited		Somewhat limited Gravel content Slope	0.06 0.00
Ac: Albion-----	100	Not limited		Not limited		Somewhat limited Slope Gravel content	0.87 0.06
Ad: Albion-----	100	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope Gravel content	1.00 0.06
AED: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
Ba: Blanket-----	100	Not limited		Not limited		Not limited	
Bb: Blanket-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
Bc: Blanket-----	100	Not limited		Not limited		Somewhat limited Slope	0.13
Ca: Canadian-----	100	Very limited Flooding	1.00	Not limited		Not limited	
Cb: Carwile-----	100	Very limited Depth to saturated zone Restricted permeability	1.00 0.94	Very limited Depth to saturated zone Restricted permeability	1.00 0.94	Very limited Depth to saturated zone Restricted permeability	1.00 0.94
Cc: Case-----	60	Not limited		Not limited		Somewhat limited Slope	0.50
Clark-----	40	Not limited		Not limited		Somewhat limited Slope	0.50
Cd: Case-----	60	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope Very limited Slope	1.00 1.00
Clark-----	40	Not limited		Not limited		Very limited Slope	1.00
Ce: Clark-----	100	Not limited		Not limited		Not limited	
Cf: Clark-----	100	Not limited		Not limited		Somewhat limited Slope	0.13
Da: Dillwyn-----	60	Somewhat limited Depth to saturated zone Too sandy	0.44 0.37	Somewhat limited Too sandy Depth to saturated zone	0.37 0.19	Somewhat limited Depth to saturated zone Too sandy	0.44 0.37
Plevna-----	40	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
Fa: Farnum-----	100	Not limited		Not limited		Not limited	
Fb: Farnum-----	100	Not limited		Not limited		Not limited	
Fc: Farnum-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
Fd: Farnum-----	100	Not limited		Not limited		Somewhat limited Slope	0.87
Fe: Farnum-----	100	Not limited		Not limited		Somewhat limited Slope	0.50
Ff: Farnum-----	60	Not limited		Not limited		Not limited	

RECREATIONAL INTERPRETATIONS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Natrustolls-----	40	Not rated		Not rated		Not rated	
Ka: Kaski-----	100	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Kb: Kingman-----	100	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Restricted permeability	0.15	Flooding	0.60
		Restricted permeability	0.15			Restricted permeability	0.15
La: Lincoln-----	100	Very limited Flooding Too sandy	1.00 0.79	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy Flooding	0.79 0.60
Ma: Mclain-----	100	Very limited Flooding	1.00	Somewhat limited Restricted permeability	0.39	Somewhat limited Restricted permeability	0.39
		Restricted permeability	0.39				
Na: Nashville-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
Nb: Nashville-----	60	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
						Depth to bedrock	0.65
Quinlan-----	40	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to bedrock Slope	1.00 1.00
Oa: Owens-----	100	Very limited Depth to bedrock Restricted permeability	1.00 0.45	Very limited Depth to bedrock Restricted permeability	1.00 0.45	Very limited Depth to bedrock Restricted permeability Slope	1.00 0.45 0.13
Pa: Pond Creek-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
Pb: Pratt-----	100	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Very limited Slope Too sandy	1.00 0.37
Pc: Pratt-----	60	Somewhat limited Too sandy	0.37	Somewhat limited Too sandy	0.37	Somewhat limited Slope Too sandy	0.50 0.37
Carwile-----	40	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Restricted permeability	0.94
Pd: Pratt-----	50	Somewhat limited Too sandy Slope	0.37 0.04	Somewhat limited Too sandy Slope	0.37 0.04	Very limited Slope Too sandy	1.00 0.37
Tivoli-----	50	Somewhat limited Too sandy Slope	0.92 0.16	Somewhat limited Too sandy Slope	0.92 0.16	Very limited Slope Too sandy	1.00 0.92
Qa: Quinlan-----	100	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.00
Qb: Quinlan-----	100	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.50
Ra: Renfrow-----	100	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability	0.45	Somewhat limited Restricted permeability Slope	0.45 0.00
Rb: Ruella-----	100	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.13
Rc: Ruella-----	60	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00

RECREATIONAL INTERPRETATIONS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rock Outcrop-----	40	Not rated		Not rated		Slope Not rated	0.87
Sa: Shellabarger-----	100	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.00
Sb: Shellabarger-----	100	Not limited		Not limited		Somewhat limited Slope	0.00
Sc: Shellabarger-----	100	Not limited		Not limited		Somewhat limited Slope	0.87
Sd: Shellabarger-----	100	Not limited		Not limited		Somewhat limited Slope	0.87
Ta: Tivoli-----	100	Very limited Too sandy Slope	1.00 1.00	Very limited Too sandy Slope	1.00 1.00	Very limited Slope Too sandy	1.00 1.00
W: Water-----	100	Not rated		Not rated		Not rated	
Wa: Waldeck-----	100	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Za: Zenda-----	100	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60

RECREATIONAL INTERPRETATIONS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
007AE: Albion-----	55	Not limited		Somewhat limited Slope	0.16
Shellabarger-----	45	Not limited		Somewhat limited Slope	0.16
007FA: Farnum-----	100	Not limited		Not limited	
077KA: Kanza-----	100	Somewhat limited Too sandy Depth to saturated zone Flooding	0.92 0.44 0.40	Very limited Flooding Depth to saturated zone Droughty	1.00 0.75 0.04
077KR: Kirkland-----	70	Not limited		Not limited	
Renfrow-----	30	Not limited		Not limited	
077NN: Nashville-----	100	Not limited		Somewhat limited Depth to bedrock	0.46
077PC: Pond Creek-----	100	Not limited		Not limited	
077RC: Renfrow-----	65	Not limited		Not limited	
Vernon-----	35	Not limited		Very limited Sodium content Depth to bedrock Droughty	1.00 0.29 0.15
077SB: Shellabarger-----	100	Not limited		Not limited	
077SE: Shellabarger-----	100	Not limited		Not limited	
077SF: Shellabarger-----	100	Not limited		Not limited	
077SG: Shellabarger-----	100	Not limited		Not limited	
077SH: Shellabarger-----	100	Not limited		Somewhat limited Depth to bedrock	0.00
151AO: Albion-----	100	Not limited		Not limited	
151CN: Clark-----	100	Not limited		Not limited	
151CO: Clark-----	70	Not limited		Not limited	
Ost-----	30	Not limited		Not limited	
151KP: Kanza-----	50	Somewhat limited Too sandy Depth to saturated zone Flooding	0.92 0.44 0.40	Very limited Flooding Depth to saturated zone Droughty	1.00 0.75 0.02
Plevna-----	50	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
151ND: Naron-----	100	Not limited		Not limited	
151NF: Naron-----	100	Not limited		Not limited	
151OC: Ost-----	100	Not limited		Not limited	
151OS: Ost-----	100	Not limited		Not limited	
151PN: Pratt-----	100	Somewhat limited Too sandy	0.37	Somewhat limited Slope	0.16
151SE: Shellabarger-----	100	Not limited		Not limited	
151ZS: Drummond-----	50	Not limited		Very limited Salinity Droughty	1.00 0.68
Zenda-----	50	Not limited		Somewhat limited Flooding	0.60
173MA: Milan-----	100	Not limited		Not limited	
173PB: Plevna-----	100	Very limited Depth to saturated zone	1.00	Very limited Flooding	1.00

RECREATIONAL INTERPRETATIONS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
		Flooding	0.40	Depth to saturated zone	1.00
173RA: Renfrow-----	100	Not limited		Not limited	
173RC: Renfrow-----	65	Not limited		Not limited	
Wellsford-----	35	Not limited		Very limited	
				Depth to bedrock	1.00
				Droughty	1.00
173TA: Tabler-----	100	Not limited		Not limited	
191RA: Renfrow-----	70	Not limited		Not limited	
Grainola-----	30	Not limited		Somewhat limited	
				Depth to bedrock	0.06
				Content of large stones	0.03
990: Abbyville-----	95	Not limited		Very limited	
				Sodium content	1.00
991: Abbyville, rarely flooded-----	45	Not limited		Very limited	
				Sodium content	1.00
Kisiwa, occasionally flooded-----	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Sodium content	1.00
				Depth to saturated zone	1.00
				Flooding	0.60
1004: Albion-----	90	Somewhat limited Too sandy	0.02	Not limited	
1005: Albion-----	75	Somewhat limited Too sandy	0.02	Not limited	
1006: Albion-----	100	Somewhat limited Too sandy	0.02	Not limited	
1011: Albion-----	70	Somewhat limited Too sandy	0.02	Not limited	
Shellabarger-----	30	Not limited		Not limited	
1017: Shellabarger, Eroded	40	Not limited		Somewhat limited Slope	0.16
Albion-----	45	Somewhat limited Too sandy	0.02	Somewhat limited Slope	0.16
1061: Arents, Earthen Dam-	100	Not rated		Not rated	
1359: Clark-----	70	Not limited		Not limited	
Ost-----	30	Not limited		Not limited	
1555: Dillhut-----	35	Very limited Too sandy	1.00	Somewhat limited Droughty	0.15
Plev-----	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Too sandy	0.94	Droughty	0.92
1728: Farnum-----	40	Not limited		Not limited	
Funmar-----	40	Not limited		Not limited	
2205: Jamash-----	60	Not limited		Very limited Depth to bedrock	1.00
				Droughty	0.86
Piedmont-----	40	Not limited		Somewhat limited Depth to bedrock	0.29
2381: Kanza-----	50	Somewhat limited Depth to saturated zone	0.44	Very limited Flooding	1.00
		Flooding	0.40	Depth to saturated zone	0.75
				Droughty	0.00
Ninnescah-----	50	Not limited		Somewhat limited	

RECREATIONAL INTERPRETATIONS--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
				Flooding Depth to saturated zone	0.60 0.19
2390: Kaskan-----	85	Not limited		Not limited	
2556: Langdon-----	50	Very limited Too sandy	1.00	Somewhat limited Droughty Slope	0.97 0.00
2812: Mahone-----	95	Somewhat limited Too sandy	0.11	Not limited	
2948: Nalim-----	80	Not limited		Not limited	
3051: Ost-----	90	Not limited		Not limited	
3052: Ost-----	55	Not limited		Not limited	
Clark-----	45	Not limited		Not limited	
3170: Penalosa-----	100	Not limited		Not limited	
3171: Penalosa-----	100	Not limited		Not limited	
3180: Pratt-----	85	Very limited Too sandy	1.00	Not limited	
3181: Pratt-----	45	Very limited Too sandy	1.00	Not limited	
Turon-----	30	Somewhat limited Too sandy	0.98	Not limited	
3445: Shellabarger, Moderately Eroded--	100	Not limited		Not limited	
3510: Saltcreek-----	50	Not limited		Not limited	
Funmar-----	30	Not limited		Not limited	
Farnum-----	20	Not limited		Not limited	
3530: Shellabarger, Eroded	45	Not limited		Somewhat limited Slope	0.16
Albion-----	40	Somewhat limited Too sandy	0.02	Somewhat limited Slope	0.16
3531: Shellabarger, Moderately Eroded--	50	Not limited		Not limited	
Nalim-----	50	Not limited		Not limited	
3532: Shellabarger-----	80	Somewhat limited Too sandy	0.82	Not limited	
3533: Shellabarger-----	85	Not limited		Not limited	
3534: Shellabarger-----	85	Not limited		Not limited	
3535: Shellabarger-----	55	Not limited		Not limited	
Nalim-----	45	Not limited		Not limited	
3926: Water-----	100	Not rated		Not rated	
3966: Willowbrook-----	90	Not limited		Somewhat limited Flooding	0.60
4005: Yaggy-----	60	Not limited		Somewhat limited Flooding Droughty	0.60 0.04
Saxman-----	30	Somewhat limited Too sandy	0.39	Somewhat limited Droughty	0.15
4110: Zellmont-----	70	Not limited		Somewhat limited Depth to bedrock	0.29
Poxmash-----	30	Somewhat limited Too sandy	0.04	Not limited	
Aa: Albion-----	100	Not limited		Not limited	
Ab: Albion-----	100	Not limited		Not limited	
Ac: Albion-----	100	Not limited		Not limited	

RECREATIONAL INTERPRETATIONS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Ad: Albion-----	100	Not limited		Somewhat limited Slope	0.37
AED: Arents, Earthen Dam-	100	Not rated		Not rated	
Ba: Blanket-----	100	Not limited		Not limited	
Bb: Blanket-----	100	Not limited		Not limited	
Bc: Blanket-----	100	Not limited		Not limited	
Ca: Canadian-----	100	Not limited		Not limited	
Ch: Carwile-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Cc: Case-----	60	Not limited		Not limited	
Clark-----	40	Not limited		Not limited	
Cd: Case-----	60	Not limited		Somewhat limited Slope	0.37
Clark-----	40	Not limited		Not limited	
Ce: Clark-----	100	Not limited		Not limited	
Cf: Clark-----	100	Not limited		Not limited	
Da: Dillwyn-----	60	Somewhat limited Too sandy	0.37	Somewhat limited Droughty Depth to saturated zone	0.22 0.19
Plevna-----	40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
Fa: Farnum-----	100	Not limited		Not limited	
Fb: Farnum-----	100	Not limited		Not limited	
Fc: Farnum-----	100	Not limited		Not limited	
Fd: Farnum-----	100	Not limited		Not limited	
Fe: Farnum-----	100	Not limited		Not limited	
Ff: Farnum-----	60	Not limited		Not limited	
Natrustolls-----	40	Not rated		Not rated	
Ka: Kaski-----	100	Not limited		Somewhat limited Flooding	0.60
Kb: Kingman-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
La: Lincoln-----	100	Somewhat limited Too sandy	0.79	Somewhat limited Droughty Flooding	0.92 0.60
Ma: Mclain-----	100	Not limited		Not limited	
Na: Nashville-----	100	Not limited		Somewhat limited Depth to bedrock	0.65
Nb: Nashville-----	60	Not limited		Somewhat limited Depth to bedrock Slope	0.65 0.04
Quinlan-----	40	Not limited		Very limited Depth to bedrock Droughty Slope	1.00 0.87 0.16
Oa: Owens-----	100	Not limited		Very limited Depth to bedrock	1.00

RECREATIONAL INTERPRETATIONS--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Paths and trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Pa: Pond Creek-----	100	Not limited		Droughty	1.00
Pb: Pratt-----	100	Somewhat limited Too sandy	0.37	Not limited	
Pc: Pratt-----	60	Somewhat limited Too sandy	0.37	Not limited	
Carwile-----	40	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Pd: Pratt-----	50	Somewhat limited Too sandy	0.37	Somewhat limited Slope	0.04
Tivoli-----	50	Somewhat limited Too sandy	0.92	Somewhat limited Droughty Slope	0.95 0.16
Qa: Quinlan-----	100	Not limited		Very limited Depth to bedrock Droughty	1.00 0.87
Qb: Quinlan-----	100	Not limited		Very limited Depth to bedrock Droughty	1.00 0.87
Ra: Renfrow-----	100	Not limited		Not limited	
Rb: Ruella-----	100	Not limited		Very limited Depth to bedrock Droughty	1.00 1.00
Rc: Ruella-----	60	Not limited		Very limited Depth to bedrock Droughty	1.00 1.00
Rock Outcrop-----	40	Not rated		Not rated	
Sa: Shellabarger-----	100	Somewhat limited Too sandy	0.81	Not limited	
Sb: Shellabarger-----	100	Not limited		Not limited	
Sc: Shellabarger-----	100	Not limited		Not limited	
Sd: Shellabarger-----	100	Not limited		Not limited	
Ta: Tivoli-----	100	Very limited Too sandy Slope	1.00 0.50	Very limited Slope Droughty	1.00 1.00
W: Water-----	100	Not rated		Not rated	
Wa: Waldeck-----	100	Not limited		Somewhat limited Flooding	0.60
Za: Zenda-----	100	Not limited		Somewhat limited Flooding	0.60

WILDLIFE INTERPRETATIONS
Kingman County, Kansas

Use and Explanation of Wildlife Interpretations

Soils directly affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the development of water impoundments. The kind and abundance of wildlife that populate an area depend largely on the amount and distribution of food, cover, water, and living space. If any one of these elements is missing, inadequate, or inaccessible, wildlife will be scarce or will not inhabit the area. If the soils have the potential, wildlife habitat can be created or improved by planting appropriate vegetation, properly managing the existing plant cover, and fostering the natural establishment of desirable plants.

In the Wildlife Interpretations table, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

Suitability Ratings

The potential of the soil is rated good, fair, poor, or very poor.

Good - means that the element of wildlife habitat or the kind of habitat is easily created, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected if the soil is used for the designated purpose.

Fair - means that the element of wildlife habitat or kind of habitat can be created, improved, or maintained in most places. Moderately intensive management is required for satisfactory results.

Poor - means that limitations are severe for the designated element or kind of wildlife habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and requires intensive effort.

Very Poor - means that limitations are very severe for the designated element or kind of wildlife habitat. Habitat is difficult to create, improve, or maintain in most places, and management is difficult and requires intensive effort.

Description of Wildlife Habitat Elements

Openland habitat consists of croplands, pastures, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The kind of wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, killdeer, cottontail rabbit, red fox, and coyote.

Woodland habitat consists of hardwood or conifers, or a mixture of these and associated grasses, legumes and wild herbaceous plants. Examples of wildlife attracted to this habitat are wild turkey, thrushes, woodpeckers, owl, tree squirrels, raccoon, and deer.

Wetland habitat consists of water-tolerant plants in open, marshy or swampy, shallow water areas. Examples of wildlife attracted to this habitat are ducks, geese, herons, bitterns, rails, kingfishers, shorebirds, muskrat, mink, and beaver.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated good are Russian-olive, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Shrubs are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs are depth of the root zone, available water capacity, salinity, and soil moisture. Examples of shrubs are fragrant sumac, chokecherry, American plum, sand plum, and gorden currant.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, saltgrass, cordgrass, rushes, sedges, and cattails.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, red fox and coyote.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Habitat for rangeland wildlife consists of areas of shrubs and wild herbaceous plants. Wildlife attracted to rangeland include antelope, deer, cottontail rabbit, prairie chicken, meadowlark, quail, and pheasant.

WILDLIFE INTERPRETATIONS
Kingman County, Kansas

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
007AE: ALBION-----	Poor	Fair	Fair	---	---	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
SHELLABARGER----	Poor	Fair	Good	---	---	Good	Very poor	Very poor	Fair	---	Very poor	Good
007FA: FARNUM-----	Good	Good	Good	---	---	Good	Poor	Poor	Good	---	Poor	Good
077KA: KANZA-----	Very poor	Poor	Fair	---	---	Fair	Fair	Fair	Poor	---	Fair	Fair
077KR: KIRKLAND-----	Good	Good	Good	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
RENFROW-----	Good	Good	Fair	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
077NN: NASHVILLE-----	Fair	Good	Good	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
077PC: POND CREEK-----	Good	Good	Good	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
077RC: RENFROW-----	Good	Good	Fair	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
VERNON-----	Fair	Fair	Fair	---	---	Fair	Poor	Very poor	Fair	---	Very poor	Fair
077SB: SHELLABARGER----	Good	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
077SE: SHELLABARGER----	Good	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
077SF: SHELLABARGER----	Fair	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
077SG: SHELLABARGER----	Fair	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
077SH: SHELLABARGER----	Good	Good	Good	---	---	Good	Very poor	Very poor	Good	---	Very poor	Good
151AO: ALBION-----	Fair	Good	Fair	---	---	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
151CN: CLARK-----	Fair	Good	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	---	Very poor	Fair
151CO: CLARK-----	Good	Good	Fair	Fair	Fair	Fair	Poor	Very poor	Good	---	Very poor	Fair
OST-----	Good	Good	Fair	---	---	Fair	Poor	Poor	Good	---	Poor	Fair
151KP: KANZA-----	Very poor	Poor	Fair	---	---	Fair	Fair	Fair	Poor	---	Fair	Fair
PLEVNA-----	Poor	Fair	Fair	---	---	Fair	Good	Good	Fair	---	Good	Fair
151ND: NARON-----	Good	Good	Good	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
151NF: NARON-----	Good	Good	Good	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair

WILDLIFE INTERPRETATIONS--Continued
Kingman County, Kansas

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
151OC: OST-----	Good	Good	Fair	---	---	Fair	Poor	Poor	Good	---	Poor	Fair
151OS: OST-----	Good	Good	Fair	---	---	Fair	Poor	Poor	Good	---	Poor	Fair
151PN: PRATT-----	Fair	Good	Fair	---	---	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
151SE: SHELLABARGER----	Good	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
151ZS: DRUMMOND-----	Poor	Fair	Fair	---	Poor	Poor	Fair	Fair	Fair	---	Fair	Poor
ZENDA-----	Fair	Good	Good	---	---	Good	Fair	Fair	Good	---	Fair	Good
173MA: MILAN-----	Good	Good	Good	---	---	Fair	Fair	Poor	Good	---	Poor	Fair
173PB: PLEVNA-----	Poor	Fair	Fair	---	---	Fair	Good	Good	Fair	---	Good	Fair
173RA: RENFROW-----	Good	Good	Fair	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
173RC: RENFROW-----	Good	Good	Fair	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
WELLSFORD-----	Poor	Poor	Good	Very poor	Very poor	---	Very poor	Very poor	Poor	Very poor	Very poor	Good
173TA: TABLER-----	Good	Good	Fair	---	---	Fair	Poor	Poor	Good	---	Poor	Fair
191RA: RENFROW-----	Good	Good	Fair	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
GRAINOLA-----	Fair	Good	Fair	---	---	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
990: ABBYVILLE-----	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Fair	Poor	Poor	Poor	Poor
991: ABBYVILLE-----	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Fair	Poor	Poor	Poor	Poor
KISIWA-----	Poor	Fair	Poor	Fair	Fair	Very poor	Good	Good	Fair	Fair	Good	Poor
1004: ALBION-----	Fair	Good	Fair	Poor	Poor	Fair	Very poor	Very poor	Fair	Poor	Very poor	Fair
1005: ALBION-----	Fair	Good	Fair	Poor	Poor	Fair	Very poor	Very poor	Fair	Poor	Very poor	Fair
1006: ALBION-----	Fair	Good	Fair	Poor	Poor	Fair	Very poor	Very poor	Fair	Poor	Very poor	Fair
1011: ALBION-----	Fair	Good	Fair	Poor	Poor	Fair	Very poor	Very poor	Fair	Poor	Very poor	Fair
SHELLABARGER----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good
1017: SHELLABARGER----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good
ALBION-----	Fair	Good	Fair	Poor	Poor	Fair	Very poor	Very poor	Fair	Poor	Very poor	Fair
1061: ARENTS, EARTHEN DAM-----	---	---	---	---	---	---	---	---	---	---	---	---

WILDLIFE INTERPRETATIONS--Continued
Kingman County, Kansas

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
1359: CLARK-----	Good	Good	Fair	Fair	Fair	Fair	Poor	Very poor	Good	Good	Very poor	Fair
OST-----	Good	Good	Fair	Fair	Fair	Fair	Poor	Poor	Good	Fair	Poor	Fair
1555: DILLHUT-----	Fair	Good	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor	Fair
PLEV-----	Fair	Good	Good	Good	Good	Good	Good	Fair	Good	Good	Fair	Good
1728: FARNUM-----	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor	Good
FUNMAR-----	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor	Good
2205: JAMASH-----	Fair	Good	Fair	Poor	Fair	Poor	Poor	Very poor	Fair	Poor	Very poor	Poor
PIEDMONT-----	Fair	Good	Fair	Good	Good	Poor	Poor	Very poor	Fair	Good	Very poor	Poor
2381: KANZA-----	Very poor	Poor	Fair	Fair	Fair	Fair	Good	Good	Poor	Good	Good	Fair
NINNESCAH-----	Poor	Fair	Fair	Fair	Poor	Fair	Good	Good	Fair	Fair	Good	Fair
2390: KASKAN-----	Good	Good	Good	Good	Fair	Good	Fair	Good	Good	Good	Fair	Poor
2556: LANGDON-----	Poor	Poor	Fair	Good	Fair	Poor	Very poor	Very poor	Poor	Poor	Very poor	Poor
2812: MAHONE-----	Good	Good	Good	Good	Good	Good	Fair	Good	Good	Good	Fair	Poor
2948: NALIM-----	Good	Good	Good	Good	Good	Fair	Fair	Poor	Good	Good	Poor	Fair
3051: OST-----	Good	Good	Fair	Fair	Fair	Fair	Poor	Poor	Good	Fair	Poor	Fair
3052: OST-----	Good	Good	Fair	Fair	Fair	Fair	Poor	Poor	Good	Fair	Poor	Fair
CLARK-----	Good	Good	Fair	Fair	Fair	Fair	Poor	Very poor	Good	Good	Very poor	Fair
3170: PENALOSA-----	Good	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor	Good
3171: PENALOSA-----	Good	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor	Good
3180: PRATT-----	Fair	Good	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Poor	Very poor	Fair
3181: PRATT-----	Fair	Good	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Poor	Very poor	Fair
TURON-----	Fair	Good	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Poor	Very poor	Fair
3445: SHELLABARGER----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good
3510: SALTCREEK-----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Fair
FUNMAR-----	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor	Good
FARNUM-----	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor	Good
3530: SHELLABARGER----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good

WILDLIFE INTERPRETATIONS--Continued
Kingman County, Kansas

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
ALBION-----	Fair	Good	Fair	Poor	Poor	Fair	Very poor	Very poor	Fair	Poor	Very poor	Fair
3531: SHELLABARGER----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good
NALIM-----	Good	Good	Good	Good	Good	Fair	Fair	Poor	Good	Good	Poor	Fair
3532: SHELLABARGER----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good
3533: SHELLABARGER----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good
3534: SHELLABARGER----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good
3535: SHELLABARGER----	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor	Good
NALIM-----	Good	Good	Good	Good	Good	Fair	Fair	Poor	Good	Good	Poor	Fair
3926: WATER-----	---	---	---	---	---	---	---	---	---	---	---	---
3966: WILLOWBROOK----	Good	Good	Good	Good	Good	Good	Poor	Poor	Fair	Fair	Poor	Fair
4005: YAGGY-----	Poor	Fair	Good	Good	Good	Good	Fair	Fair	Fair	Good	Good	Fair
SAXMAN-----	Fair	Fair	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor	Fair
4110: ZELLMONT-----	Good	Good	Good	Fair	Fair	Good	Poor	Very poor	Good	Poor	Very poor	Good
POXMASH-----	Fair	Good	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Poor	Very poor	Fair
Aa: ALBION-----	Fair	Good	Fair	---	---	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
Ab: ALBION-----	Fair	Good	Fair	---	---	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
Ac: ALBION-----	Fair	Good	Fair	---	---	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
Ad: ALBION-----	Poor	Fair	Fair	---	---	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
AED: ARENTS, EARTHEN DAM-----	---	---	---	---	---	---	---	---	---	---	---	---
Ba: BLANKET-----	Good	Good	Fair	---	Good	Good	Poor	Very poor	Good	---	Very poor	Fair
Bb: BLANKET-----	Good	Good	Fair	---	Good	Good	Poor	Very poor	Good	---	Very poor	Fair
Bc: BLANKET-----	Fair	Good	Fair	---	Good	Good	Poor	Very poor	Fair	---	Very poor	Fair
Ca: CANADIAN-----	Good	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
Cb: CARWILE-----	Fair	Good	Good	---	---	Good	Good	Fair	Good	---	Fair	Good

WILDLIFE INTERPRETATIONS--Continued
Kingman County, Kansas

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
Cc: CASE-----	Fair	Good	Fair	---	---	Fair	Poor	Very poor	Fair	---	Very poor	Fair
CLARK-----	Fair	Good	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	---	Very poor	Fair
Cd: CASE-----	Poor	Fair	Fair	---	---	Fair	Poor	Very poor	Fair	---	Very poor	Fair
CLARK-----	Fair	Good	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	---	Very poor	Fair
Ce: CLARK-----	Good	Good	Fair	Fair	Fair	Fair	Poor	Very poor	Good	---	Very poor	Fair
Cf: CLARK-----	Fair	Good	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	---	Very poor	Fair
Da: DILLWYN-----	Poor	Fair	Good	---	---	Fair	Fair	Fair	Fair	---	Fair	Fair
PLEVNA-----	Poor	Fair	Fair	---	---	Fair	Good	Good	Fair	---	Good	Fair
Fa: FARNUM-----	Good	Good	Good	---	---	Good	Poor	Poor	Good	---	Poor	Good
Fb: FARNUM-----	Good	Good	Good	---	---	Good	Poor	Poor	Good	---	Poor	Good
Fc: FARNUM-----	Good	Good	Good	---	---	Good	Poor	Poor	Good	---	Poor	Good
Fd: FARNUM-----	Fair	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
Fe: FARNUM-----	Fair	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
Ff: FARNUM-----	Good	Good	Good	---	---	Good	Poor	Poor	Good	---	Poor	Good
NATRUSTOLLS-----	---	---	---	---	---	---	---	---	---	---	---	---
Ka: KASKI-----	Good	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
Kb: KINGMAN-----	Poor	Fair	Good	---	---	Fair	Fair	Fair	Fair	---	Fair	Fair
La: LINCOLN-----	Fair	Fair	Fair	---	---	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
Ma: MCLAIN-----	Good	Good	Fair	---	---	Good	Poor	Poor	Good	---	Poor	Fair
Na: NASHVILLE-----	Fair	Good	Good	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
Nb: NASHVILLE-----	Fair	Good	Good	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
QUINLAN-----	Poor	Poor	Fair	---	---	Poor	Very poor	Very poor	Fair	---	Very poor	Poor
Oa: OWENS-----	Poor	Poor	Good	Very poor	Very poor	---	Very poor	Very poor	Poor	Very poor	Very poor	Good
Pa: POND CREEK-----	Good	Good	Good	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair

WILDLIFE INTERPRETATIONS--Continued
Kingman County, Kansas

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--			
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life	Range- land wild- life
Pb: PRATT-----	Fair	Good	Fair	---	---	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
Pc: PRATT-----	Fair	Good	Fair	---	---	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
CARWILE-----	Fair	Good	Good	---	---	Good	Good	Fair	Good	---	Fair	Good
Pd: PRATT-----	Fair	Good	Fair	---	---	Fair	Very poor	Very poor	Fair	---	Very poor	Fair
TIVOLI-----	Poor	Poor	Fair	---	---	Poor	Very poor	Very poor	Poor	---	Very poor	Poor
Qa: QUINLAN-----	Poor	Poor	Fair	---	---	Poor	Poor	Very poor	Fair	---	Very poor	Poor
Qb: QUINLAN-----	Poor	Poor	Fair	---	---	Poor	Poor	Very poor	Fair	---	Very poor	Poor
Ra: RENFROW-----	Good	Good	Fair	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
Rb: RUELLA-----	Good	Good	Fair	---	---	Fair	Poor	Very poor	Good	---	Very poor	Fair
Rc: RUELLA-----	Fair	Good	Fair	---	---	Fair	Poor	Very poor	Fair	---	Very poor	Fair
ROCK OUTCROP----	---	---	---	---	---	---	---	---	---	---	---	---
Sa: SHELLABARGER----	Good	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
Sb: SHELLABARGER----	Good	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
Sc: SHELLABARGER----	Fair	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
Sd: SHELLABARGER----	Fair	Good	Good	---	---	Good	Poor	Very poor	Good	---	Very poor	Good
Ta: TIVOLI-----	Poor	Poor	Fair	---	---	Poor	Very poor	Very poor	Poor	---	Very poor	Poor
W: WATER-----	---	---	---	---	---	---	---	---	---	---	---	---
Wa: WALDECK-----	Fair	Good	Good	---	---	Good	Fair	Fair	Good	---	Fair	Good
Za: ZENDA-----	Fair	Good	Good	---	---	Good	Fair	Fair	Good	---	Fair	Good

YIELDS PER ACRE OF PASTURE AND HAYLAND
Kingman County, Kansas

Use and Explanation of Pastureland and Hayland Interpretations

This subsection provides information concerning the suitability of soils for the production of pasture and hayland. This subsection may contain pasture and hayland suitability groupings, land capability and yield estimates, yield estimates for individual grasses or legumes, or other information pertaining to the production of forage.

Pasture and Hayland Suitability Groupings

Soils are placed in pasture and hayland groups according to their suitability for the production of forage. The soils in each group are enough alike to be suited to the same grasses or legumes, to have similar limitations and hazards, to require similar management, and to have similar productivity and other responses to management. Thus, the pasture and hayland suitability group is a convenient way of grouping the soils for their management. If used, these groupings are identified and described in other reports in the subsection.

Yield Estimates

The average yields per acre that can be expected of the principal pasture or hayland crops, under a high level of management, are presented in this subsection. In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall or other climatic factors. The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

Under good management, proper grazing is essential for the production of high quality forage, stand survival, and erosion control. Proper grazing helps plants maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation are also important management practices.

The Pasture and Hayland table show yield estimates in tons per acre and animal unit months for pasture and hayland groups. An animal unit month is the amount of forage required by one animal unit (AU) for 30 days. On animal unit (AU) is one (1000 pound) mature cow and a calf up to weaning age (usually six months of age) or their equivalent. The Natural Resources Conservation Service uses 900 pounds of air dry forage as the amount needed to meet this requirement. To maintain a healthy and vigorous plant community, the degree of use should never be greater than 50 percent. Therefore only 25 percent of the total biomass grown is considered consumed by the grazing animal. Animal Unit Months can be converted to air dry pounds per acre production by multiplying the AUM by 30 days, then by 30 pounds per day, and then by four. This figure is the amount of total forage production.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil in the Nontechnical Description section. Specific information on plants and yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)
Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay		Smooth brome grass	
	N	I	N	I	N	I
			Tons	Tons	AUM	AUM
007AE: Albion-----	6e	---	---	---	---	---
Shellabarger-----	6e	---	---	---	---	---
007FA: Farnum-----	2e	1	3.00	7.00	---	---
077KA: Kanza-----	5w	---	---	---	---	---
077KR: Kirkland-----	3e	---	---	---	---	---
Renfrow-----	3e	---	---	---	---	---
077NN: Nashville-----	4e	---	---	---	---	---
077PC: Pond Creek-----	1	---	3.50	---	---	---
077RC: Renfrow-----	3e	---	---	---	---	---
Vernon-----	4e	4e	---	---	---	---
077SB: Shellabarger-----	2e	---	2.50	7.00	---	---
077SE: Shellabarger-----	2e	---	2.20	6.50	---	---
077SF: Shellabarger-----	3e	---	2.00	6.00	---	---
077SG: Shellabarger-----	3e	---	2.00	6.00	---	---
077SH: Shellabarger-----	3e	---	---	---	---	---
151AO: Albion-----	4e	---	1.50	---	---	---
151CN: Clark-----	3e	---	---	---	---	---
151CO: Clark-----	2c	---	---	---	---	---
Ost-----	2c	---	---	---	---	---
151KP: Kanza-----	5w	---	---	---	---	---
Plevna-----	5w	---	---	---	---	---
151ND: Naron-----	2e	1	3.00	7.00	---	---
151NF: Naron-----	3e	2e	3.00	6.50	---	---
151OC: Ost-----	2c	---	---	---	---	---
151OS: Ost-----	2e	---	---	---	---	---
151PN: Pratt-----	6e	---	---	---	---	---
151SE: Shellabarger-----	2e	---	2.20	6.50	---	---
151ZS: Drummond-----	6s	---	---	---	---	---
Zenda-----	4s	---	4.00	5.50	---	---

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)
Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay		Smooth brome grass	
	N	I	N	I	N	I
			Tons	Tons	AUM	AUM
173MA: Milan-----	2e	2e	3.50	6.50	6.00	9.00
173PB: Plevna-----	5w	---	---	---	---	---
173RA: Renfrow-----	3e	---	---	---	---	---
173RC: Renfrow-----	3e	---	---	---	---	---
Wellsford-----	4e	---	---	---	---	---
173TA: Tabler-----	2s	---	---	---	---	---
191RA: Renfrow-----	3e	---	---	---	---	---
Grainola-----	3e	---	---	---	---	---
990: Abbyville-----	3s	3s	3.00	5.00	---	---
991: Abbyville, rarely flooded	3s	3s	3.00	5.00	---	---
Kisiwa, occasionally flooded-----	4s	---	---	---	---	---
1004: Albion-----	3e	---	2.00	---	4.00	---
1005: Albion-----	3e	---	2.00	---	4.00	---
1006: Albion-----	3e	---	2.00	---	4.00	---
1011: Albion-----	3e	---	2.00	---	4.00	---
Shellabarger-----	2e	---	2.20	6.50	4.50	9.00
1017: Shellabarger, Eroded-----	2e	---	2.20	6.50	4.50	9.00
Albion-----	3e	---	2.00	---	4.00	---
1061: Arents, Earthen Dam-----	8	---	---	---	---	---
1359: Clark-----	2c	---	---	---	---	---
Ost-----	2c	---	---	---	---	---
1555: Dillhut-----	3e	3e	---	5.50	3.00	8.00
Plev-----	5w	---	---	---	---	---
1728: Farnum-----	2c	1	3.00	7.00	5.00	10.00
Funmar-----	2c	1	3.00	7.00	5.00	10.00
2205: Jamash-----	4e	---	---	---	---	---
Piedmont-----	3e	---	---	---	---	---
2381: Kanza-----	5w	---	---	---	---	---
Ninnescah-----	5w	---	---	---	---	---
2390: Kaskan-----	2w	---	---	---	---	---

YIELDS PER ACRE OF PASTURE AND HAYLAND--Continued
Kingman County, Kansas

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(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)
Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay		Smooth brome grass	
	N	I	N	I	N	I
			Tons	Tons	AUM	AUM
2556: Langdon-----	6e	---	---	---	---	---
2812: Mahone-----	2w	---	---	---	---	---
2948: Nalim-----	2e	2e	3.50	6.50	6.00	9.00
3051: Ost-----	2c	---	---	---	---	---
3052: Ost-----	2c	---	---	---	---	---
Clark-----	2c	---	---	---	---	---
3170: Penalosa-----	2c	1	3.00	7.00	---	---
3171: Penalosa-----	2c	1	3.00	7.00	---	---
3180: Pratt-----	3e	3e	---	5.50	3.00	8.00
3181: Pratt-----	3e	3e	---	5.50	3.00	8.00
Turon-----	3e	3e	---	5.50	3.00	8.00
3445: Shellabarger, Moderately Eroded-----	2e	---	2.20	6.50	4.50	9.00
3510: Saltcreek-----	3e	1	3.00	7.00	5.00	10.00
Funmar-----	2c	1	3.00	7.00	5.00	10.00
Farnum-----	2c	1	3.00	7.00	5.00	10.00
3530: Shellabarger, Eroded-----	2e	---	2.20	6.50	4.50	9.00
Albion-----	3e	---	2.00	---	4.00	---
3531: Shellabarger, Moderately Eroded-----	2e	---	2.20	6.50	4.50	9.00
Nalim-----	2e	2e	3.50	6.50	6.00	9.00
3532: Shellabarger-----	2e	---	2.20	6.50	4.50	9.00
3533: Shellabarger-----	2e	---	2.20	6.50	4.50	9.00
3534: Shellabarger-----	2e	---	2.20	6.50	4.50	9.00
3535: Shellabarger-----	2e	---	2.20	6.50	4.50	9.00
Nalim-----	2e	2e	3.50	6.50	6.00	9.00
3926: Water-----	---	---	---	---	---	---
3966: Willowbrook-----	3e	2e	4.00	7.00	---	---
4005: Yaggy-----	3e	2e	4.50	7.50	---	---
Saxman-----	3e	2e	3.50	7.00	---	---
4110: Zellmont-----	2e	---	2.20	6.50	---	---

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)
Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay		Smooth brome	
	N	I	N	I	N	I
			Tons	Tons	AUM	AUM
Poxmash-----	3e	---	2.00	---	4.00	---
Aa: Albion-----	3s	---	2.00	---	---	---
Ab: Albion-----	3e	---	2.00	---	---	---
Ac: Albion-----	4e	---	1.50	---	---	---
Ad: Albion-----	6e	---	---	---	---	---
AED: Arents, Earthen Dam-----	---	---	---	---	---	---
Ba: Blanket-----	2c	---	---	---	---	---
Bb: Blanket-----	2e	---	---	---	---	---
Bc: Blanket-----	3e	---	---	---	---	---
Ca: Canadian-----	2e	---	3.50	---	---	---
Cb: Carwile-----	2w	---	---	---	---	---
Cc: Case-----	4e	---	---	---	---	---
Clark-----	4e	---	---	---	---	---
Cd: Case-----	6e	---	---	---	---	---
Clark-----	4e	---	---	---	---	---
Ce: Clark-----	2c	---	---	---	---	---
Cf: Clark-----	3e	---	---	---	---	---
Da: Dillwyn-----	4w	---	---	---	---	---
Plevna-----	5w	---	---	---	---	---
Fa: Farnum-----	3e	2e	2.50	6.50	---	---
Fb: Farnum-----	2c	1	3.00	7.00	---	---
Fc: Farnum-----	2e	2e	3.00	6.50	---	---
Fd: Farnum-----	3e	---	3.00	---	---	---
Fe: Farnum-----	4e	---	---	---	---	---
Ff: Farnum-----	4s	---	3.00	7.00	---	---
Natrustolls-----	6s	---	---	---	---	---
Ka: Kaski-----	2w	---	3.00	6.50	---	---
Kb: Kingman-----	5w	---	---	---	---	---

(Yields in the "N" columns are for nonirrigated soils; those in the "I" columns are for irrigated soils. Yields are those that can be expected under a high level of nonirrigated and irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)
Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Map symbol and soil name	Land capability		Alfalfa hay		Smooth brome grass	
	N	I	N	I	N	I
			Tons	Tons	AUM	AUM
La: Lincoln-----	6w	---	---	---	---	---
Ma: McLain-----	1	---	4.50	---	---	---
Na: Nashville-----	2e	---	---	---	---	---
Nb: Nashville-----	4e	---	---	---	---	---
Quinlan-----	6e	---	---	---	---	---
Oa: Owens-----	4e	---	---	---	---	---
Pa: Pond Creek-----	2e	---	3.00	---	---	---
Pb: Pratt-----	4e	3e	---	5.50	---	---
Pc: Pratt-----	3e	3e	---	5.50	---	---
Carwile-----	2w	---	---	---	---	---
Pd: Pratt-----	4e	3e	---	5.50	---	---
Tivoli-----	7e	---	---	---	---	---
Qa: Quinlan-----	3e	---	---	---	---	---
Qb: Quinlan-----	4e	---	---	---	---	---
Ra: Renfrow-----	3e	---	---	---	---	---
Rb: Ruella-----	2e	---	---	---	---	---
Rc: Ruella-----	3e	---	---	---	---	---
Rock Outcrop-----	8s	---	---	---	---	---
Sa: Shellabarger-----	2e	---	2.20	6.50	---	---
Sb: Shellabarger-----	2e	---	2.20	6.50	---	---
Sc: Shellabarger-----	3e	---	2.00	6.00	---	---
Sd: Shellabarger-----	3e	---	1.50	5.50	---	---
Ta: Tivoli-----	7e	---	---	---	---	---
W: Water-----	---	---	---	---	---	---
Wa: Waldeck-----	3w	---	3.50	5.00	---	---
Za: Zenda-----	2w	---	4.00	5.50	---	---

CONSERVATION TREE AND SHRUB MANAGEMENT
Kingman County, Kansas

A Conservation Tree/Shrub Suitability Group (CTSG), formerly Windbreak Suitability Group, is a physiographic unit or area having similar climatic and edaphic characteristics that control the selection and height growth of trees and shrubs.

In this table, the Conservation Tree and Shrub Grouping is expressed as a group index number. The group index for Conservation Tree and Shrub groups (CTSG) are a guide for species best suited for different kinds of soil and for prediction height, growth, and effectiveness. The groupings can be used when selection woody plants for windbreaks, wildlife plantings riparian buffers, reforestation, other environmental plantings, recreation, landscaping, wetland restoration or enhancement and critical area plantings. CTSG's are developed to assure satisfactory species selection and adaptation to specific conditions of soil, climate and physiography. CTSG's are a guide for selection species best suited for different kinds of soil and prediction height growth and effectiveness.

All soil series mapped in the state have been placed in 10 groups of similar soil characteristics. Groups 1, 2, 3, 4, 6, and 9 are further divided into subgroups. In addition, all groups provide information by Major Land Resource Areas.

Each tree or shrub species has certain climatic and physiographic limits. Within these parameters a tree or shrub may be well or poorly suited because of soil characteristics. Each tree or shrub also has definable potentials of height growth depending on the factors just mentioned. Accurate definitions of potential heights are necessary for proper windbreak planning and design.

Windbreaks protect livestock, buildings, roads and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low-growing and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Windbreaks are often planted on land that did not grow trees originally. Knowledge of how trees perform on such land can be gained only by observing and recording their performance where trees have been planted and survived. The problem is compounded by the fact that many favorite windbreak species are not indigenous to the areas in which they are planted.

The Kansas Field Office Technical Guide Notice KS-230, Conservation Tree and Shrub Plantings Suitability Groups shows the adapted species listing for each group index number. Showing the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates are based on measurements and observation of established plantings that have been given adequate care. This information should be used to determine the placement of a windbreak, the area protected and the arrangement of species.

A number of attributes are included in the CTSG species tables for each group number found in this section of the Field Office Technical Guide. These attributes were rated subjectively and assigned a relative value to further assist those unfamiliar with individual species characteristics or desirability for the intended use. Definitions and explanations can be found. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery. See part 537 of the National Forestry Manual for additional information.

In the Tree and Shrub Management table interpretive ratings are given for various aspects of forest and conservation tree and shrub management. Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. Well suited indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. Moderately well suited indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable and fair performance can be expected. Some maintenance is needed. Poorly suited indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. Unsited indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

The paragraphs that follow indicate the soil properties considered in rating the soils for forest and conservation tree and shrub management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet. Also, in the Kansas Field Office Technical Guide Notice KS-230, Conservation Tree and Shrub Plantings Suitability Groups.

Ratings in the columns suitability for hand planting and suitability for mechanical planting are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately well suited, poorly suited, or unsited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column suitability for mechanical site preparation (surface) are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsited to this management activity. The part of the soil from the surface to a depth of about 1-foot is considered in the ratings.

Ratings in the column suitability for mechanical site preparation (deep) are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column potential for seedling mortality are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality. See the National Forestry Manual, Subpart B for criteria used in rating management concerns. Specific information on plants and yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

CONSERVATION TREE AND SHRUB MANAGEMENT
Kingman County,
Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
007AE: Albion-----	6G	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Shellabarger-----	5	Well suited	Moderately suited Slope	Well suited	Well suited	Low
007FA: Farnum-----	3	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
077KA: Kanza-----	2	Well suited	Well suited	Well suited	Well suited	Low
077KR: Kirkland-----	4C	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
Renfrow-----	4C	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
077NN: Nashville-----	6D	Well suited	Moderately suited Slope	Well suited	Well suited	Low
077PC: Pond Creek-----	3	Well suited	Well suited	Well suited	Well suited	Low
077RC: Renfrow-----	4C	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
Vernon-----	4C	Moderately suited Stickiness	Moderately suited Stickiness	Poorly suited Stickiness	Well suited	Moderate Soil reaction
077SB: Shellabarger-----	5	Well suited	Well suited	Well suited	Well suited	Low
077SE: Shellabarger-----	5	Well suited	Well suited	Well suited	Well suited	Low
077SF: Shellabarger-----	5	Well suited	Moderately suited Slope	Well suited	Well suited	Low
077SG: Shellabarger-----	5	Well suited	Moderately suited Slope	Well suited	Well suited	Low
077SH: Shellabarger-----		Well suited	Well suited	Well suited	Well suited	Low
151AO: Albion-----	6G	Well suited	Moderately suited Slope	Well suited	Well suited	Low
151CN: Clark-----	8	Well suited	Well suited	Well suited	Well suited	Moderate Lime Soil reaction
151CO: Clark-----	8	Well suited	Well suited	Well suited	Well suited	Moderate Lime Soil reaction
Ost-----	3	Well suited	Well suited	Well suited	Well suited	Low
151KP: Kanza-----	2	Well suited	Well suited	Well suited	Well suited	Low
Plevna-----	2	Well suited	Well suited	Well suited	Unsuited Wetness	High Wetness
151ND: Naron-----	5	Well suited	Well suited	Well suited	Well suited	Low
151NF: Naron-----	5	Well suited	Well suited	Well suited	Well suited	Low
151OC: Ost-----	3	Well suited	Well suited	Well suited	Well suited	Low
151OS: Ost-----	3	Well suited	Well suited	Well suited	Well suited	Low
151PN: Pratt-----	7	Well suited	Moderately suited Slope	Well suited	Well suited	Low
151SE: Shellabarger-----	5	Well suited	Well suited	Well suited	Well suited	Low

CONSERVATION TREE AND SHRUB MANAGEMENT
Kingman County,
Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
151ZS: Drummond-----	9W	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	High Salinity Soil reaction Low
Zenda-----	1	Well suited	Well suited	Well suited	Well suited	Low
173MA: Milan-----	3	Well suited	Well suited	Well suited	Well suited	Low
173PB: Plevna-----	2	Well suited	Well suited	Well suited	Unsuited Wetness	High Wetness
173RA: Renfrow-----	4C	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
173RC: Renfrow-----	4C	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
Wellsford-----		Moderately suited Stickiness	Moderately suited Stickiness	Poorly suited	Well suited	Low
173TA: Tabler-----	4C	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
191RA: Renfrow-----	4C	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
Grainola-----		Moderately suited Stickiness	Moderately suited Stickiness	Poorly suited	Well suited	Low
990: Abbyville-----	5	Well suited	Well suited	Well suited	Well suited	Moderate Available water Soil reaction Salinity
991: Abbyville, rarely flooded-----	5	Well suited	Well suited	Well suited	Well suited	Moderate Available water Soil reaction Salinity High
Kisiwa, occasionally flooded-----	9W	Unsuited Wetness	Poorly suited Wetness	Unsuited Wetness	Unsuited Wetness	Wetness Soil reaction
1004: Albion-----	6G	Well suited	Well suited	Well suited	Well suited	Moderate Available water
1005: Albion-----	6G	Well suited	Well suited	Well suited	Well suited	Moderate Available water
1006: Albion-----	6G	Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Available water
1011: Albion-----	6G	Well suited	Well suited	Well suited	Well suited	Moderate Available water
Shellabarger-----	5	Well suited	Well suited	Well suited	Well suited	Moderate Available water
1017: Shellabarger, Eroded	5	Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Available water
Albion-----	6G	Well suited	Moderately suited	Well suited	Well suited	Moderate

CONSERVATION TREE AND SHRUB MANAGEMENT
Kingman County,
Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
1061: Arents, Earthen Dam-		Not rated	Slope Not rated	Not rated	Not rated	Available water Not rated
1359: Clark-----	3	Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction Low
Ost-----	8	Well suited	Moderately suited Slope	Well suited	Well suited	
1555: Dillhut-----	7	Moderately suited Sandiness	Moderately suited Sandiness	Well suited	Well suited	High Available water High
Plev-----	2	Moderately suited Sandiness	Moderately suited Sandiness	Well suited	Well suited	Wetness
1728: Farnum-----	4	Well suited	Well suited	Well suited	Well suited	Low
Funmar-----	3	Well suited	Well suited	Well suited	Well suited	Low
2205: Jamash-----	6	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
Piedmont-----	4	Well suited	Well suited	Well suited	Well suited	Low
2381: Kanza-----	2	Well suited	Well suited	Well suited	Well suited	Low
Ninnescah-----	9W	Well suited	Well suited	Well suited	Well suited	Moderate Wetness Soil reaction
2390: Kaskan-----	1	Well suited	Well suited	Well suited	Well suited	Low
2556: Langdon-----	7	Moderately suited Sandiness	Moderately suited Sandiness Slope	Well suited	Well suited	Low
2812: Mahone-----	1	Well suited	Well suited	Well suited	Well suited	Low
2948: Nalim-----	3	Well suited	Well suited	Well suited	Well suited	Low
3051: Ost-----	8	Well suited	Well suited	Well suited	Well suited	Low
3052: Ost-----	8	Well suited	Well suited	Well suited	Well suited	Low
Clark-----	3	Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction
3170: Penalosa-----	4	Well suited	Well suited	Well suited	Well suited	Low
3171: Penalosa-----	4	Well suited	Well suited	Well suited	Well suited	Low
3180: Pratt-----	7	Well suited	Moderately suited Slope	Well suited	Well suited	Low
3181: Pratt-----	7	Well suited	Well suited	Well suited	Well suited	Low
Turon-----	7	Moderately suited Sandiness	Moderately suited Sandiness	Well suited	Well suited	Low
3445: Shellabarger, Moderately Eroded--	5	Well suited	Well suited	Well suited	Well suited	Moderate Available water
3510: Saltcreek-----	5	Well suited	Well suited	Well suited	Well suited	Moderate Available water Low Low
Funmar-----	3	Well suited	Well suited	Well suited	Well suited	
Farnum-----	4	Well suited	Well suited	Well suited	Well suited	
3530: Shellabarger, Eroded	5	Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Available water Moderate
Albion-----	6G	Well suited	Moderately suited	Well suited	Well suited	

CONSERVATION TREE AND SHRUB MANAGEMENT
Kingman County,
Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
3531: Shellabarger, Moderately Eroded--	5	Well suited	Slope Well suited	Well suited	Well suited	Available water Moderate
Nalim-----	3	Well suited	Well suited	Well suited	Well suited	Available water Low
3532: Shellabarger-----	5	Well suited	Well suited	Well suited	Well suited	Moderate Available water
3533: Shellabarger-----	5	Well suited	Well suited	Well suited	Well suited	Moderate Available water
3534: Shellabarger-----	5	Well suited	Well suited	Well suited	Well suited	Moderate Available water
3535: Shellabarger-----	5	Well suited	Well suited	Well suited	Well suited	Moderate Available water Low
Nalim-----	3	Well suited	Well suited	Well suited	Well suited	Low
3926: Water-----		Not rated	Not rated	Not rated	Not rated	Not rated
3966: Willowbrook-----	1	Well suited	Well suited	Well suited	Well suited	Moderate Available water
4005: Yaggy-----	1	Well suited	Well suited	Well suited	Well suited	Moderate Available water Low
Saxman-----	1	Well suited	Well suited	Well suited	Well suited	Low
4110: Zellmont-----	6	Well suited	Well suited	Well suited	Well suited	Low
Poxmash-----	6	Well suited	Well suited	Well suited	Well suited	Low
Aa: Albion-----	6G	Well suited	Well suited	Well suited	Well suited	Low
Ab: Albion-----	6G	Well suited	Well suited	Well suited	Well suited	Low
Ac: Albion-----	6G	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Ad: Albion-----	6G	Well suited	Moderately suited Slope	Well suited	Well suited	Low
AED: Arents, Earthen Dam--		Not rated	Not rated	Not rated	Not rated	Not rated
Ba: Blanket-----	4C	Well suited	Well suited	Well suited	Well suited	Low
Bb: Blanket-----	4C	Well suited	Well suited	Well suited	Well suited	Low
Bc: Blanket-----	4C	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
Ca: Canadian-----	1	Well suited	Well suited	Well suited	Well suited	Low
Cb: Carwile-----	1	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	High
Cc: Case-----	8	Well suited	Well suited	Well suited	Well suited	Wetness
Clark-----	8	Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction Moderate Lime Soil reaction
Cd: Case-----	8	Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Soil reaction

CONSERVATION TREE AND SHRUB MANAGEMENT
Kingman County,
Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
Clark-----	8	Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Lime Soil reaction
Ce: Clark-----	8	Well suited	Well suited	Well suited	Well suited	Moderate Lime Soil reaction
Cf: Clark-----	8	Well suited	Well suited	Well suited	Well suited	Moderate Lime Soil reaction
Da: Dillwyn----- Plevna-----	1 2	Well suited Well suited	Well suited Well suited	Well suited Well suited	Well suited Unsuited Wetness	Low High Wetness
Fa: Farnum-----	3	Well suited	Well suited	Well suited	Well suited	Low
Fb: Farnum-----	3	Well suited	Well suited	Well suited	Well suited	Low
Fc: Farnum-----	3	Well suited	Well suited	Well suited	Well suited	Low
Fd: Farnum-----	3	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Fe: Farnum-----	3	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
Ff: Farnum----- Natrustolls-----	3	Well suited Not rated	Well suited Not rated	Well suited Not rated	Well suited Not rated	Low Not rated
Ka: Kaski-----	1	Well suited	Well suited	Well suited	Well suited	Low
Kb: Kingman-----	2	Well suited	Well suited	Well suited	Well suited	High Wetness Soil reaction
La: Lincoln-----	1K	Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction
Ma: McLain-----	1	Well suited	Well suited	Well suited	Well suited	Low
Na: Nashville-----	6D	Well suited	Well suited	Well suited	Well suited	Low
Nb: Nashville-----	6D	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Quinlan-----	10	Well suited	Moderately suited Slope	Well suited	Well suited	Moderate Soil reaction
Oa: Owens-----		Moderately suited Stickiness	Moderately suited Stickiness	Poorly suited Stickiness	Well suited	Low
Pa: Pond Creek-----	3	Well suited	Well suited	Well suited	Well suited	Low
Pb: Pratt-----	7	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Pc: Pratt----- Carwile-----	7 1	Well suited Moderately suited Stickiness	Well suited Moderately suited Stickiness	Well suited Well suited	Well suited Well suited	Low High Wetness
Pd: Pratt-----	7	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Tivoli-----	7	Moderately suited Sandiness	Moderately suited Slope Sandiness	Well suited	Well suited	Low
Qa: Quinlan-----	10	Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction

CONSERVATION TREE AND SHRUB MANAGEMENT
Kingman County,
Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. Pines and spruces are prone to disease problems. See text for further explanation of ratings in this table.)

Map symbol and soil name	Wind break Group	Suitability for hand planting	Suitability for mechanical planting	Suitability for mechanical site preparation (surface)	Suitability for mechanical site preparation (deep)	Potential for seedling mortality
		Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features	Rating class and limiting features
Qb: Quinlan-----	10	Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction
Ra: Renfrow-----	4C	Moderately suited Stickiness	Moderately suited Stickiness	Well suited	Well suited	Low
Rb: Ruella-----	8	Moderately suited Restrictive layer	Well suited	Well suited	Well suited	Moderate Soil reaction
Rc: Ruella-----	8	Moderately suited Restrictive layer	Moderately suited Slope	Well suited	Well suited	Moderate Soil reaction
Rock Outcrop-----		Not rated	Not rated	Not rated	Not rated	Not rated
Sa: Shellabarger-----	5	Well suited	Well suited	Well suited	Well suited	Low
Sb: Shellabarger-----	5	Well suited	Well suited	Well suited	Well suited	Low
Sc: Shellabarger-----	5	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Sd: Shellabarger-----	5	Well suited	Moderately suited Slope	Well suited	Well suited	Low
Ta: Tivoli-----	7	Moderately suited Sandiness	Poorly suited Slope Sandiness	Poorly suited Slope	Poorly suited Slope	Low
W: Water-----		Not rated	Not rated	Not rated	Not rated	Not rated
Wa: Waldeck-----	1K	Well suited	Well suited	Well suited	Well suited	Moderate Soil reaction
Za: Zenda-----	1	Well suited	Well suited	Well suited	Well suited	Low

ENGINEERING INDEX PROPERTIES
Kingman County, Kansas

Engineering Index Properties table gives the engineering classifications and the range of index properties for the layers of each soil in the survey area. Depth to the upper and lower boundaries of each layer is indicated. Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. Loam, for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, gravelly. Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 1998) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 1998). The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection. If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in Engineering Index Properties table.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

ENGINEERING INDEX PROPERTIES--Continued
Kingman County, Kansas

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index	
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200			
					Pct	Pct				Pct			
007AE: Albion-----	0-8	Sandy loam	ML, SM, CL-ML	A-2, A-4	0	0	100	75-100	60-90	25-55	15-30	NP-5	
	8-16	Sandy loam	ML, SM, CL-ML	A-2, A-4	0	0	85-100	75-100	45-90	30-55	20-35	NP-10	
	16-27	Loamy sand	SM	A-1, A-2	0	0	85-100	75-90	40-70	15-30	15-30	NP-5	
	27-60	Sand	GM, GP-GM, SM, SP-SM	A-1, A-2, A-3	0	0-5	40-100	40-90	30-70	5-30	15-30	NP-5	
Shellabarger---	0-14	Sandy loam	ML, SM	A-2, A-4	0	0	95-100	95-100	75-100	30-55	15-30	NP-5	
	14-48	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	48-60	Coarse sandy loam	SC, SC-SM, SM, SP-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	15-30	NP-10	
007FA: Farnum-----	0-9	Fine sandy loam	ML, SM	A-2, A-4	0	0	100	100	70-100	30-55	15-30	NP-3	
	9-60	Clay loam	CL, SC	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30	
077KA: Kanza-----	0-8	Loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	95-100	90-100	5-35	---	NP	
	8-60	Loamy fine sand	SM, SP-SM	A-2, A-3	0	0	90-100	90-100	80-100	5-35	---	NP	
077KR: Kirkland-----	0-12	Clay loam	CL	A-4, A-6, A-7	0	0	100	100	96-100	80-98	30-43	8-18	
	12-34	Silty clay	CH, CL, MH	A-7	0	0	100	100	96-100	88-99	41-65	18-38	
	34-60	Clay	CH, CL, MH	A-6, A-7	0	0	100	100	96-100	76-99	37-65	15-38	
Renfrow-----	0-9	Clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	33-49	12-26	
	9-13	Clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	37-49	15-26	
	13-60	Clay	CH, CL, MH	A-6, A-7	0	0	100	100	96-100	80-99	37-70	15-38	
077NN: Nashville-----	0-7	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	85-100	20-35	2-10	
	7-30	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	85-100	20-35	2-10	
	>30	Weathered bedrock			---	---	---	---	---	---	---	---	
077PC: Pond Creek-----	0-13	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	96-100	65-97	22-37	3-14	
	13-60	Silty clay loam	CL	A-4, A-6, A-7	0	0	100	100	96-100	65-98	30-43	8-20	
077RC: Renfrow-----	0-9	Clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	33-49	12-26	
	9-13	Clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	37-49	15-26	
	13-60	Clay	CH, CL	A-6, A-7	0	0	100	100	96-100	80-99	37-70	15-38	
Vernon-----	0-7	Clay loam	CL	A-6, A-7-6	0	0	95-100	90-100	90-100	70-95	35-50	17-30	
	7-24	Silty clay	CH, CL	A-6, A-7-6	0	0	95-100	90-100	90-100	80-98	38-60	20-40	
	24-28		CH, CL	A-6, A-7-6	0	0-5	90-100	85-100	65-100	65-96	30-60	15-38	
	28-80	Weathered bedrock			---	---	---	---	---	---	---	---	
077SB: Shellabarger---	0-13	Fine sandy loam	ML, SM	A-2, A-4	0	0	95-100	95-100	75-100	30-55	15-30	NP-5	
	13-38	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	38-60	Coarse sandy loam	SC, SC-SM, SM, SP-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	15-30	NP-10	
077SE: Shellabarger---	0-13	Fine sandy loam	ML, SM	A-2, A-4	0	0	95-100	95-100	75-100	30-55	15-30	NP-5	
	13-38	Fine sandy loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	38-60	Coarse sandy loam	SC, SC-SM, SM, SP-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	15-30	NP-10	
077SF: Shellabarger---	0-13	Fine sandy loam	ML, SM	A-2, A-4	0	0	95-100	95-100	75-100	30-55	15-30	NP-5	
	13-38	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	38-60	Coarse sandy loam	SC, SC-SM, SM, SP-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	15-30	NP-10	
077SG: Shellabarger---	0-13	Fine sandy loam	ML, SM	A-2, A-4	0	0	95-100	95-100	75-100	30-55	15-30	NP-5	
	13-38	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	38-60	Coarse sandy loam	SC, SC-SM, SM, SP-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	15-30	NP-10	
077SH: Shellabarger---	0-13	Fine sandy loam	CL, CL-ML, SC, SM	A-4	0	0	97-100	96-100	70-90	40-60	17-27	3-10	
	13-35	Sandy clay loam	CL, SC	A-4, A-6	0	0	97-100	96-100	85-98	40-70	25-35	8-16	
	35-39	Sandy clay loam	CL, SC	A-4, A-6	0	0-15	85-100	85-98	75-96	45-75	25-40	8-20	
	>39				---	---	---	---	---	---	---	---	
151AO: Albion-----	0-8	Sandy loam	ML, SM, CL-ML	A-2, A-4	0	0	100	75-100	60-90	25-55	15-30	NP-5	
	8-18	Sandy loam	ML, SM	A-2, A-4	0	0	85-100	75-100	45-90	30-55	20-35	NP-10	
	18-29	Coarse sandy loam	SM	A-1, A-2	0	0	85-100	75-90	40-70	15-30	15-30	NP-5	
	29-60	Gravelly sand	SM, SP-SM, GM, GP-GM	A-1, A-2, A-3	0	0-5	40-100	40-90	30-70	5-30	15-30	NP-5	
151CN: Clark-----	0-8	Fine sandy loam	SC, SC-SM	A-4	0	0	100	95-100	90-100	35-50	15-25	5-10	
	8-60	Clay loam	CL	A-6	0	0	100	95-100	90-100	55-90	25-40	10-25	
151CO: Clark-----	0-8	Clay loam	CL	A-6	0	0	100	95-100	90-100	50-90	30-40	10-20	
	8-60	Clay loam	CL	A-6	0	0	100	95-100	90-100	55-90	25-40	10-25	
Ost-----	0-9	Clay loam	CL	A-6	0	0	95-100	95-100	85-100	75-90	30-40	10-20	
	9-14	Clay loam	CL	A-4, A-6	0	0	95-100	90-100	85-100	55-90	30-40	9-18	
	14-23	Clay loam	CL, SC	A-2, A-4, A-6	0	0	95-100	90-100	80-100	30-90	25-40	8-18	
	23-60	Clay loam	CL, ML, SC, SM	A-2, A-4, A-6	0	0	85-100	85-100	80-100	30-90	15-40	NP-18	

ENGINEERING INDEX PROPERTIES--Continued
Kingman County, Kansas

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200				
	In				Pct	Pct					Pct			
151KP: Kanza-----	0-11	Loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	95-100	90-100	5-35	---	NP		
	11-40	Fine sand	SM, SP-SM	A-2, A-3	0	0	90-100	90-100	80-100	5-35	---	NP		
Plevna-----	0-10	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	95-100	70-100	20-50	15-26	NP-6		
	10-40	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	95-100	70-100	30-50	15-26	NP-6		
	40-60	Fine sand	SM, SP	A-2, A-3	0	0	100	90-100	50-90	4-35	---	NP		
151ND: Naron-----	0-8	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	95-100	75-100	25-60	15-26	1-7		
	8-38	Fine sandy loam	CL, SC	A-4, A-6	0	0	100	95-100	80-100	36-60	26-40	8-18		
	38-60	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	95-100	75-100	20-50	15-26	NP-7		
151NF: Naron-----	0-8	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	95-100	75-100	25-60	15-26	1-7		
	8-38	Fine sandy loam	CL, SC	A-4, A-6	0	0	100	95-100	80-100	36-60	26-40	8-18		
	38-60	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	95-100	75-100	20-50	15-26	NP-7		
151OC: Ost-----	0-9	Clay loam	CL	A-6	0	0	95-100	95-100	85-100	75-90	30-40	10-20		
	9-14	Clay loam	CL	A-4, A-6	0	0	95-100	90-100	85-100	55-90	30-40	9-18		
	14-23	Clay loam	CL, SC	A-2, A-4, A-6	0	0	95-100	90-100	80-100	30-90	25-40	8-18		
	23-60	Clay loam	CL, ML, SC, SM	A-2, A-4, A-6	0	0	85-100	85-100	80-100	30-90	15-40	NP-18		
151OS: Ost-----	0-9	Clay loam	CL	A-6	0	0	95-100	95-100	85-100	75-90	30-40	10-20		
	9-14	Clay loam	CL	A-4, A-6	0	0	95-100	90-100	85-100	55-90	30-40	9-18		
	14-23	Clay loam	CL, SC	A-2, A-4, A-6	0	0	95-100	90-100	80-100	30-90	25-40	8-18		
	23-60	Clay loam	CL, ML, SC, SM	A-2, A-4, A-6	0	0	85-100	85-100	80-100	30-90	15-40	NP-18		
151PN: Pratt-----	0-10	Loamy fine sand	SM	A-2	0	0	100	95-100	70-100	15-35	---	NP		
	10-40	Loamy fine sand	SC-SM, SM	A-2, A-4	0	0	100	95-100	90-100	15-40	15-20	NP-6		
	40-60	Loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	95-100	80-100	5-35	---	NP		
151SE: Shellabarger---	0-11	Fine sandy loam	ML, SM, CL-ML	A-2, A-4	0	0	95-100	95-100	75-100	30-55	15-30	NP-5		
	11-34	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20		
	34-60	Coarse sandy loam	SC, SC-SM, SM, SP-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	15-30	NP-10		
151ZS: Zenda-----	0-14	Clay loam	CL	A-6	0	0	100	95-100	85-100	55-80	30-40	10-20		
	14-60	Clay loam	CL	A-6	0	0	100	95-100	85-100	55-80	25-40	10-25		
Drummond-----	0-8	Clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	37-50	15-26		
	8-30	Clay	CH, CL	A-6, A-7	0	0	100	100	96-100	80-98	35-60	15-35		
	30-60	Variable			---	---	---	---	---	---	---	---		
173MA: Milan-----	0-11	Loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	95-100	65-85	20-35	5-15		
	11-60	Clay loam	CH, CL, MH, SC	A-6, A-7-6	0	0	95-100	95-100	65-100	45-80	35-55	11-25		
173PB: Plevna-----	0-9	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	95-100	70-100	20-50	15-26	NP-6		
	9-35	Sandy loam	SC-SM, SM	A-2, A-4	0	0	100	95-100	70-100	30-50	15-26	NP-6		
	35-60	Fine sand	SM, SP	A-2, A-3	0	0	100	90-100	50-90	4-35	---	NP		
173RA: Renfrow-----	0-9	Silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	33-49	12-26		
	9-13	Silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	37-49	15-26		
	13-60	Silty clay	CH, CL	A-6, A-7	0	0	100	100	96-100	80-99	37-70	15-38		
173RC: Renfrow-----	0-9	Clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	33-49	12-26		
	9-13	Silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	37-49	15-26		
	13-60	Silty clay	CH, CL	A-6, A-7	0	0	100	100	96-100	80-99	37-70	15-38		
Wellsford-----	0-7	Clay loam	CL	A-6, A-7-6	---	0-5	95-100	95-100	90-100	75-95	35-50	15-30		
	7-15	Silty clay	CH, CL	A-7-6	---	0-5	95-100	95-100	85-100	75-95	45-70	20-40		
	15-20	Weathered bedrock			---	---	---	---	---	---	---	---		
173TA: Tabler-----	0-9	Silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	32-43	11-20		
	9-32	Silty clay	CH, CL	A-7	0	0	100	100	96-100	90-99	41-65	18-35		
	32-60	Silty clay	CH, CL	A-6, A-7	0	0	96-100	96-100	92-100	80-99	38-60	15-35		
191RA: Renfrow-----	0-9	Clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	33-49	12-26		
	9-13	Silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	37-49	15-26		
	13-75	Silty clay loam	CH, CL, MH	A-6, A-7	0	0	100	100	96-100	80-99	37-70	15-38		
Grainola-----	0-8	Silt loam	CL	A-4, A-6	---	0-15	90-100	85-95	80-90	51-80	30-37	8-14		
	8-28	Silty clay	CH, CL, MH	A-7	---	0-15	90-100	70-100	70-95	60-90	41-70	20-40		
	28-36	Clay	CH, CL, GC, SC, MH	A-2, A-7	0	0	25-95	20-90	20-90	15-90	41-70	20-40		
	36-42	Weathered bedrock			---	---	---	---	---	---	---	---		
990: Abbyville-----	0-8	Loam	CL	A-4, A-6	0	0	100	100	85-95	50-70	25-35	10-15		
	8-15	Sandy clay loam	SC, CL	A-4, A-6	0	0	100	100	90-100	45-65	30-35	10-15		
	15-24	Clay loam	CL	A-6, A-7-6	0	0	100	100	90-100	50-80	35-45	15-20		
	24-35	Clay loam	CL	A-6, A-7-6	0	0	100	100	90-100	50-80	35-45	15-20		
	35-49	Clay loam	CL	A-7-6, A-6	0	0	100	100	90-100	50-80	35-45	15-20		
	49-61	Sandy clay loam	SC, CL	A-6, A-7-6	0	0	100	100	80-100	40-65	30-42	15-20		
	61-69	Loam	SC, CL	A-6, A-7-6	0	0	100	100	80-100	40-65	30-42	15-20		
	69-80	Clay loam	CL, SC	A-7-6, A-6	0	0	100	100	80-100	40-65	30-42	15-20		

ENGINEERING INDEX PROPERTIES--Continued
Kingman County, Kansas

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct					Pct	
991: Abbyville, rarely flooded	In											
	0-8	Fine sandy loam	SC-SM	A-4	0	0	100	100	85-95	36-45	20-30	5-10
	8-15	Sandy clay loam	SC, CL	A-4, A-6	0	0	100	100	90-100	45-65	30-35	10-15
	15-24	Clay loam	CL	A-6, A-7-6	0	0	100	100	90-100	50-80	35-45	15-20
	24-35	Clay loam	CL	A-6, A-7-6	0	0	100	100	90-100	50-80	35-45	15-20
	35-49	Clay loam	CL	A-6, A-7-6	0	0	100	100	90-100	50-80	35-45	15-20
	49-61	Sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	100	80-100	40-65	30-42	15-20
	61-69	Loam	CL, SC	A-6, A-7-6	0	0	100	100	80-100	40-65	30-42	15-20
	69-80	Clay loam	CL, SC	A-6, A-7-6	0	0	100	100	80-100	40-65	30-42	15-20
	0-4	Loam	CL, SC	A-4, A-6	0	0	100	100	85-96	60-75	30-35	10-15
	4-7	Loam	CL	A-6, A-4	0	0	100	100	85-96	60-75	30-35	10-15
	7-14	Clay loam	CL	A-7-6, A-6	0	0	100	95-100	90-100	65-95	35-45	15-20
	14-23	Clay loam	CL	A-7-6, A-6	0	0	100	95-100	90-100	65-95	35-45	15-20
	23-31	Clay	CL, CH	A-7-6, A-6	0	0	100	95-100	90-100	70-80	35-55	15-30
	31-40	Clay	CL, CH	A-7-6, A-6	0	0	100	95-100	90-100	70-80	35-55	15-30
	40-46	Loam	CL, CH	A-7-6, A-6	0	0	94-100	90-100	85-100	55-80	35-55	15-30
	46-52	Fine sandy loam	CL, ML, SM, SC	A-4	0	0	85-100	82-100	60-95	40-50	0-30	NP-10
	52-58	Fine sandy loam	CL, ML, SM, SC	A-4	0	0	89-100	80-100	60-95	40-50	0-30	NP-10
	58-65	Stratified coarse sand to fine sandy loam	SM, SC, SC-SM	A-4, A-2-4	0	0	100	95-100	50-90	15-60	0-25	NP-10
	65-80	Stratified coarse sand	SM, SC, SC-SM	A-2-4	0	0	100	100	50-70	15-30	0-25	NP-10
1004: Albion-----	0-9	Sandy loam	SM, SC, SC-SM	A-2-4, A-4	0	0	100	75-100	60-90	25-45	0-25	NP-10
	9-16	Sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	16-27	Sandy loam	SM, SC-SM, SC	A-2-4, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	27-48	Loamy coarse sand	SM, SC-SM, SC	A-1-b, A-2-4	0	0	85-100	75-90	40-70	15-30	0-25	NP-10
	48-80	Sand	GP-GC, SP-SC, SP-SM, GM, GP-GM, SM	A-3, A-1-b, A-2-4	0	0-5	40-100	35-85	30-70	5-30	0-20	NP-5
1005: Albion-----	0-9	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	100	75-100	60-90	25-45	0-25	NP-10
	9-16	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	16-27	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	27-48	Loamy coarse sand	SC, SC-SM, SM	A-1-b, A-2	0	0	85-100	75-90	40-70	15-30	0-25	NP-10
	48-80	Sand	GM, GP-GM, SM, SP-SM	A-3, A-1, A-2	0	0-5	40-100	35-85	30-70	5-30	0-20	NP-5
1006: Albion-----	0-9	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	100	75-100	60-90	25-45	0-25	NP-10
	9-16	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	16-27	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	27-48	Loamy coarse sand	SC, SC-SM, SM	A-1-b, A-2	0	0	85-100	75-90	40-70	15-30	0-25	NP-10
	48-80	Sand	GM, GP-GM, SM, SP-SM	A-3, A-1, A-2	0	0-5	40-100	35-85	30-70	5-30	0-20	NP-5
1011: Albion-----	0-9	Sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	100	75-100	60-90	25-45	0-25	NP-10
	9-16	Sandy loam	SC, SM, SC-SM	A-2-4, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	16-27	Sandy loam	SM, SC-SM, SC	A-2-4, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	27-48	Loamy coarse sand	SM, SC-SM, SC	A-1-b, A-2-4	0	0	85-100	75-90	40-70	15-30	0-25	NP-10
	48-80	Sand	GP-GC, SP-SC, GM, GP-GM, SM, SP-SM	A-3, A-1-b, A-2-4	0	0-5	40-100	35-85	30-70	5-30	0-20	NP-5
Shellabarger---	0-7	Sandy loam	SM, ML	A-4, A-2	0	0	95-100	95-100	75-100	30-55	0-30	NP-5
	7-11	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	11-19	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	19-33	Sandy loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	33-47	Coarse sandy loam	SC, SM, SP-SM, SC-SM, SP-SC	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	47-59	Loamy sand	SC, SM, SP-SM, SC-SM, SP-SC	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	59-73	Sand	SC, SM, SP-SM, SC-SM, SP-SC	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	73-80	Sand	SC, SM, SP-SM, SC-SM, SP-SC	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10

ENGINEERING INDEX PROPERTIES--Continued
Kingman County, Kansas

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
1017: Shellabarger, Eroded-----	0-5	Sandy loam	SM, ML	A-4, A-2	0	0	95-100	95-100	75-100	30-55	0-30	NP-5
	5-11	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	11-19	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	19-33	Sandy loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	33-47	Coarse sandy loam	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	47-59	Loamy sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	59-73	Sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	73-80	Sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
Albion-----	0-9	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	100	75-100	60-90	25-45	0-25	NP-10
	9-16	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	16-27	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	27-48	Loamy coarse sand	SC, SC-SM, SM	A-1-b, A-2	0	0	85-100	75-90	40-70	15-30	0-25	NP-10
	48-80	Sand	GM, GP-GM, SM, SP-SM	A-3, A-1, A-2	0	0-5	40-100	35-85	30-70	5-30	0-20	NP-5
1061: Arents, Earthen Dam-----	---	---	---	---	---	---	---	---	---	---	---	---
1359: Clark-----	0-11	Loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	80-95	60-75	25-35	5-15
	11-16	Loam	CL	A-6	0	0	100	95-100	80-100	50-80	30-40	10-20
	16-28	Loam	CL-ML, CL	A-4	0	0	100	95-100	80-100	50-80	30-40	10-20
	28-45	Fine sandy loam	CL, CL-ML	A-4	0	0	100	95-100	80-100	50-80	30-40	10-20
	45-65	Fine sandy loam	CL-ML, CL	A-4	0	0	100	95-100	80-100	50-80	30-40	10-20
	65-80	Very fine sandy loam	CL-ML, CL	A-4	0	0	100	95-100	80-100	50-80	30-40	10-20
Ost-----	0-8	Loam	CL, CL-ML	A-6, A-4	0	0	95-100	95-100	85-95	60-75	20-35	5-15
	8-12	Loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	60-80	30-45	10-20
	12-18	Loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	60-80	30-45	10-20
	18-23	Clay loam	CL, SC	A-6, A-7	0	0	95-100	90-100	80-100	35-80	30-45	10-20
	23-38	Clay loam	CL, SC, SC- SM, CL-ML, ML, SM	A-2, A-4, A-6	0	0	85-100	85-100	60-100	30-80	20-40	5-20
	38-54	Loam	CL, SC, SC- SM, CL-ML, ML, SM	A-2, A-4, A-6	0	0	85-100	85-100	60-100	30-80	20-40	5-20
	54-80	Loam	CL, SC, SC- SM, CL-ML, ML, SM	A-2, A-4, A-6	0	0	85-100	85-100	60-100	30-80	20-40	5-20
1555: Dillhut-----	0-4	Fine sand	SP-SM, SM	A-2, A-3	0	0	100	100	80-100	5-15	0-0	NP
	4-9	Fine sand	SP-SM, SM	A-2, A-3	0	0	100	100	80-100	5-15	0-0	NP
	9-18	Fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	80-100	5-15	0-0	NP
	18-26	Fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	80-100	5-15	0-0	NP
	26-41	Fine sandy loam	CL, SC-SM, SC	A-6	0	0	100	100	80-100	36-55	30-40	10-20
	41-55	Fine sandy loam	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6	0	0	100	100	80-95	30-55	26-32	7-11
	55-65	Fine sandy loam	CL-ML, SC-SM, SC, CL	A-2, A-4, A-6	0	0	100	100	80-95	30-55	26-32	7-11
	65-70	Fine sandy loam	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6	0	0	100	100	80-95	30-55	26-32	7-11
	70-80	Fine sandy loam	SP-SM, SP-SC, SC, SC-SM, SM	A-2-4	0	0	100	100	50-70	5-25	22-30	NP-10
Plev-----	0-4	Loamy fine sand	SP-SM	A-2-4, A-3	0	0	100	100	80-100	5-10	0-19	NP-3
	4-12	Fine sand	SP-SM	A-3	0	0	100	100	80-100	5-10	0-0	NP
	12-35	Fine sand	SP-SM	A-3	0	0	100	100	80-100	5-10	0-0	NP
	35-46	Fine sand	SP-SM	A-3	0	0	100	100	80-100	5-10	0-0	NP
	46-57	Fine sandy loam	SC-SM, SC	A-2-4, A-2-6, A-4, A-6	0	0	100	100	80-95	30-45	20-35	5-15
	57-75	Fine sandy loam	SC-SM, SC	A-2-4, A-2-6, A-4, A-6	0	0	100	100	80-95	30-45	20-35	5-15
	75-80	Loamy fine sand	SP-SM	A-2-4, A-3	0	0	100	100	50-70	5-10	0-0	NP

ENGINEERING INDEX PROPERTIES--Continued
Kingman County, Kansas

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200				
	In				Pct	Pct					Pct			
1728: Farnum-----	0-5	Loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	60-85	20-35	5-15		
	5-15	Loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	60-85	20-35	5-15		
	15-21	Loam	CL	A-6	0	0	100	100	85-100	60-80	30-40	10-15		
	21-34	Sandy clay loam	SC, CL	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30		
	34-48	Loam	SC, CL	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30		
	48-61	Clay loam	SC, CL	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30		
	61-73	Clay loam	SC, CL	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30		
	73-80	Loam	SC, CL, SC- SM, CL-ML	A-2, A-4, A-6	0	0	100	95-100	65-100	30-80	20-35	5-15		
Funmar-----	0-6	Loam	CL-ML, CL	A-4, A-6	0	0	100	100	85-100	60-85	25-35	5-15		
	6-12	Loam	CL-ML, CL	A-4, A-6	0	0	100	100	85-100	60-85	25-35	5-15		
	12-17	Loam	CL, ML	A-6, A-4, A- 7-6	0	0	100	100	85-100	60-80	30-45	7-20		
	17-26	Clay loam	CL, ML	A-6, A-4, A- 7-6	0	0	100	100	85-100	60-80	30-45	7-20		
	26-32	Loam	CL, ML	A-6, A-4, A- 7-6	0	0	100	100	85-100	60-80	30-45	7-20		
	32-38	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	90-100	75-100	40-50	20-30		
	38-54	Silty clay loam	CL, CH	A-7-6	0	0	100	100	90-100	85-100	45-60	25-35		
	54-66	Silty clay loam	CL, CH	A-7-6	0	0	100	100	90-100	85-100	45-60	25-35		
	66-80	Silty clay loam	CL, SC	A-7-6	0	0	100	100	90-100	85-100	45-60	25-35		
2205: Jamash-----	0-4	Clay loam	CL	A-7-5, A-7-6	0	0	100	100	96-100	75-98	40-50	15-25		
	4-11	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	96-100	75-98	45-55	20-30		
	11-15	Silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-99	40-50	15-25		
	15-28	Weathered bedrock			---	---	---	---	---	---	---	---		
	28-80	Weathered bedrock			---	---	---	---	---	---	---	---		
Piedmont-----	0-4	Clay loam	CL	A-6, A-7	0	0	100	100	96-100	75-98	31-43	10-20		
	4-7	Clay loam	CL	A-6, A-7	0	0	100	100	96-100	75-98	31-43	10-20		
	7-13	Clay	CL	A-6, A-7	0	0	100	100	96-100	75-98	31-50	13-26		
	13-20	Clay	CL	A-6, A-7	0	0	100	100	96-100	75-98	31-50	13-26		
	20-24	Silty clay	CH, CL	A-6, A-7	0	0	100	100	96-100	80-99	37-60	15-34		
	24-32	Silty clay	GC, CH, CL, SC	A-6, A-7	0	0	50-100	50-100	45-100	45-99	37-60	15-34		
	32-80	Weathered bedrock			---	---	---	---	---	---	---	---		
2381: Kanza-----	0-4	Sandy loam	SM, SC, SC-SM	A-2, A-4	0	0	95-100	90-100	70-100	10-40	0-25	NP-10		
	4-9	Loamy fine sand	SM, SC-SM, SC	A-2, A-4	0	0	95-100	90-100	70-100	10-40	0-25	NP-10		
	9-17	Loamy fine sand	SM, SC, SC-SM	A-2, A-4	0	0	95-100	90-100	50-85	10-30	0-25	NP-10		
	17-33	Loamy fine sand	SM, SC-SM, SC	A-2, A-3, A-4	0	0	90-100	85-100	65-100	5-25	0-20	NP-5		
	33-80	Sand	SP-SM, SP-SC SM, SC-SM, SC	A-2, A-3, A-4	0	0	90-100	85-100	65-100	5-25	0-20	NP-5		
Ninnescah-----	0-6	Sandy loam	SM, SC-SM, SC	A-2-4, A-2-6, A-4, A-6	0	0	100	100	70-100	20-49	15-34	NP-15		
	6-14	Sandy loam	SM, SC-SM, SC	A-2-4, A-2-6, A-4, A-6	0	0	100	100	70-100	20-49	15-34	NP-15		
	14-19	Sandy loam	SM, SC-SM, SC	A-6, A-2-4, A- 2-6, A-4	0	0	100	100	70-100	20-49	15-34	NP-15		
	19-30	Sandy loam	SM, SC-SM, SC	A-2-4, A-4	0	0	100	95-100	70-100	30-49	15-26	NP-10		
	30-37	Sandy loam	SM, SC-SM, SC	A-2-4, A-4	0	0	100	95-100	70-100	30-49	15-26	NP-10		
	37-52	Sandy loam	SC-SM, SP-SM, SM, SP-SC	A-2-4, A-3	0	0	100	90-100	60-90	5-35	0-20	NP-6		
	52-80	Loamy sand	SP-SM, SM, SC-SM, SP-SC	A-2-4, A-3	0	0	100	90-100	60-90	5-35	0-20	NP-6		
2390: Kaskan-----	0-7	Loam	CL	A-6	0	0	100	100	95-100	85-100	30-35	10-15		
	7-17	Clay loam	CL	A-6, A-7	0	0	100	100	100	85-100	35-45	15-20		
	17-24	Loam	CL	A-6	0	0	100	100	80-95	60-80	30-35	10-15		
	24-35	Fine sandy loam	SC-SM, SC	A-2-4, A-4	0	0	100	100	70-85	30-45	20-30	5-10		
	35-41	Loamy fine sand	SM	A-2-4	0	0	100	95-100	65-85	15-30	0-0	NP		
	41-47	Fine sand	SM	A-2-4	0	0	100	95-100	65-85	15-30	0-0	NP		
	47-66	Sand	SM	A-2-4	0	0	100	95-100	65-85	15-30	0-0	NP		
	66-80	Stratified gravelly coarse sand to sand	SP-SM, SP	A-1-b, A-2-4, A-3	0	0	95-100	75-95	35-55	1-10	0-0	NP		
2556: Langdon-----	0-8	Fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	80-100	5-25	0-0	NP		
	8-47	Stratified sand to loamy sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	80-100	5-25	0-0	NP		
	47-64	Fine sand	SP-SM, SM	A-2-4, A-3	0	0	100	100	80-100	5-20	0-0	NP		
	64-80	Stratified sand to loamy sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	80-100	5-25	0-0	NP		

ENGINEERING INDEX PROPERTIES--Continued
Kingman County, Kansas

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Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index	
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200			
	In				Pct	Pct					Pct		
2812: Mahone-----	0-8	Loamy fine sand	SM, SC-SM	A-2-4, A-4	0	0	100	100	75-95	25-45	0-20	NP-5	
	8-14	Fine sandy loam	SM, SC-SM	A-2-4, A-4	0	0	100	100	75-95	25-45	0-20	NP-5	
	14-20	Fine sandy loam	SC, SC-SM, CL-ML, CL	A-4	0	0	100	90-100	75-95	45-65	20-30	5-10	
	20-25	Very fine sandy loam	CL, CL-ML, SC-SM, SC	A-4	0	0	100	90-100	75-95	45-65	20-30	5-10	
	25-33	Silt loam	SC-SM, CL, CL-ML, SC	A-4	0	0	100	90-100	75-95	45-65	20-30	5-10	
	33-39	Stratified silt loam to fine sandy loam	SC-SM, SC, CL-ML, CL	A-4	0	0	100	90-100	75-95	45-65	20-30	5-10	
	39-42	Clay loam	CL	A-6, A-7-6	0	0	100	100	98-100	85-95	30-45	10-25	
	42-48	Fine sandy loam	CL	A-7-6, A-6, A-4	0	0	100	100	98-100	85-95	30-45	10-25	
	48-54	Very fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	95-100	65-100	40-90	20-35	5-20	
	54-61	Fine sandy loam	CL, SC-SM, SC, CL-ML	A-4, A-6	0	0	100	95-100	65-100	40-90	20-35	5-20	
	61-66	Fine sandy loam	CL-ML, SC, SC-SM, CL	A-4, A-6	0	0	100	95-100	65-100	40-90	20-35	5-20	
	66-71	Fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	95-100	65-100	40-90	20-35	5-20	
	71-78	Loamy fine sand	SP-SM, SP	A-1-b, A-3, A-2-4	0	0	99-100	85-100	35-75	1-10	0-0	NP	
	78-80	Coarse sand	SP-SM, SP	A-1-b, A-3	0	0	99-100	85-100	35-75	1-10	0-0	NP	
	2948: Nalim-----	0-6	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	65-85	20-35	5-15
		6-9	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	65-85	20-35	5-15
		9-13	Clay loam	SC, CL, SM, ML	A-6, A-7-6	0	0	95-100	95-100	65-100	45-80	35-55	11-25
		13-21	Clay loam	SC, CL, SM, ML	A-7-6, A-6	0	0	95-100	95-100	65-100	45-80	35-55	11-25
		21-31	Clay loam	SC, CL, SM, ML	A-6, A-7-6	0	0	95-100	95-100	65-100	45-80	35-55	11-25
		31-39	Sandy clay loam	SC, CL	A-6, A-4, A- 2-6	0	0	95-100	95-100	65-100	30-80	25-40	10-20
39-44		Gravelly sandy clay loam	SC, CL	A-6, A-4, A- 2-6	0	0	95-100	95-100	65-100	30-80	25-40	10-20	
44-52		Sandy clay loam	SC, CL	A-2, A-4, A-6	0	0	95-100	95-100	60-90	15-70	25-40	10-20	
52-62		Loamy coarse sand	SC, SM, SC-SM	A-1-b, A-2	0	0	85-100	75-90	40-70	15-30	0-25	NP-10	
62-72		Gravelly loamy coarse sand	GP-GC, SP-SC, SC-SM, SM, GP-GM, GM, GC-GM, SP-SM	A-3, A-1, A-2	0	0	40-100	35-85	30-70	5-30	0-20	NP-5	
72-80	Stratified sand to gravelly loamy coarse sand	GM, GP-GM, SM, SP-SM, GC-GM, SC- SM, GP-GC, SP-SC	A-3, A-1, A-2	0	0	40-100	35-85	30-70	5-30	0-20	NP-5		
3051: Ost-----	0-8	Loam	CL, CL-ML	A-6, A-4	0	0	95-100	95-100	85-95	60-75	20-35	5-15	
	8-12	Loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	60-80	30-45	10-20	
	12-18	Loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	60-80	30-45	10-20	
	18-23	Clay loam	CL, SC	A-6, A-7	0	0	95-100	90-100	80-100	35-80	30-45	10-20	
	23-38	Clay loam	CL, SC, SC- SM, CL-ML	A-2, A-4, A-6	0	0	85-100	85-100	60-100	30-80	20-40	5-20	
	38-54	Loam	CL, SC, SC- SM, CL-ML	A-2, A-4, A-6	0	0	85-100	85-100	60-100	30-80	20-40	5-20	
54-80	Loam	CL, SC, SC- SM, CL-ML	A-6, A-2, A-4	0	0	85-100	85-100	60-100	30-80	20-40	5-20		
3052: Ost-----	0-8	Loam	CL, CL-ML	A-6, A-4	0	0	95-100	95-100	85-95	60-75	20-35	5-15	
	8-12	Loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	60-80	30-45	10-20	
	12-18	Loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	60-80	30-45	10-20	
	18-23	Clay loam	CL, SC	A-6, A-7	0	0	95-100	90-100	80-100	35-80	30-45	10-20	
	23-38	Clay loam	CL, SC, SC- SM, CL-ML	A-2, A-4, A-6	0	0	85-100	85-100	60-100	30-80	20-40	5-20	
	38-54	Loam	CL, SC, SC- SM, CL-ML	A-2, A-4, A-6	0	0	85-100	85-100	60-100	30-80	20-40	5-20	
54-80	Loam	CL, SC, SC- SM, CL-ML	A-2, A-4, A-6	0	0	85-100	85-100	60-100	30-80	20-40	5-20		
Clark-----	0-11	Loam	CL-ML, CL	A-4, A-6	0	0	100	95-100	80-95	60-75	25-35	5-15	
	11-16	Loam	CL	A-6	0	0	100	95-100	80-100	50-80	30-40	10-20	
	16-28	Loam	CL	A-4	0	0	100	95-100	80-100	50-80	30-40	10-20	
	28-45	Fine sandy loam	CL	A-4	0	0	100	95-100	80-100	50-80	30-40	10-20	
	45-65	Fine sandy loam	CL	A-4	0	0	100	95-100	80-100	50-80	30-40	10-20	
	65-80	Very fine sandy loam	CL	A-4	0	0	100	95-100	80-100	50-80	30-40	10-20	

ENGINEERING INDEX PROPERTIES--Continued
Kingman County, Kansas

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct					Pct	
3170: Penalosa-----	In											
	0-5	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	96-100	80-98	21-37	2-13
	5-10	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	96-100	80-98	21-37	2-13
	10-14	Silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	33-43	12-26
	14-22	Silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	33-43	12-26
	22-28	Silty clay loam	CH, CL	A-6, A-7	0	0	100	96-100	96-100	85-99	37-60	15-34
	28-34	Silty clay loam	CH, CL	A-6, A-7	0	0	100	96-100	96-100	85-99	37-60	15-34
	34-39	Silty clay loam	CL, CH	A-6, A-7	0	0	100	96-100	96-100	90-99	37-60	15-34
	39-48	Silt loam	ML, CL-ML, CL	A-6, A-4	0	0	100	100	96-100	80-98	21-37	2-13
	48-61	Silty clay loam	CH, CL	A-6, A-7	0	0	100	96-100	96-100	85-99	37-60	15-34
	61-71	Silty clay loam	CH, CL	A-6, A-7	0	0	100	96-100	96-100	85-99	37-60	15-34
	71-80	Clay loam	CH, CL	A-6, A-7	0	0	100	96-100	96-100	80-99	37-60	15-34
3171: Penalosa-----												
	0-5	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	96-100	80-98	21-37	2-13
	5-10	Silty clay loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	96-100	80-98	21-37	2-13
	10-14	Silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	33-43	12-26
	14-22	Silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	33-43	12-26
	22-28	Silty clay loam	CL, CH	A-6, A-7	0	0	100	96-100	96-100	85-99	37-60	15-34
	28-34	Silty clay loam	CL, CH	A-6, A-7	0	0	100	96-100	96-100	85-99	37-60	15-34
	34-39	Silty clay loam	CH, CL	A-6, A-7	0	0	100	96-100	96-100	90-99	37-60	15-34
	39-48	Silt loam	CL-ML, CL, ML	A-6, A-4	0	0	100	100	96-100	80-98	21-37	2-13
	48-61	Silty clay loam	CH, CL	A-6, A-7	0	0	100	96-100	96-100	85-99	37-60	15-34
	61-71	Silty clay loam	CH, CL	A-6, A-7	0	0	100	96-100	96-100	85-99	37-60	15-34
	71-80	Clay loam	CL, CH	A-6, A-7	0	0	100	96-100	96-100	80-99	37-60	15-34
3180: Pratt-----												
	0-8	Fine sand	SM, SP-SM	A-2, A-3	0	0	100	95-100	65-100	5-35	0-14	NP
	8-24	Loamy fine sand	SM, SC-SM	A-2, A-4	0	0	100	95-100	90-100	15-40	0-20	NP-6
	24-64	Stratified fine sand to loamy fine sand	SM, SC-SM	A-2, A-4	0	0	100	95-100	90-100	15-40	0-20	NP-6
	64-80	Fine sand	SM, SP-SM	A-2, A-3	0	0	100	95-100	80-100	5-35	0-14	NP
3181: Pratt-----												
	0-8	Fine sand	SP-SM, SM	A-2, A-3	0	0	100	95-100	65-100	5-35	0-14	NP
	8-24	Loamy fine sand	SM, SC-SM	A-2, A-4	0	0	100	95-100	90-100	15-40	0-20	NP-6
	24-64	Stratified fine sand to loamy fine sand	SM, SC-SM	A-2, A-4	0	0	100	95-100	90-100	15-40	0-20	NP-6
	64-80	Fine sand	SP-SM, SM	A-2, A-3	0	0	100	95-100	80-100	5-35	0-14	NP
	0-8	Fine sand	SP-SM, SM	A-2, A-3	0	0	100	100	80-100	5-25	0-0	NP
	8-28	Loamy fine sand	SP-SM, SM	A-2-4	0	0	100	100	80-100	10-25	0-20	NP-3
	28-40	Stratified loamy fine sand to fine sandy loam	SP-SM, SM, SC-SM	A-2-4	0	0	100	100	80-100	10-30	0-23	NP-6
	40-58	Silty clay	CL, CH	A-6, A-7-6	0	0	100	100	80-100	80-99	36-52	16-25
	58-75	Silty clay	CH, CL	A-6, A-7-6	0	0	100	100	80-100	80-99	36-52	16-25
	75-80	Silty clay	CH, CL	A-6, A-7-6	0	0	100	100	80-100	80-99	36-52	16-25
3445: Shellabarger, Moderately Eroded-----												
	0-6	Sandy loam	SM, ML	A-4, A-2	0	0	95-100	95-100	75-100	30-55	0-30	NP-5
	6-11	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	11-19	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	19-33	Sandy loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	33-47	Coarse sandy loam	SC, SM, SP-SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	47-59	Loamy sand	SC, SM, SP-SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	59-73	Sand	SC, SM, SP-SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	73-80	Sand	SC, SM, SP-SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10

ENGINEERING INDEX PROPERTIES--Continued
Kingman County, Kansas

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3510: Saltcreek-----	0-5	Fine sandy loam	SM, ML, CL- ML, SC-SM	A-2-4, A-4	0	0	100	100	80-95	30-55	20-30	1-7
	5-10	Sandy clay loam	ML, CL-ML, SC-SM, SM	A-2-4, A-4	0	0	100	100	80-95	30-55	20-30	1-7
	10-26	Sandy clay loam	SC, CL	A-6	0	0	100	100	85-100	45-60	25-35	10-20
Funmar-----	26-39	Fine sandy loam	SC, CL	A-6	0	0	100	100	85-100	45-60	25-35	10-20
	39-56	Silty clay	CH, CL	A-7-6	0	0	100	100	90-100	85-99	45-55	25-35
	56-66	Silty clay loam	CL, CH	A-7-6	0	0	100	100	90-100	85-99	45-55	25-35
	66-80	Silty clay loam	CH, CL	A-7-6	0	0	100	100	90-100	85-99	45-55	25-35
	0-6	Loam	CL-ML, CL	A-4, A-6	0	0	100	100	85-100	60-85	25-35	5-15
	6-12	Loam	CL-ML, CL	A-4, A-6	0	0	100	100	85-100	60-85	25-35	5-15
	12-17	Loam	CL	A-6, A-4, A-7-6	0	0	100	100	85-100	60-80	30-45	7-20
	17-26	Clay loam	CL	A-6, A-4, A-7-6	0	0	100	100	85-100	60-80	30-45	7-20
	26-32	Loam	CL	A-6, A-4, A-7-6	0	0	100	100	85-100	60-80	30-45	7-20
	32-38	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	90-100	75-100	40-50	20-30
Farnum-----	38-54	Silty clay loam	CL, CH	A-7-6	0	0	100	100	90-100	85-100	45-60	25-35
	54-66	Silty clay loam	CL, CH	A-7-6	0	0	100	100	90-100	85-100	45-60	25-35
	66-80	Silty clay loam	CL, CH	A-7-6	0	0	100	100	90-100	85-100	45-60	25-35
	0-5	Loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	60-85	20-35	5-15
	5-15	Loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	60-85	20-35	5-15
	15-21	Loam	CL	A-6	0	0	100	100	85-100	60-80	30-40	10-15
	21-34	Sandy clay loam	SC, CL	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30
	34-48	Loam	SC, CL	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30
	48-61	Clay loam	SC, CL	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30
	61-73	Clay loam	SC, CL	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30
73-80	Loam	SC, CL, SC-SM, CL-ML	A-2, A-4, A-6	0	0	100	95-100	65-100	30-80	20-35	5-15	
3530: Shellabarger, Eroded-----	0-5	Sandy loam	SM, ML	A-4, A-2	0	0	95-100	95-100	75-100	30-55	0-30	NP-5
	5-11	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	11-19	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	19-33	Sandy loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	33-47	Coarse sandy loam	SC, SM, SP-SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	47-59	Loamy sand	SC, SM, SP-SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	59-73	Sand	SC, SM, SP-SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	73-80	Sand	SC, SM, SP-SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
Albion-----	0-9	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	100	75-100	60-90	25-45	0-25	NP-10
	9-16	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	16-27	Sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	27-48	Loamy coarse sand	SC-SM, SC, SM	A-1-b, A-2	0	0	85-100	75-90	40-70	15-30	0-25	NP-10
	48-80	Sand	GP-GM, GC-GM, SM, SP-SM, GP-GC, GM, SP-SC, SC-SM	A-3, A-1, A-2	0	0-5	40-100	35-85	30-70	5-30	0-20	NP-5

ENGINEERING INDEX PROPERTIES--Continued
Kingman County, Kansas

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index	
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200			
3531: Shellabarger, Moderately Eroded-----	In				Pct	Pct					Pct		
	0-6	Sandy loam	SM, ML	A-4, A-2	0	0	95-100	95-100	75-100	30-55	0-30	NP-5	
	6-11	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	11-19	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	19-33	Sandy loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	33-47	Coarse sandy loam	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
	47-59	Loamy sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
	59-73	Sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
	73-80	Sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
	Nalim-----	0-6	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	65-85	20-35	5-15
6-9		Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	65-85	20-35	5-15	
9-13		Clay loam	SC, CL, SM, ML	A-6, A-7-6	0	0	95-100	95-100	65-100	45-80	35-55	11-25	
13-21		Clay loam	SC, CL, SM, ML	A-7-6, A-6	0	0	95-100	95-100	65-100	45-80	35-55	11-25	
21-31		Clay loam	SC, CL, SM, ML	A-6, A-7-6	0	0	95-100	95-100	65-100	45-80	35-55	11-25	
31-39		Sandy clay loam	SC, CL	A-6, A-4, A- 2-6	0	0	95-100	95-100	65-100	30-80	25-40	10-20	
39-44		Gravelly sandy clay loam	SC, CL	A-6, A-4, A- 2-6	0	0	95-100	95-100	65-100	30-80	25-40	10-20	
44-52		Sandy clay loam	SC, CL	A-2, A-4, A-6	0	0	95-100	95-100	60-90	15-70	25-40	10-20	
52-62		Loamy coarse sand	SC, SC-SM, SM	A-1-b, A-2	0	0	85-100	75-90	40-70	15-30	0-25	NP-10	
62-72		Gravelly loamy coarse sand	GM, GP-GM, SM, SP-SM, SP-SC, GP- GC, SC-SM, GC-GM	A-3, A-1, A-2	0	0	40-100	35-85	30-70	5-30	0-20	NP-5	
72-80	Stratified sand to gravelly loamy coarse sand	GC-GM, SC-SM, GP-GC, SP- SC, GM, GP- GM, SM, SP- SM	A-3, A-1, A-2	0	0	40-100	35-85	30-70	5-30	0-20	NP-5		
3532: Shellabarger---	0-6	Loamy sand	SM	A-2	0	0	95-100	95-100	70-100	15-35	0-14	NP	
	6-11	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	11-19	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	19-33	Sandy loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	33-47	Coarse sandy loam	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
	47-59	Loamy sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
	59-73	Sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
	73-80	Sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
	3533: Shellabarger---	0-7	Sandy loam	SM, ML	A-4, A-2	0	0	95-100	95-100	75-100	30-55	0-30	NP-5
		7-11	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
11-19		Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
19-33		Sandy loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
33-47		Coarse sandy loam	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
47-59		Loamy sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
59-73		Sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
73-80		Sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
3534: Shellabarger---		0-7	Sandy loam	SM, ML	A-4, A-2	0	0	95-100	95-100	75-100	30-55	0-30	NP-5
		7-11	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	11-19	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	19-33	Sandy loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20	
	33-47	Coarse sandy loam	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
	47-59	Loamy sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
	59-73	Sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	
	73-80	Sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10	

ENGINEERING INDEX PROPERTIES--Continued
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Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct					Pct	
3535: Shellabarger----	In											
	0-7	Sandy loam	SM, ML	A-4, A-2	0	0	95-100	95-100	75-100	30-55	0-30	NP-5
	7-11	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	11-19	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	19-33	Sandy loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	33-47	Coarse sandy loam	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	47-59	Loamy sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	59-73	Sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
	73-80	Sand	SC, SM, SP- SM, SC-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	0-30	NP-10
Nalim-----	0-6	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	65-85	20-35	5-15
	6-9	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	95-100	65-85	20-35	5-15
	9-13	Clay loam	SC, CL, SM, ML	A-6, A-7-6	0	0	95-100	95-100	65-100	45-80	35-55	11-25
	13-21	Clay loam	SC, CL, SM, ML	A-7-6, A-6	0	0	95-100	95-100	65-100	45-80	35-55	11-25
	21-31	Clay loam	SC, CL, SM, ML	A-6, A-7-6	0	0	95-100	95-100	65-100	45-80	35-55	11-25
	31-39	Sandy clay loam	SC, CL	A-6, A-4, A- 2-6	0	0	95-100	95-100	65-100	30-80	25-40	10-20
	39-44	Gravelly sandy clay loam	SC, CL	A-6, A-4, A- 2-6	0	0	95-100	95-100	65-100	30-80	25-40	10-20
	44-52	Sandy clay loam	SC, CL	A-2, A-4, A-6	0	0	95-100	95-100	60-90	15-70	25-40	10-20
	52-62	Loamy coarse sand	SC, SC-SM, SM	A-1-b, A-2	0	0	85-100	75-90	40-70	15-30	0-25	NP-10
	62-72	Gravelly loamy coarse sand	GM, GP-GC, SP-SC, SC- SM, GC-GM, GP-GM, SM, SP-SM	A-3, A-1, A-2	0	0	40-100	35-85	30-70	5-30	0-20	NP-5
	72-80	Stratified sand to gravelly loamy coarse sand	SP-SC, GP-GC, SC-SM, GC- GM, SP-SM, SM, GP-GM, GM	A-3, A-1, A-2	0	0	40-100	35-85	30-70	5-30	0-20	NP-5
3926: Water-----	---	---	---	---	---	---	---	---	---	---	---	---
3966: Willowbrook----	0-4	Fine sandy loam	SC-SM, SC	A-4	0	0	100	99-100	90-100	36-45	20-30	5-10
	4-9	Fine sandy loam	SC-SM, SC	A-4	0	0	100	99-100	90-100	36-45	20-30	5-10
	9-13	Fine sandy loam	SC-SM, SC	A-4	0	0	100	99-100	92-100	34-42	20-30	5-10
	13-17	Fine sandy loam	SM, SC, SC-SM	A-2-4, A-4	0	0	100	99-100	90-100	34-42	20-30	5-10
	17-19	Loam	SC, SC-SM, SM, CL-ML	A-2-4, A-4	0	0	100	90-100	70-95	25-58	15-25	NP-10
	19-26	Fine sandy loam	SC, SM, SC-SM	A-2-4, A-4	0	0	98-100	90-100	70-95	25-45	15-25	NP-10
	26-45	Coarse sand	SP, SP-SM	A-3, A-1-b	0	0	90-100	80-100	35-75	1-10	0-0	NP
	45-51	Coarse sand	SP-SM, SP	A-1-b, A-3	0	0	85-100	75-95	35-55	1-10	0-0	NP
	51-80	Stratified gravelly coarse sand to sand	SP-SM, SP	A-1-b, A-3	0	0	85-100	75-95	35-55	1-10	0-0	NP
4005: Yaggy-----	0-5	Fine sandy loam	CL-ML, SC-SM, SC	A-4	0	0	100	99-100	85-100	40-65	10-25	5-10
	5-11	Fine sandy loam	CL-ML, SC-SM, CL	A-4	0	0	100	99-100	85-100	40-60	10-25	5-10
	11-14	Stratified very fine sandy loam to silt loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	75-95	60-80	10-35	5-15
	14-24	Fine sand	SP-SM, SP	A-2-4, A-3	0	0	100	80-100	70-95	1-12	0-0	NP
	24-31	Fine sand	SP, SP-SM	A-2-4, A-3	0	0	100	80-100	70-98	1-12	0-0	NP
	31-42	Fine sand	SP, SP-SM	A-2-4, A-3	0	0	100	80-100	70-97	1-12	0-0	NP
	42-53	Stratified gravelly coarse sand	SP-SM, SP	A-1-b, A-3	0	0	85-100	75-95	35-55	1-10	0-0	NP
	53-69	Stratified gravelly coarse sand to sand	SP, SP-SM	A-1-b, A-3	0	0	85-100	75-95	35-55	1-10	0-0	NP
	69-80	Stratified gravelly coarse sand to sand	SP-SM, SP	A-1-b, A-3	0	0	85-100	75-95	35-55	1-10	0-0	NP
Saxman-----	0-4	Loamy sand	SM	A-2-4	0	0	100	95-100	75-100	15-30	0-0	NP
	4-8	Loamy sand	SM	A-2-4	0	0	100	95-100	75-100	15-30	0-0	NP
	8-13	Loamy sand	SM	A-2-4	0	0	99-100	95-100	75-100	15-30	0-0	NP
	13-22	Loamy sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	75-95	8-30	0-0	NP
	22-30	Sand	SM, SP-SM	A-2-4, A-3	0	0	99-100	95-100	75-95	8-30	0-0	NP
	30-37	Sand	SM, SP-SM, SP	A-2-4, A-3	0	0	85-100	80-95	65-85	1-15	0-0	NP
	37-48	Sand	SP-SM, SP, SM	A-2-4, A-3	0	0	85-100	80-97	65-85	1-15	0-0	NP
	48-54	Fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	85-100	80-95	65-85	1-15	0-0	NP
	54-80	Stratified gravelly coarse sand	SP, SP-SM	A-1-b, A-2-4, A-3	0	0	85-100	75-95	35-55	1-10	0-0	NP

ENGINEERING INDEX PROPERTIES--Continued
Kingman County, Kansas

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
4110: Zellmont-----	0-8	Sandy loam	CL, SC	A-4, A-6, A-2-4, A-2-6	0	0	95-100	95-100	75-100	30-55	25-35	10-15
	8-18	Sandy clay loam	CL, SC	A-4, A-6, A-2-4, A-2-6	0	0	95-100	95-100	65-100	45-80	30-40	10-20
	18-26	Sandy clay loam	SC, SC-SM, SP-SC	A-2-4	0	0	80-100	70-100	50-80	10-40	20-30	5-10
	26-32	Loam	SC, CL	A-2-4, A-2-6	0	0	85-100	70-100	65-100	45-80	30-40	10-20
	32-80	Weathered bedrock			---	---	---	---	---	---	---	---
Poxmash-----	0-5	Sandy loam	SC, SM, SC-SM	A-2, A-4	0	0	100	75-100	60-90	25-45	0-25	NP-10
	5-9	Sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	100	75-100	60-90	25-45	0-25	NP-10
	9-15	Sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	85-100	75-100	50-95	25-40	20-30	NP-10
	15-20	Loamy sand	SM, SC-SM, SC	A-1-b, A-2	0	0	85-100	75-90	40-70	15-30	0-25	NP-10
	20-33	Sand	GC-GM, SP-SM, SM, GP-GM, GM, SP-SC	A-1, A-2, A-3	0	0-5	40-100	35-85	30-70	5-30	0-20	NP-5
	33-48	Sand	SP-SC, SP-SM, SM, GP-GM, GM, GC-GM	A-1, A-2, A-3	0	0-5	40-100	35-85	30-70	5-30	0-20	NP-5
	48-80	Weathered bedrock			---	---	---	---	---	---	---	---
Aa: Albion-----	0-8	Sandy loam	ML, SM	A-2, A-4	0	0	100	75-100	60-90	25-55	15-30	NP-5
	8-16	Sandy loam	ML, SM	A-2, A-4	0	0	85-100	75-100	45-90	30-55	20-35	NP-10
	16-26	Coarse sandy loam	SM	A-1, A-2	0	0	85-100	75-90	40-70	15-30	15-30	NP-5
	26-60		GM, GP-GM, SM, SP-SM	A-1, A-2, A-3	0	0-5	40-100	40-90	30-70	5-30	15-30	NP-5
Ab: Albion-----	0-8	Sandy loam	ML, SM	A-2, A-4	0	0	100	75-100	60-90	25-55	15-30	NP-5
	8-16	Sandy loam	ML, SM	A-4, A-2	0	0	85-100	75-100	45-90	30-55	20-35	NP-10
	16-26	Coarse sandy loam	SM	A-1, A-2	0	0	85-100	75-90	40-70	15-30	15-30	NP-5
	26-60	Sand	GM, GP-GM, SM, SP-SM	A-1, A-2, A-3	0	0-5	40-100	40-90	30-70	5-30	15-30	NP-5
Ac: Albion-----	0-8	Sandy loam	ML, SM	A-2, A-4	0	0	100	75-100	60-90	25-55	15-30	NP-5
	8-16	Sandy loam	ML, SM	A-2, A-4	0	0	85-100	75-100	45-90	30-55	20-35	NP-10
	16-26	Loamy sand	SM	A-1, A-2	0	0	85-100	75-90	40-70	15-30	15-30	NP-5
	26-60	Sand	GM, GP-GM, SM, SP-SM	A-1, A-2, A-3	0	0-5	40-100	40-90	30-70	5-30	15-30	NP-5
Ad: Albion-----	0-8	Sandy loam	ML, SM	A-2, A-4	0	0	100	75-100	60-90	25-55	15-30	NP-5
	8-16	Sandy loam	ML, SM	A-2, A-4	0	0	85-100	75-100	45-90	30-55	20-35	NP-10
	16-26	Coarse sandy loam	SM	A-1, A-2	0	0	85-100	75-90	40-70	15-30	15-30	NP-5
	26-60	Sand	GM, GP-GM, SM, SP-SM	A-1, A-2, A-3	0	0-5	40-100	40-90	30-70	5-30	15-30	NP-5
AED: Arents, Earthen Dam-----	---	---	---	---	---	---	---	---	---	---	---	---
Ba: Blanket-----	0-18	Silt loam	CL	A-6	0	0	98-100	96-100	85-100	65-95	28-40	11-20
	18-50	Silty clay	CH, CL	A-7	0	0	98-100	96-100	85-100	70-90	41-64	20-38
	50-60	Silty clay loam	CH, CL	A-6, A-7	0	0	85-100	80-100	80-100	51-85	30-60	15-38
Bb: Blanket-----	0-18	Silt loam	CL	A-6	0	0	98-100	96-100	85-100	65-95	28-40	11-20
	18-50	Silty clay	CH, CL	A-7	0	0	98-100	96-100	85-100	70-90	41-64	20-38
	50-60	Silty clay loam	CH, CL	A-6, A-7	0	0	85-100	80-100	80-100	51-85	30-60	15-38
Bc: Blanket-----	0-5	Silty clay loam	CH, CL	A-6, A-7	0	0	98-100	96-100	90-100	70-98	36-62	16-38
	5-40	Silty clay	CH, CL	A-7	0	0	98-100	96-100	85-100	70-90	41-64	20-38
	40-60	Silty clay loam	CH, CL	A-6, A-7	0	0	85-100	80-100	80-100	51-85	30-60	15-38
Ca: Canadian-----	0-16	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	98-100	94-100	36-65	15-26	NP-7
	16-32	Fine sandy loam	CL, ML, SC, SM	A-4	0	0	100	98-100	94-100	36-85	15-31	NP-10
	32-60	Fine sandy loam	CL, ML, SC, SM	A-2, A-4	0	0	100	98-100	90-100	15-85	15-31	NP-10
Cb: Carwile-----	0-10	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	98-100	90-100	36-60	15-26	NP-7
	10-18	Clay loam	CL, SC	A-6, A-7	0	0	100	100	90-100	36-90	35-50	14-26
	18-36	Clay	CH, CL, SC	A-6, A-7	0	0	100	100	90-100	40-95	35-70	14-38
	36-60	Sandy clay loam	CH, CL, SC	A-4, A-6, A-7	0	0	100	100	90-100	36-95	25-70	7-38
Cc: Case-----	0-8	Clay loam	CL	A-6	0	0	90-100	90-100	85-100	55-85	30-40	10-20
	8-60	Clay loam	CL	A-6, A-7-6	0	0	90-100	90-100	85-100	55-85	25-45	10-25
Clark-----	0-11	Clay loam	CL	A-6	0	0	100	95-100	90-100	50-90	30-40	10-20
	11-60	Clay loam	CL	A-6	0	0	100	95-100	90-100	55-90	25-40	10-25
Cd: Case-----	0-8	Clay loam	CL	A-6	0	0	90-100	90-100	85-100	55-85	30-40	10-20
	8-60	Clay loam	CL	A-6, A-7-6	0	0	90-100	90-100	85-100	55-85	25-45	10-25
Clark-----	0-11	Clay loam	CL	A-6	0	0	100	95-100	90-100	50-90	30-40	10-20
	11-60	Clay loam	CL	A-6	0	0	100	95-100	90-100	55-90	25-40	10-25

ENGINEERING INDEX PROPERTIES--Continued
Kingman County, Kansas

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Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct					Pct	
Ce:												
Clark-----	0-11	Clay loam	CL	A-6	0	0	100	95-100	90-100	50-90	30-40	10-20
	11-60	Clay loam	CL	A-6	0	0	100	95-100	90-100	55-90	25-40	10-25
Cf:												
Clark-----	0-11	Clay loam	CL	A-6	0	0	100	95-100	90-100	50-90	30-40	10-20
	11-60	Clay loam	CL	A-6	0	0	100	95-100	90-100	55-90	25-40	10-25
Da:												
Dillwyn-----	0-8	Loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	95-100	70-90	5-35	---	NP
	8-60	Loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	90-100	70-90	5-35	---	NP
Plevna-----	0-11	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	95-100	70-100	20-50	15-26	NP-6
	11-36	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	95-100	70-100	30-50	15-26	NP-6
	36-60	Sand	SM, SP	A-2, A-3	0	0	100	90-100	50-90	4-35	---	NP
Fa:												
Farnum-----	0-16	Sandy loam	ML, SM	A-2, A-4	0	0	100	100	70-100	30-55	15-30	NP-5
	16-50	Clay loam	CL, SC	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30
	50-60	Clay loam	SC-SM, CL, CL-ML, SC	A-2, A-4, A-6	0	0	100	95-100	65-100	30-80	20-35	5-15
Fb:												
Farnum-----	0-13	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	60-85	20-35	5-15
	13-18	Loam	CL	A-6	0	0	100	100	85-100	60-80	30-40	10-15
	18-52	Clay loam	CL, SC	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30
	52-60	Fine sandy loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	100	95-100	65-100	30-80	20-35	5-15
Fc:												
Farnum-----	0-13	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	60-85	20-35	5-15
	13-18	Loam	CL	A-6	0	0	100	100	85-100	60-80	30-40	10-15
	18-52	Sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30
	52-60	Fine sandy loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	100	95-100	65-100	30-80	20-35	5-15
Fd:												
Farnum-----	0-13	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	60-85	20-35	5-15
	13-18	Loam	CL	A-6	0	0	100	100	85-100	60-80	30-40	10-15
	18-52	Sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30
	52-60	Fine sandy loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	100	95-100	65-100	30-80	20-35	5-15
Fe:												
Farnum-----	0-8	Clay loam	CL	A-6	0	0	100	100	90-100	60-85	30-40	10-20
	8-40	Clay loam	CL, SC	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30
	40-60	Clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	100	95-100	65-100	30-80	20-35	5-15
Ff:												
Farnum-----	0-13	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	60-85	20-35	5-15
	13-18	Loam	CL	A-6	0	0	100	100	85-100	60-80	30-40	10-15
	18-52	Sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	100	70-100	45-80	35-50	15-30
	52-60	Fine sandy loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	100	95-100	65-100	30-80	20-35	5-15
Natrustolls----	---	---	---	---	---	---	---	---	---	---	---	---
Ka:												
Kaski-----	0-28	Loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	85-100	50-85	20-45	5-25
	28-42	Loam	CL, SC	A-4, A-6, A-7	0	0	100	95-100	85-100	45-85	25-45	7-25
	42-60	Loam	CL, ML, SC, SM	A-2, A-4, A-6	0	0	100	95-100	60-100	30-80	15-35	NP-20
Kb:												
Kingman-----	0-18	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-50	13-26
	18-48	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-50	13-26
	48-60	Silty clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	95-100	90-100	40-90	15-40	5-20
La:												
Lincoln-----	0-10	Loamy fine sand	SM	A-2	0	0	100	98-100	90-100	15-35	---	NP
	10-60	Stratified fine sand to clay loam	SM, SP-SM	A-2, A-3	0	0	100	98-100	82-100	5-35	---	NP
Ma:												
Mclain-----	0-14	Silt loam	CL	A-4, A-6	0	0	100	100	96-100	65-97	30-37	8-14
	14-42	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	96-100	80-99	37-60	15-34
	42-60	Silty clay loam	CH, CL	A-4, A-6, A-7	0	0	100	95-100	95-100	65-99	27-60	7-34
Na:												
Nashville-----	0-28	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	85-100	20-35	2-10
	>28	Weathered bedrock			---	---	---	---	---	---	---	---
Nb:												
Nashville-----	0-28	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	85-100	20-35	2-10
	>28	Weathered bedrock			---	---	---	---	---	---	---	---
Quinlan-----	0-13	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	90-100	51-97	15-37	NP-14
	>13	Weathered bedrock			---	---	---	---	---	---	---	---
Oa:												
Owens-----	0-6	Clay loam	CL	A-6, A-7-6	---	0-5	95-100	95-100	90-100	75-95	35-50	15-30
	6-16	Clay	CH, CL	A-7-6	---	0-5	95-100	95-100	85-100	75-95	45-70	20-40
	>16	Weathered bedrock			---	---	---	---	---	---	---	---
Pa:												
Pond Creek-----	0-10	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	96-100	65-97	22-37	3-14
	10-60	Silty clay loam	CL	A-4, A-6, A-7	0	0	100	100	96-100	65-98	30-43	8-20

ENGINEERING INDEX PROPERTIES--Continued
Kingman County, Kansas

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct					Pct	
Pb: Pratt-----	In											
	0-12	Loamy fine sand	SM	A-2	0	0	100	95-100	70-100	15-35	---	NP
	12-36	Loamy fine sand	SC-SM, SM	A-2, A-4	0	0	100	95-100	90-100	15-40	15-20	NP-6
	36-60	Loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	95-100	80-100	5-35	---	NP
Pc: Pratt-----	0-12	Loamy fine sand	SM	A-2	0	0	100	95-100	70-100	15-35	---	NP
	12-36	Loamy fine sand	SC-SM, SM	A-2, A-4	0	0	100	95-100	90-100	15-40	15-20	NP-6
	36-60	Fine sand	SP-SM, SM	A-2, A-3	0	0	100	95-100	80-100	5-35	---	NP
Carwile-----	0-10	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	98-100	90-100	36-60	15-26	NP-7
	10-18	Sandy clay loam	CL, SC	A-6, A-7	0	0	100	100	90-100	36-90	35-50	14-26
	18-36	Clay loam	CH, CL, SC	A-6, A-7	0	0	100	100	90-100	40-95	35-70	14-38
	36-60	Sandy clay loam	CH, CL, SC	A-4, A-6, A-7	0	0	100	100	90-100	36-95	25-70	7-38
Pd: Pratt-----	0-12	Loamy fine sand	SM	A-2	0	0	100	95-100	70-100	15-35	---	NP
	12-36	Loamy fine sand	SC-SM, SM	A-2, A-4	0	0	100	95-100	90-100	15-40	15-20	NP-6
	36-60	Fine sand	SM, SP-SM	A-2, A-3	0	0	100	95-100	80-100	5-35	---	NP
Tivoli-----	0-8	Loamy fine sand	SM	A-2	0	0	100	95-100	90-100	15-35	---	NP
	8-60	Fine sand	SM, SP-SM	A-3, A-2	0	0	100	95-100	80-100	5-25	---	NP
Qa: Quinlan-----	0-13	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	90-100	51-97	15-37	NP-14
	>13	Weathered bedrock			---	---	---	---	---	---	---	---
Qb: Quinlan-----	0-13	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	90-100	51-97	15-37	NP-14
	>13	Weathered bedrock			---	---	---	---	---	---	---	---
Ra: Renfrow-----	0-8	Clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	33-49	12-26
	8-12	Clay loam	CL	A-6, A-7	0	0	100	100	96-100	80-98	37-49	15-26
	12-50	Clay	CH, CL, MH	A-6, A-7	0	0	100	100	96-100	80-99	37-70	15-38
Rb: Ruella-----	0-10	Clay loam	CL	A-6	0	0	100	100	85-100	65-85	30-40	10-20
	10-60	Clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	65-85	25-35	5-15
Rc: Ruella-----	0-10	Clay loam	CL	A-6	0	0	100	100	85-100	65-85	30-40	10-20
	10-60	Clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	65-85	25-35	5-15
Rock Outcrop---	---	---	---	---	---	---	---	---	---	---	---	---
Sa: Shellabarger---	0-12	Loamy sand	SM	A-2	0	0	95-100	95-100	70-100	15-35	---	NP
	12-38	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	38-60	Fine sandy loam	SC, SC-SM, SM, SP-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	15-30	NP-10
Sb: Shellabarger---	0-10	Sandy loam	ML, SM, CL-ML	A-2, A-4	0	0	95-100	95-100	75-100	30-55	15-30	NP-5
	10-45	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	45-60	Coarse sandy loam	SC, SC-SM, SM, SP-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	15-30	NP-10
Sc: Shellabarger---	0-10	Sandy loam	ML, SM	A-2, A-4	0	0	95-100	95-100	75-100	30-55	15-30	NP-5
	10-45	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	45-60	Coarse sandy loam	SC, SC-SM, SM, SP-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	15-30	NP-10
Sd: Shellabarger---	0-10	Sandy loam	ML, SM	A-2, A-4	0	0	95-100	95-100	75-100	30-55	15-30	NP-5
	10-45	Sandy clay loam	SC	A-4, A-6	0	0	95-100	85-100	70-90	35-50	25-40	8-20
	45-60	Coarse sandy loam	SC, SC-SM, SM, SP-SM	A-2, A-4	0	0	80-100	70-100	50-80	10-40	15-30	NP-10
Ta: Tivoli-----	0-7	Fine sand	SM, SP-SM	A-2, A-3	0	0	100	95-100	80-100	5-25	---	NP
	7-60	Fine sand	SM, SP-SM	A-2, A-3	0	0	100	95-100	80-100	5-25	---	NP
W: Water-----	---	---	---	---	---	---	---	---	---	---	---	---
Wa: Waldeck-----	0-12	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	95-100	75-100	25-55	15-25	NP-5
	12-36	Sandy loam	SC-SM, SM	A-2, A-4	0	0	100	95-100	70-100	30-50	15-25	NP-5
	36-60	Sand	SM, SP, SP-SM	A-1, A-2, A-3	0	0	90-100	80-100	40-60	1-35	---	NP
Za: Zenda-----	0-13	Clay loam	CL	A-6	0	0	100	95-100	85-100	55-80	30-40	10-20
	13-60	Clay loam	CL	A-6	0	0	100	95-100	85-100	55-80	25-40	10-25

Physical Properties table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earth moving operations.

Moist bulk density is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability ($K \rightarrow \text{sat}$) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity ($K \rightarrow \text{sat}$). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In Physical Properties table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the Physical Properties table as the K factor (K_w and K_f) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor K_w indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor K_f indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to

wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.
- 4L. Calcareous loams, silt loams, clay loams, and silty clay loams.
4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Explanation of Wind Erodibility Groups

Soil erodibility by wind is directly related to the percentage of dry non-erodible surface soil aggregates larger than 0.84 mm in diameter. From this percentage, the wind erodibility index (I-factor) is determined. The I-factor is an expression of the stability of these soil aggregates against breakdown by tillage and abrasion from wind erosion. Soils are placed in Wind Erodibility Groups (WEG) having similar percentages of dry soil aggregates larger than 0.84 mm as shown in the following table.

WEG	Properties of Soil Surface Layer	Dry Soil Aggregates >0.84mm Percent	Wind Erodibility Index T/Ac/Yr (I)
1	Very fine sand, fine sand, sand, or coarse sand	1 2 3 5 7	310 1/ 250 220 180 160
2	Loamy very fine sand, loamy fine sand, loamy sand, loamy coarse sand, organic soil materials.	10	134
3	Very fine sandy loam, fine sandy loam, sandy loam, or coarse sandy loam.	25	86
4	Clay, silty clay, non-calcareous clay loam, or silty clay loam with >35 percent clay content.	25	86
4L	Calcareous 2/ loam, silt loam, clay loam, or silty clay loam.	25	86
5	Non-calcareous loam and silt loam with <20 percent clay content, or sandy clay loam, sandy clay, and hemic 3/ organic soil materials.	40	56
6	Non-calcareous loam and silt loam with >20 percent clay content, or non-calcareous clay loam with <35 percent clay content.	45	48
7	Silt, non-calcareous silty clay loam with >35 percent clay content and fibric 3/ organic soil material.	50	38
8	Soils not suitable for cultivation due to coarse fragments or wetness; wind erosion is not a problem.	--	0

1/ The "I" values for WEG 1 vary from 160 for coarse sands to 310 for very fine sands. Use an "I" of 220 as an average figure. For coarser sand that has gravel, use a lower figure. For a soil that has no gravel and very fine sand, use a higher figure. (Modification for coarse fragments is preparation.)

2/ Calcareous is a strongly or violently effervescent reaction to cold dilute (1N) HCL.

3/ See Soil Taxonomy for definition.

PHYSICAL PROPERTIES OF THE SOILS--Continued
Kingman County, Kansas: Published

(Single entries under "Sand and Silt" are a representative percentage are calculated using an algorithm. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
007AE:	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
Albion-----	0-8	66	23	7-15	1.35-1.50	2.00-6.00	0.13-0.17	0.0-2.9	1.0-2.0	.20	.20	4	3	86
	8-16	67	19	10-18	1.45-1.60	2.00-6.00	0.12-0.18	0.0-2.9	---	.20	.24			
	16-27	82	9	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	---	.17	.20			
	27-60	92	2	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	---	.15	.32			
Shellabarger-	0-14	68	20	8-16	1.35-1.50	0.60-2.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	14-48	60	18	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	---	.28	.32			
	48-60	66	24	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	---	.28	.32			
007FA:														
Farnum-----	0-9	63	26	8-14	1.45-1.55	2.00-6.00	0.13-0.18	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	9-60	34	36	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	---	.28	.28			
077KA:														
Kanza-----	0-8	86	7	3-12	1.50-1.70	5.95-19.98	0.08-0.13	0.0-2.9	1.0-3.0	.17	.20	5	2	134
	8-60	87	7	1-12	1.50-1.70	5.95-19.98	0.06-0.11	0.0-2.9	---	.17	.20			
077KR:														
Kirkland-----	0-12	35	34	27-35	1.30-1.60	0.60-2.00	0.15-0.22	3.0-5.9	1.0-3.0	.43	.43	5	6	48
	12-34	5	45	40-60	1.35-1.60	0.00-0.06	0.10-0.14	6.0-8.9	---	.37	.37			
	34-60	23	29	35-60	1.40-1.65	0.20-0.60	0.10-0.18	6.0-8.9	---	.32	.32			
Renfrow-----	0-9	35	34	27-35	1.30-1.60	0.20-0.60	0.15-0.22	3.0-5.9	1.0-3.0	.43	.43	5	6	48
	9-13	31	33	32-40	1.45-1.70	0.20-0.60	0.15-0.20	3.0-5.9	---	.43	.43			
	13-60	26	29	35-55	1.40-1.70	0.00-0.06	0.10-0.18	6.0-8.9	---	.43	.43			
077NN:														
Nashville----	0-7	10	68	18-27	1.20-1.40	0.60-2.00	0.20-0.24	0.0-2.9	2.0-4.0	.32	.32	3	6	48
	7-30	10	68	18-27	1.20-1.40	0.60-2.00	0.20-0.24	0.0-2.9	---	.43	.43			
	>30			---	---	---	---	---	---	---	---			
077PC:														
Pond Creek---	0-13	11	68	15-26	1.30-1.50	0.60-2.00	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	13-60	7	65	20-35	1.40-1.70	0.20-0.60	0.15-0.22	3.0-5.9	---	.37	.37			
077RC:														
Renfrow-----	0-9	35	34	27-35	1.30-1.60	0.20-0.60	0.15-0.22	3.0-5.9	1.0-3.0	.43	.43	5	6	48
	9-13	31	33	32-40	1.45-1.70	0.20-0.60	0.15-0.20	3.0-5.9	---	.43	.43			
	13-60	26	29	35-55	1.40-1.70	0.00-0.06	0.10-0.18	6.0-8.9	---	.43	.43			
Vernon-----	0-7	30	32	35-40	1.40-1.60	0.06-0.20	0.12-0.17	6.0-8.9	0.5-2.0	.37	.37	4	4	86
	7-24	22	28	40-60	1.50-1.65	0.00-0.06	0.10-0.15	6.0-8.9	0.0-1.0	.37	.37			
	24-28	22	28	40-60	1.70-2.00	0.00-0.06	0.01-0.06	6.0-8.9	0.5-0.5	.32	.32			
	28-80			---	1.85-2.00	0.06-0.20	---	---	---	---	---			
077SB:														
Shellabarger-	0-13	68	20	8-16	1.35-1.50	0.60-2.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	13-38	60	18	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	---	.28	.32			
	38-60	66	24	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	---	.28	.32			
077SE:														
Shellabarger-	0-13	68	20	8-16	1.35-1.50	0.60-2.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	13-38	59	18	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	---	.28	.32			
	38-60	66	24	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	---	.28	.32			
077SF:														
Shellabarger-	0-13	68	20	8-16	1.35-1.50	0.60-2.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	13-38	60	18	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	---	.28	.32			
	38-60	66	24	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	---	.28	.32			
077SG:														
Shellabarger-	0-13	68	20	8-16	1.35-1.50	0.60-2.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	13-38	60	18	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	---	.28	.32			
	38-60	66	24	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	---	.28	.32			
077SH:														
Shellabarger-	0-13	64	20	12-20	1.50-1.65	2.00-6.00	0.11-0.15	0.0-2.9	1.0-3.0	.24	.24	3	3	86
	13-35	40	38	15-30	1.45-1.60	0.60-2.00	0.12-0.20	0.0-2.9	---	.32	.32			
	35-39	34	36	25-35	1.50-1.65	0.20-0.60	0.12-0.20	3.0-5.9	---	.32	.32			
	>39			---	---	---	---	---	---	---	---			
151AO:														
Albion-----	0-8	66	23	7-15	1.35-1.50	2.00-6.00	0.13-0.17	0.0-2.9	1.0-2.0	.20	.20	4	3	86
	8-18	67	19	10-18	1.45-1.60	2.00-6.00	0.12-0.18	0.0-2.9	---	.20	.24			
	18-29	66	24	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	---	.17	.20			
	29-60	92	2	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	---	.15	.32			
151CN:														
Clark-----	0-8	65	20	10-20	1.30-1.45	0.60-2.00	0.15-0.19	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	8-60	35	38	18-35	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	---	.28	.28			
151CO:														
Clark-----	0-8	34	37	27-32	1.35-1.45	0.60-2.00	0.17-0.22	3.0-5.9	1.0-2.0	.28	.28	5	4L	86
	8-60	35	38	18-35	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	---	.28	.28			
Ost-----	0-9	34	37	27-30	1.35-1.40	0.20-0.60	0.15-0.20	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	9-14	35	38	20-34	1.45-1.65	0.20-0.60	0.15-0.20	3.0-5.9	---	.32	.32			
	14-23	36	38	18-34	1.40-1.60	0.20-0.60	0.15-0.20	3.0-5.9	---	.32	.32			
	23-60	39	43	5-30	1.40-1.60	0.20-0.60	0.13-0.20	0.0-2.9	---	.32	.37			
151KP:														
Kanza-----	0-11	86	7	3-12	1.50-1.70	5.95-19.98	0.08-0.13	0.0-2.9	1.0-3.0	.17	.17	5	2	134
	11-40	92	1	1-12	1.50-1.70	5.95-19.98	0.06-0.11	0.0-2.9	---	.17	.20			
Plevna-----	0-10	67	20	8-18	1.40-1.50	2.00-6.00	0.14-0.16	0.0-2.9	1.0-4.0	.20	.20	5	3	86
	10-40	67	20	8-18	1.40-1.50	2.00-6.00	0.12-0.16	0.0-2.9	---	.20	.20			
	40-60	95	1	1-7	1.50-1.60	2.00-6.00	0.05-0.07	0.0-2.9	---	.20	.20			
151ND:														
Naron-----	0-8	63	26	8-14	1.40-1.50	2.00-6.00	0.14-0.18	0.0-2.9	1.0-3.0	.20	.20	5	3	86
	8-38	59	18	18-27	1.45-1.55	0.60-2.00	0.15-0.18	0.0-2.9	---	.32	.32			
	38-60	65	27	2-14	1.50-1.60	2.00-6.00	0.10-0.15	0.0-2.9	---	.32	.32			

PHYSICAL PROPERTIES OF THE SOILS--Continued
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Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
		Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct	K	Kf	T		
151NF: Naron-----	0-8	63	26	8-14	1.40-1.50	2.00-6.00	0.14-0.18	0.0-2.9	1.0-3.0	.20	.20	5	3	86
	8-38	59	18	18-27	1.45-1.55	0.60-2.00	0.15-0.18	0.0-2.9	---	.32	.32			
	38-60	65	27	2-14	1.50-1.60	2.00-6.00	0.10-0.15	0.0-2.9	---	.32	.32			
151OC: Ost-----	0-9	34	37	27-30	1.35-1.40	0.20-0.60	0.15-0.20	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	9-14	35	38	20-34	1.45-1.65	0.20-0.60	0.15-0.20	3.0-5.9	---	.32	.32			
	14-23	36	38	18-34	1.40-1.60	0.20-0.60	0.15-0.20	3.0-5.9	---	.32	.32			
	23-60	39	43	5-30	1.40-1.60	0.20-0.60	0.13-0.20	0.0-2.9	---	.32	.37			
151OS: Ost-----	0-9	34	37	27-30	1.35-1.40	0.20-0.60	0.15-0.20	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	9-14	35	38	20-34	1.45-1.65	0.20-0.60	0.15-0.20	3.0-5.9	---	.32	.32			
	14-23	36	38	18-34	1.40-1.60	0.20-0.60	0.15-0.20	3.0-5.9	---	.32	.32			
	23-60	39	43	5-30	1.40-1.60	0.20-0.60	0.13-0.20	0.0-2.9	---	.32	.37			
151PN: Pratt-----	0-10	79	16	2-8	1.40-1.55	5.95-19.98	0.10-0.13	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	10-40	86	7	4-11	1.45-1.55	5.95-19.98	0.09-0.12	0.0-2.9	---	.17	.17			
	40-60	79	16	1-8	1.45-1.60	5.95-19.98	0.08-0.12	0.0-2.9	---	.17	.17			
151SE: Shellabarger-	0-11	68	20	8-16	1.35-1.50	0.60-2.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	11-34	60	18	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	---	.28	.32			
	34-60	66	24	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	---	.28	.32			
151ZS: Drummond----	0-8	34	37	27-32	1.30-1.60	0.20-0.60	0.08-0.11	3.0-5.9	0.5-1.0	.49	.49	2	4L	86
	8-30	25	27	35-60	1.40-1.65	0.00-0.06	0.06-0.12	6.0-8.9	---	.37	.37			
	30-60			---	---	---	---	---	---	---	---			
Zenda-----	0-14	34	37	27-32	1.45-1.55	0.60-2.00	0.17-0.22	3.0-5.9	1.0-3.0	.28	.28	5	6	48
	14-60	38	36	18-35	1.45-1.60	0.60-2.00	0.15-0.19	3.0-5.9	---	.28	.28			
173MA: Milan-----	0-11	42	38	14-27	1.35-1.45	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
	11-60	34	36	25-35	1.40-1.55	0.20-0.60	0.14-0.21	3.0-5.9	---	.28	.28			
173PB: Plevna-----	0-9	67	20	8-18	1.40-1.50	2.00-6.00	0.14-0.16	0.0-2.9	1.0-4.0	.20	.20	5	3	86
	9-35	67	20	8-18	1.40-1.50	2.00-6.00	0.12-0.16	0.0-2.9	---	.20	.20			
	35-60	95	1	1-7	1.50-1.60	6.00-19.99	0.05-0.07	0.0-2.9	---	.20	.20			
173RA: Renfrow-----	0-9	20	49	27-35	1.30-1.60	0.20-0.60	0.15-0.22	3.0-5.9	1.0-3.0	.43	.43	5	7	38
	9-13	8	56	32-40	1.45-1.70	0.20-0.60	0.15-0.20	3.0-5.9	---	.43	.43			
	13-60	7	48	35-55	1.40-1.70	0.00-0.06	0.10-0.18	6.0-8.9	---	.43	.43			
173RC: Renfrow-----	0-9	35	34	27-35	1.30-1.60	0.20-0.60	0.15-0.22	3.0-5.9	1.0-3.0	.43	.43	5	6	48
	9-13	8	56	32-40	1.45-1.70	0.20-0.60	0.15-0.20	3.0-5.9	---	.43	.43			
	13-60	7	48	35-55	1.40-1.70	0.00-0.06	0.10-0.18	6.0-8.9	---	.43	.43			
Wellsford----	0-7	30	32	35-40	1.35-1.55	0.00-0.06	0.12-0.14	6.0-8.9	0.5-2.0	.32	.32	2	4	86
	7-15	6	47	35-60	1.45-1.65	0.00-0.06	0.10-0.12	6.0-8.9	---	.32	.32			
	15-20			---	---	---	---	---	---	---	---			
173TA: Tabler-----	0-9	20	49	27-35	1.30-1.60	0.20-0.60	0.15-0.22	3.0-5.9	1.0-3.0	.43	.43	5	7	38
	9-32	6	47	40-55	1.35-1.60	0.00-0.06	0.12-0.18	6.0-8.9	---	.37	.37			
	32-60	7	48	35-55	1.35-1.65	0.00-0.06	0.12-0.22	6.0-8.9	---	.37	.37			
191RA: Renfrow-----	0-9	35	34	27-35	1.30-1.60	0.20-0.60	0.15-0.22	3.0-5.9	1.0-3.0	.43	.43	5	6	48
	9-13	8	56	32-40	1.45-1.70	0.20-0.60	0.15-0.20	3.0-5.9	---	.43	.43			
	13-75	7	48	35-55	1.40-1.70	0.00-0.06	0.10-0.18	6.0-8.9	---	.43	.43			
Grainola----	0-8	26	53	15-26	1.30-1.55	0.60-2.00	0.15-0.24	0.0-2.9	0.5-1.0	.43	.43	3	6	48
	8-28	6	47	35-60	1.35-1.65	0.06-0.20	0.10-0.20	6.0-8.9	---	.37	.37			
	28-36	6	47	35-60	1.35-1.65	0.06-0.20	0.02-0.20	6.0-8.9	---	.37	.37			
	36-42			---	---	---	---	---	---	---	---			
990: Abbyville----	0-8	41	39	15-25	1.30-1.55	0.60-2.00	0.17-0.19	0.0-2.9	1.0-3.0	.43	.43	2	6	48
	8-15	55	21	20-28	1.50-1.65	0.06-0.20	0.09-0.13	3.0-5.9	0.0-0.5	.43	.43			
	15-24	47	19	25-34	1.50-1.65	0.06-0.20	0.09-0.13	3.0-5.9	0.0-0.0	.32	.32			
	24-35	51	20	25-34	1.50-1.65	0.06-0.20	0.09-0.13	3.0-5.9	0.0-0.0	.32	.32			
	35-49	58	18	21-34	1.50-1.65	0.06-0.20	0.09-0.13	3.0-5.9	0.0-0.0	.32	.32			
	49-61	54	24	20-32	1.45-1.60	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.0	.28	.28			
	61-69	44	31	20-32	1.45-1.60	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.0	.28	.28			
	69-80	41	32	20-32	1.45-1.60	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.0	.28	.28			

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Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
991: Abbyville, rarely flooded-----	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
	0-8	68	19	13-19	1.30-1.55	2.00-6.00	0.14-0.17	0.0-2.9	1.0-3.0	.32	.32	2	3	86
	8-15	55	21	20-28	1.50-1.65	0.06-0.20	0.09-0.13	3.0-5.9	0.0-0.5	.28	.28			
	15-24	47	19	25-34	1.50-1.65	0.06-0.20	0.09-0.13	3.0-5.9	0.0-0.0	.32	.32			
	24-35	51	20	25-34	1.50-1.65	0.06-0.20	0.09-0.13	3.0-5.9	0.0-0.0	.32	.32			
	35-49	58	18	21-34	1.50-1.65	0.06-0.20	0.09-0.13	3.0-5.9	0.0-0.0	.32	.32			
	49-61	54	24	20-32	1.45-1.60	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.0	.28	.28			
	61-69	44	31	20-32	1.45-1.60	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.0	.28	.28			
	69-80	41	32	20-32	1.45-1.60	0.06-0.20	0.10-0.16	3.0-5.9	0.0-0.0	.28	.28			
Kisiwa, occasionally flooded-----	0-4	51	29	18-26	1.30-1.40	0.60-2.00	0.20-0.22	0.0-2.9	1.0-4.0	.43	.43	2	6	48
	4-7	49	30	18-28	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	1.0-4.0	.32	.32			
	7-14	42	27	27-40	1.30-1.60	0.00-0.06	0.15-0.18	3.0-5.9	0.0-1.0	.37	.37			
	14-23	39	24	27-37	1.35-1.60	0.00-0.06	0.15-0.18	3.0-5.9	0.0-1.0	.37	.37			
	23-31	30	29	26-45	1.30-1.60	0.00-0.06	0.08-0.15	3.0-5.9	0.0-1.0	.37	.37			
	31-40	27	29	26-45	1.30-1.60	0.00-0.06	0.08-0.15	3.0-5.9	0.0-1.0	.37	.37			
	40-46	45	28	26-45	1.45-1.60	0.00-0.06	0.08-0.15	3.0-5.9	0.0-0.5	.37	.37			
	46-52	58	29	5-18	1.30-1.70	2.00-6.00	0.11-0.17	0.0-2.9	0.0-0.5	.20	.20			
	52-58	64	27	5-18	1.30-1.70	2.00-6.00	0.11-0.17	0.0-2.9	0.0-0.5	.20	.20			
	58-65	61	30	0-12	1.30-1.70	5.95-19.98	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
	65-80	97	3	0-12	1.30-1.40	5.95-19.98	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
1004: Albion-----	0-9	72	18	7-15	1.35-1.45	2.00-6.00	0.16-0.18	0.0-2.9	1.0-2.0	.20	.24	4	3	86
	9-16	80	7	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.24			
	16-27	84	5	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.24			
	27-48	87	6	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.20			
	48-80	93	3	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.0	.15	.32			
1005: Albion-----	0-9	72	18	7-15	1.35-1.45	2.00-6.00	0.16-0.18	0.0-2.9	1.0-2.0	.20	.24	4	3	86
	9-16	80	7	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.24			
	16-27	84	5	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.24			
	27-48	87	6	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.20			
	48-80	90	7	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.0	.15	.32			
1006: Albion-----	0-9	72	18	7-15	1.35-1.45	2.00-6.00	0.16-0.18	0.0-2.9	1.0-2.0	.20	.24	4	3	86
	9-16	80	7	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.24			
	16-27	84	5	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.24			
	27-48	87	6	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.20			
	48-80	90	7	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.0	.15	.32			
1011: Albion-----	0-9	72	18	7-15	1.35-1.45	2.00-6.00	0.16-0.18	0.0-2.9	1.0-2.0	.20	.24	4	3	86
	9-16	80	7	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.24			
	16-27	84	5	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.24			
	27-48	87	6	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.20			
	48-80	90	7	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.0	.15	.32			
Shellabarger--	0-7	64	27	8-12	1.35-1.50	2.00-6.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	7-11	59	24	17-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-1.2	.28	.32			
	11-19	64	13	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32			
	19-33	69	8	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32			
	33-47	80	4	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	47-59	86	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	59-73	89	2	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	73-80	90	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
1017: Shellabarger, Eroded-----	0-5	64	27	8-12	1.35-1.50	2.00-6.00	0.13-0.21	0.0-2.9	0.5-1.0	.20	.20	5	3	86
	5-11	59	24	17-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.9	.28	.32			
	11-19	64	13	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32			
	19-33	69	8	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32			
	33-47	80	4	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	47-59	86	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	59-73	89	2	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	73-80	90	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
Albion-----	0-9	72	18	7-15	1.35-1.45	2.00-6.00	0.16-0.18	0.0-2.9	1.0-2.0	.20	.24	4	3	86
	9-16	80	7	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.24			
	16-27	84	5	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.24			
	27-48	87	6	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.20			
	48-80	90	7	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.0	.15	.32			
1061: Arents, Earthen Dam-	---	---	---	---	---	---	---	---	---	---	---	-	---	---

PHYSICAL PROPERTIES OF THE SOILS--Continued
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(Single entries under "Sand and Silt" are a representative percentage are calculated using an algorithm. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
1359:														
Clark-----	0-11	37	41	15-27	1.35-1.45	0.60-2.00	0.17-0.22	3.0-5.9	1.0-2.0	.28	.28	5	4L	86
	11-16	33	40	18-35	1.35-1.70	0.60-2.00	0.17-0.19	3.0-5.9	0.5-2.0	.32	.32			
	16-28	29	50	18-35	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	0.5-1.0	.32	.32			
	28-45	45	38	10-25	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	0.5-1.0	.32	.32			
	45-65	47	44	7-20	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	0.0-1.0	.32	.32			
	65-80	26	65	7-20	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	0.0-1.0	.32	.32			
Ost-----	0-8	35	44	10-27	1.40-1.54	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
	8-12	32	41	20-35	1.35-1.45	0.20-0.60	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
	12-18	32	41	20-35	1.35-1.45	0.20-0.60	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
	18-23	23	48	18-35	1.40-1.52	0.20-0.60	0.15-0.19	3.0-5.9	0.5-1.0	.32	.32			
	23-38	26	47	5-30	1.40-1.65	0.20-0.60	0.13-0.19	0.0-2.9	0.0-0.6	.32	.37			
	38-54	33	44	5-30	1.40-1.65	0.20-0.60	0.13-0.19	0.0-2.9	0.0-0.5	.32	.37			
	54-80	44	35	5-30	1.40-1.65	0.20-0.60	0.13-0.19	0.0-2.9	0.0-0.5	.32	.37			
1555:														
Dillhut-----	0-4	92	6	1-3	1.40-1.55	6.00-19.99	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15	5	1	220
	4-9	95	4	1-3	1.40-1.55	5.95-19.98	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15			
	9-18	96	3	1-3	1.40-1.55	5.95-19.98	0.02-0.10	0.0-2.9	0.0-0.5	.15	.15			
	18-26	93	5	1-3	1.40-1.55	5.95-19.98	0.02-0.10	0.0-2.9	0.0-0.5	.15	.15			
	26-41	70	16	13-30	1.40-1.55	0.60-2.00	0.12-0.15	0.0-2.9	0.0-0.0	.24	.24			
	41-55	75	15	10-22	1.55-1.65	2.00-6.00	0.11-0.15	0.0-2.9	0.0-0.0	.17	.17			
	55-65	77	13	9-17	1.55-1.65	2.00-6.00	0.11-0.15	0.0-2.9	0.0-0.0	.17	.17			
	65-70	57	25	10-20	1.55-1.65	2.00-6.00	0.11-0.15	0.0-2.9	0.0-0.0	.17	.17			
	70-80	76	15	5-15	1.45-1.60	5.95-19.98	0.08-0.12	0.0-2.9	0.0-0.0	.15	.15			
Plev-----	0-4	86	10	3-8	1.40-1.55	6.00-19.99	0.02-0.10	0.0-2.9	0.0-1.0	.17	.17	5	2	134
	4-12	88	10	1-5	1.40-1.55	5.95-19.98	0.02-0.10	0.0-2.9	0.0-0.5	.15	.15			
	12-35	94	5	0-2	1.40-1.55	5.95-19.98	0.02-0.10	0.0-2.9	0.0-0.0	.10	.10			
	35-46	96	4	0-2	1.40-1.55	5.95-19.98	0.02-0.10	0.0-2.9	0.0-0.0	.10	.10			
	46-57	70	14	10-27	1.55-1.65	0.60-2.00	0.08-0.10	0.0-2.9	0.0-0.0	.20	.20			
	57-75	79	9	10-27	1.55-1.65	0.60-2.00	0.08-0.10	0.0-2.9	0.0-0.0	.20	.20			
	75-80	84	11	4-6	1.45-1.60	5.95-19.98	0.04-0.10	0.0-2.9	0.0-0.0	.15	.15			
1728:														
Farnum-----	0-5	42	41	14-27	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	56
	5-15	41	39	14-27	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28			
	15-21	46	31	20-27	1.40-1.50	0.60-2.00	0.17-0.19	0.0-2.9	0.5-1.5	.28	.28			
	21-34	48	27	20-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	0.0-0.5	.28	.28			
	34-48	44	30	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	0.0-0.5	.28	.28			
	48-61	33	39	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	0.0-0.5	.28	.28			
	61-73	33	40	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	0.0-0.5	.28	.28			
	73-80	38	38	12-29	1.40-1.55	0.60-2.00	0.13-0.16	0.0-2.9	0.0-0.5	.28	.28			
Funmar-----	0-6	44	36	14-26	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	56
	6-12	44	34	14-26	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28			
	12-17	46	29	22-34	1.40-1.60	0.20-0.60	0.17-0.19	0.0-2.9	1.0-2.0	.32	.32			
	17-26	40	31	22-34	1.40-1.60	0.20-0.60	0.17-0.19	0.0-2.9	1.0-2.0	.32	.32			
	26-32	25	49	22-34	1.40-1.60	0.20-0.60	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32			
	32-38	16	52	26-34	1.35-1.45	0.20-0.60	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32			
	38-54	14	48	28-45	1.40-1.60	0.06-0.20	0.10-0.17	3.0-5.9	0.0-0.5	.37	.37			
	54-66	18	46	28-45	1.40-1.60	0.06-0.20	0.10-0.17	3.0-5.9	0.0-0.5	.37	.37			
	66-80	14	48	26-45	1.50-1.60	0.06-0.20	0.10-0.17	0.0-2.9	0.0-0.5	.37	.37			
2205:														
Jamash-----	0-4	22	46	30-40	1.30-1.60	0.20-0.60	0.18-0.22	3.0-5.9	1.0-3.0	.37	.37	2	7	38
	4-11	22	41	35-45	1.45-1.70	0.20-0.60	0.14-0.18	3.0-5.9	1.0-3.0	.37	.37			
	11-15	9	62	28-40	1.45-1.70	0.00-0.06	0.13-0.16	6.0-8.9	0.5-1.0	.32	.32			
	15-28	14	61	---	1.85-2.00	0.06-0.20	---	---	---	---	---			
	28-80	10	64	---	1.85-2.00	0.06-0.20	---	---	---	---	---			
Piedmont-----	0-4	26	44	27-35	1.30-1.60	0.20-0.60	0.15-0.22	3.0-5.9	1.0-3.0	.37	.37	3	7	38
	4-7	26	44	27-35	1.30-1.60	0.20-0.60	0.15-0.22	3.0-5.9	1.0-3.0	.43	.43			
	7-13	18	35	32-50	1.45-1.70	0.20-0.60	0.15-0.22	3.0-5.9	1.0-3.0	.43	.43			
	13-20	8	37	32-60	1.45-1.70	0.20-0.60	0.15-0.22	3.0-5.9	1.0-3.0	.43	.43			
	20-24	5	44	35-55	1.35-1.70	0.00-0.06	0.12-0.22	6.0-8.9	0.5-1.0	.43	.43			
	24-32	4	55	35-55	1.35-1.70	0.00-0.06	0.06-0.18	6.0-8.9	0.5-1.0	.37	.37			
	32-80	---	---	---	1.85-2.00	0.06-0.20	---	---	---	---	---			
2381:														
Kanza-----	0-4	67	25	3-12	1.50-1.70	0.60-2.00	0.08-0.13	3.0-5.9	1.0-3.0	.20	.20	5	3	86
	4-9	80	14	3-12	1.50-1.70	0.60-2.00	0.08-0.13	3.0-5.9	1.0-3.0	.17	.17			
	9-17	82	12	3-12	1.60-1.70	5.95-19.98	0.10-0.12	0.0-2.9	0.5-2.0	.17	.17			
	17-33	80	15	1-12	1.50-1.70	5.95-19.98	0.06-0.11	0.0-2.9	0.0-0.5	.17	.20			
	33-80	90	5	1-12	1.50-1.70	5.95-19.98	0.06-0.11	0.0-2.9	0.0-0.5	.17	.20			
Ninnescah----	0-6	57	27	11-17	1.40-1.50	2.00-6.00	0.14-0.16	0.0-2.9	1.0-4.0	.20	.20	5	3	86
	6-14	62	22	11-17	1.40-1.50	2.00-6.00	0.14-0.16	0.0-2.9	1.0-4.0	.20	.20			
	14-19	66	19	11-17	1.40-1.60	2.00-6.00	0.14-0.16	0.0-2.9	1.0-4.0	.20	.20			
	19-30	73	16	10-17	1.40-1.65	2.00-6.00	0.12-0.16	0.0-2.9	0.5-1.0	.20	.20			
	30-37	72	16	10-17	1.40-1.70	2.00-6.00	0.12-0.16	0.0-2.9	0.5-1.0	.20	.20			
	37-52	71	17	2-12	1.50-1.70	1.98-19.98	0.05-0.12	0.0-2.9	0.0-0.5	.17	.17			
	52-80	75	16	2-10	1.50-1.70	1.98-19.98	0.05-0.12	0.0-2.9	0.0-0.5	.17	.17			
2390:														
Kaskan-----	0-7	34	44	18-26	1.35-1.45	0.60-2.00	0.20-0.23	0.0-2.9	2.0-4.0	.28	.28	4	6	48
	7-17	25	46	27-35	1.35-1.45	0.60-2.00	0.21-0.23	3.0-5.9	2.0-4.0	.37	.37			
	17-24	52	28	18-26	1.45-1.55	0.60-2.00	0.17-0.19	0.0-2.9	1.0-2.0	.28	.28			
	24-35	63	25	10-17	1.45-1.55	2.00-6.00	0.14-0.17	0.0-2.9	0.0-1.0	.24	.24			
	35-41	79	15	0-8	1.50-1.60	5.95-19.98	0.06-0.09	0.0-2.9	0.0-0.5	.10	.10			
	41-47	93	4	0-8	1.50-1.60	5.95-19.98	0.06-0.09	0.0-2.9	0.0-0.5	.10	.10			
	47-66	94	4	0-8	1.50-1.60	5.95-19.98	0.06-0.09	0.0-2.9	0.0-0.5	.10	.10			
	66-80	97	2	0-2	1.55-1.65	5.95-19.98	0.02-0.05	0.0-2.9	0.0-0.0	.05	.05			

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Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
2556: Langdon-----	0-8	96	1	0-6	1.35-1.50	6.00-19.99	0.07-0.09	0.0-2.9	0.0-1.0	.15	.15	5	1	220
	8-47			0-12	1.50-1.70	6.00-19.99	0.02-0.08	0.0-2.9	0.0-0.0	.15	.15			
	47-64	96	1	0-5	1.50-1.70	6.00-19.99	0.02-0.08	0.0-2.9	0.0-0.0	.17	.15			
	64-80			0-12	1.50-1.70	6.00-19.99	0.02-0.08	0.0-2.9	0.0-0.0	.15	.15			
2812: Mahone-----	0-8	75	21	3-11	1.50-1.60	6.00-19.99	0.07-0.11	0.0-2.9	0.0-0.8	.17	.17	5	2	134
	8-14	74	21	3-11	1.50-1.60	5.95-19.98	0.07-0.11	0.0-2.9	0.0-0.8	.17	.17			
	14-20	72	23	5-17	1.45-1.55	2.00-6.00	0.14-0.18	0.0-2.9	0.0-1.0	.24	.24			
	20-25	54	40	5-17	1.45-1.55	2.00-6.00	0.14-0.18	0.0-2.9	0.0-1.0	.24	.24			
	25-33	32	61	7-17	1.45-1.55	2.00-6.00	0.14-0.18	0.0-2.9	0.0-1.0	.24	.24			
	33-39	16	74	8-17	1.45-1.55	2.00-6.00	0.14-0.18	0.0-2.9	0.0-1.0	.24	.24			
	39-42	26	40	18-34	1.30-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-2.0	.32	.32			
	42-48	63	28	8-34	1.30-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-2.0	.32	.32			
	48-54	59	28	12-28	1.45-1.55	2.00-6.00	0.14-0.19	0.0-2.9	0.0-0.5	.24	.24			
	54-61	53	35	12-28	1.45-1.55	2.00-6.00	0.14-0.19	0.0-2.9	0.0-0.5	.24	.24			
	61-66	66	23	10-28	1.45-1.55	2.00-6.00	0.14-0.19	0.0-2.9	0.0-0.5	.24	.24			
	66-71	68	21	10-28	1.45-1.55	2.00-6.00	0.14-0.19	0.0-2.9	0.0-0.5	.24	.24			
	71-78	76	16	0-10	1.55-1.65	5.95-19.98	0.02-0.07	0.0-2.9	0.0-0.0	.05	.05			
	78-80	91	6	0-4	1.55-1.65	5.95-19.98	0.02-0.07	0.0-2.9	0.0-0.0	.05	.05			
2948: Nalim-----	0-6	49	36	14-27	1.45-1.65	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	5	56
	6-9	38	37	14-27	1.35-1.65	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28			
	9-13	33	32	25-35	1.40-1.65	0.20-0.60	0.14-0.21	3.0-5.9	0.5-1.5	.28	.28			
	13-21	38	30	25-35	1.40-1.80	0.20-0.60	0.14-0.21	3.0-5.9	0.5-1.2	.28	.28			
	21-31	45	30	25-35	1.40-1.85	0.20-0.60	0.14-0.21	3.0-5.9	0.5-1.0	.28	.28			
	31-39	54	23	10-35	1.40-1.70	0.20-0.60	0.10-0.20	3.0-5.9	0.2-0.8	.32	.28			
	39-44	70	12	10-35	1.40-1.70	0.20-0.60	0.10-0.20	3.0-5.9	0.2-0.5	.32	.28			
	44-52	74	10	5-35	1.45-1.70	0.20-0.60	0.06-0.20	3.0-5.9	0.1-0.5	.32	.32			
	52-62	82	8	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	0.1-0.5	.17	.20			
	62-72	78	9	2-15	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.2	.15	.32			
	72-80	93	2	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.2	.15	.32			
3051: Ost-----	0-8	35	44	10-27	1.40-1.54	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
	8-12	32	41	20-35	1.35-1.45	0.20-0.60	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
	12-18	32	41	20-35	1.35-1.45	0.20-0.60	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
	18-23	23	48	18-35	1.40-1.52	0.20-0.60	0.15-0.19	3.0-5.9	0.5-1.0	.32	.32			
	23-38	26	47	5-30	1.40-1.65	0.20-0.60	0.13-0.19	0.0-2.9	0.0-0.6	.32	.37			
	38-54	33	44	5-30	1.40-1.65	0.20-0.60	0.13-0.19	0.0-2.9	0.0-0.5	.32	.37			
	54-80	44	35	5-30	1.40-1.65	0.20-0.60	0.13-0.19	0.0-2.9	0.0-0.5	.32	.37			
3052: Ost-----	0-8	35	44	10-27	1.40-1.54	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
	8-12	32	41	20-35	1.35-1.45	0.20-0.60	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
	12-18	32	41	20-35	1.35-1.45	0.20-0.60	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
	18-23	23	48	18-35	1.40-1.52	0.20-0.60	0.15-0.19	3.0-5.9	0.5-1.0	.32	.32			
	23-38	26	47	5-30	1.40-1.65	0.20-0.60	0.13-0.19	0.0-2.9	0.0-0.6	.32	.37			
	38-54	33	44	5-30	1.40-1.65	0.20-0.60	0.13-0.19	0.0-2.9	0.0-0.5	.32	.37			
	54-80	44	35	5-30	1.40-1.65	0.20-0.60	0.13-0.19	0.0-2.9	0.0-0.5	.32	.37			
Clark-----	0-11	37	41	15-27	1.35-1.45	0.60-2.00	0.17-0.22	3.0-5.9	1.0-2.0	.28	.28	5	4L	86
	11-16	33	40	18-35	1.35-1.70	0.60-2.00	0.17-0.19	3.0-5.9	0.5-2.0	.32	.32			
	16-28	29	50	18-35	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	0.5-1.0	.32	.32			
	28-45	45	38	10-25	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	0.5-1.0	.32	.32			
	45-65	47	44	7-20	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	0.0-1.0	.32	.32			
	65-80	26	65	7-20	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	0.0-1.0	.32	.32			
3170: Penalosa-----	0-5	22	57	15-28	1.30-1.50	0.60-2.00	0.16-0.24	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	5-10	21	57	15-28	1.30-1.50	0.60-2.00	0.16-0.24	0.0-2.9	1.0-3.0	.43	.43			
	10-14	19	41	27-40	1.36-1.70	0.20-0.60	0.16-0.22	3.0-5.9	1.0-3.0	.37	.37			
	14-22	19	44	27-45	1.40-1.70	0.20-0.60	0.16-0.22	3.0-5.9	1.0-3.0	.37	.37			
	22-28	18	46	35-50	1.40-1.70	0.06-0.20	0.12-0.22	6.0-8.9	0.5-2.0	.37	.37			
	28-34	19	45	35-50	1.40-1.70	0.06-0.20	0.12-0.22	6.0-8.9	0.5-2.0	.37	.37			
	34-39	18	50	30-50	1.40-1.70	0.06-0.20	0.12-0.22	6.0-8.9	0.5-2.0	.37	.37			
	39-48	17	57	15-27	1.30-1.50	0.60-2.00	0.16-0.24	0.0-2.9	0.0-1.0	.43	.43			
	48-61	18	44	35-50	1.40-1.70	0.06-0.20	0.12-0.22	6.0-8.9	0.2-2.0	.37	.37			
	61-71	19	44	35-50	1.40-1.70	0.06-0.20	0.12-0.22	6.0-8.9	0.2-2.0	.37	.37			
	71-80	24	46	30-50	1.40-1.70	0.06-0.20	0.12-0.22	6.0-8.9	0.0-2.0	.37	.37			
3171: Penalosa-----	0-5	22	57	15-28	1.30-1.50	0.60-2.00	0.16-0.24	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	5-10	21	57	15-26	1.30-1.50	0.60-2.00	0.16-0.24	0.0-2.9	1.0-3.0	.43	.43			
	10-14	19	41	27-40	1.36-1.70	0.20-0.60	0.16-0.22	3.0-5.9	1.0-3.0	.37	.37			
	14-22	19	44	27-37	1.40-1.70	0.20-0.60	0.16-0.22	3.0-5.9	1.0-3.0	.37	.37			
	22-28	18	46	35-50	1.40-1.70	0.06-0.20	0.12-0.22	6.0-8.9	0.5-2.0	.37	.37			
	28-34	19	45	35-50	1.40-1.70	0.06-0.20	0.12-0.22	6.0-8.9	0.5-2.0	.37	.37			
	34-39	18	50	30-50	1.40-1.70	0.06-0.20	0.12-0.22	6.0-8.9	0.5-2.0	.37	.37			
	39-48	17	57	15-27	1.30-1.50	0.60-2.00	0.16-0.24	0.0-2.9	0.0-1.0	.43	.43			
	48-61	18	44	35-50	1.40-1.70	0.06-0.20	0.12-0.22	6.0-8.9	0.2-2.0	.37	.37			
	61-71	19	44	35-50	1.40-1.70	0.06-0.20	0.12-0.22	6.0-8.9	0.2-2.0	.37	.37			
	71-80	24	46	30-50	1.40-1.70	0.06-0.20	0.12-0.22	6.0-8.9	0.0-2.0	.37	.37			
3180: Pratt-----	0-8	90	4	1-7	1.40-1.55	6.00-19.99	0.07-0.09	0.0-2.9	0.5-1.0	.15	.15	5	1	220
	8-24	87	3	4-11	1.45-1.55	5.95-19.98	0.09-0.12	0.0-2.9	0.0-0.5	.17	.17			
	24-64	89	3	4-11	1.45-1.55	5.95-19.98	0.09-0.12	0.0-2.9	0.0-0.5	.17	.17			
	64-80	89	4	1-8	1.45-1.60	5.95-19.98	0.08-0.12	0.0-2.9	0.0-0.5	.17	.17			

PHYSICAL PROPERTIES OF THE SOILS--Continued
Kingman County, Kansas: Published

(Single entries under "Sand and Silt" are a representative percentage are calculated using an algorithm. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
3181: Pratt-----	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
	0-8	90	4	1-7	1.40-1.55	6.00-19.99	0.07-0.09	0.0-2.9	0.5-1.0	.15	.15	5	1	220
	8-24	87	3	4-11	1.45-1.55	5.95-19.98	0.09-0.12	0.0-2.9	0.0-0.5	.17	.17			
	24-64	89	3	4-11	1.45-1.55	5.95-19.98	0.09-0.12	0.0-2.9	0.0-0.5	.17	.17			
	64-80	89	4	1-8	1.45-1.60	5.95-19.98	0.08-0.12	0.0-2.9	0.0-0.5	.17	.17			
Turon-----	0-8	88	8	1-5	1.40-1.55	6.00-19.99	0.02-0.10	0.0-2.9	0.0-1.0	.15	.15	5	1	220
	8-28	88	4	3-10	1.40-1.55	5.95-19.98	0.09-0.12	0.0-2.9	0.5-1.0	.17	.17			
	28-40	88	3	2-18	1.40-1.55	1.98-19.98	0.10-0.15	0.0-2.9	0.0-0.0	.24	.24			
	40-58	11	49	27-41	1.45-1.60	0.00-0.60	0.12-0.18	3.0-5.9	0.0-0.5	.32	.32			
	58-75	6	53	27-45	1.45-1.60	0.00-0.60	0.12-0.18	3.0-5.9	0.0-0.5	.32	.32			
	75-80	4	54	27-45	1.45-1.60	0.00-0.60	0.12-0.18	3.0-5.9	0.0-0.5	.32	.32			
3445: Shellabarger, Moderately Eroded-----	0-6	64	27	8-12	1.35-1.50	2.00-6.00	0.13-0.21	0.0-2.9	0.2-1.0	.20	.20	5	3	86
	6-11	59	24	17-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-1.2	.28	.32			
	11-19	64	13	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32			
	19-33	69	8	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32			
	33-47	80	4	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	47-59	86	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	59-73	89	2	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	73-80	90	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
3510: Saltcreek----	0-5	67	20	10-19	1.45-1.55	2.00-6.00	0.11-0.15	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	5-10	58	20	10-27	1.45-1.55	2.00-6.00	0.11-0.15	0.0-2.9	1.0-2.0	.20	.20			
	10-26	58	21	16-28	1.40-1.60	0.60-2.00	0.15-0.18	0.0-2.9	0.0-1.0	.28	.28			
	26-39	63	18	16-28	1.40-1.60	0.60-2.00	0.15-0.18	0.0-2.9	0.0-1.0	.28	.28			
	39-56	17	42	28-42	1.40-1.60	0.06-0.20	0.10-0.17	6.0-8.9	0.0-0.5	.37	.37			
	56-66	8	56	28-42	1.40-1.60	0.06-0.20	0.10-0.17	6.0-8.9	0.0-0.5	.37	.37			
	66-80	10	59	28-42	1.40-1.60	0.06-0.20	0.10-0.17	6.0-8.9	0.0-0.5	.37	.37			
Funmar-----	0-6	44	36	14-26	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	56
	6-12	44	34	14-26	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28			
	12-17	46	29	22-34	1.40-1.60	0.20-0.60	0.17-0.19	0.0-2.9	1.0-2.0	.32	.32			
	17-26	40	31	22-34	1.40-1.60	0.20-0.60	0.17-0.19	0.0-2.9	1.0-2.0	.32	.32			
	26-32	25	49	22-34	1.40-1.60	0.20-0.60	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32			
	32-38	16	52	26-34	1.35-1.45	0.20-0.60	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32			
	38-54	14	48	28-45	1.40-1.60	0.06-0.20	0.10-0.17	3.0-5.9	0.0-0.5	.37	.37			
	54-66	18	46	28-45	1.40-1.60	0.06-0.20	0.10-0.17	3.0-5.9	0.0-0.5	.37	.37			
	66-80	14	48	26-45	1.50-1.60	0.06-0.20	0.10-0.17	0.0-2.9	0.0-0.5	.37	.37			
Farnum-----	0-5	42	41	14-27	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	56
	5-15	41	39	14-27	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28			
	15-21	46	31	20-27	1.40-1.50	0.60-2.00	0.17-0.19	0.0-2.9	0.5-1.5	.28	.28			
	21-34	48	27	20-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	0.0-0.5	.28	.28			
	34-48	44	30	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	0.0-0.5	.28	.28			
	48-61	33	39	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	0.0-0.5	.28	.28			
	61-73	33	40	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	0.0-0.5	.28	.28			
	73-80	38	38	12-29	1.40-1.55	0.60-2.00	0.13-0.16	0.0-2.9	0.0-0.5	.28	.28			
3530: Shellabarger, Eroded-----	0-5	64	27	8-12	1.35-1.50	2.00-6.00	0.13-0.21	0.0-2.9	0.5-1.0	.20	.20	5	3	86
	5-11	59	24	17-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.9	.28	.32			
	11-19	64	13	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32			
	19-33	69	8	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32			
	33-47	80	4	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	47-59	86	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	59-73	89	2	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	73-80	90	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
Albion-----	0-9	72	18	7-15	1.35-1.45	2.00-6.00	0.16-0.18	0.0-2.9	1.0-2.0	.20	.24	4	3	86
	9-16	80	7	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.24			
	16-27	84	5	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	1.0-2.0	.20	.24			
	27-48	87	6	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.20			
	48-80	90	7	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.0	.15	.32			
3531: Shellabarger, Moderately Eroded-----	0-6	64	27	8-12	1.35-1.50	2.00-6.00	0.13-0.21	0.0-2.9	0.2-1.0	.20	.20	5	3	86
	6-11	59	24	17-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-1.2	.28	.32			
	11-19	64	13	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32			
	19-33	69	8	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32			
	33-47	80	4	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	47-59	86	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	59-73	89	2	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
	73-80	90	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32			
Nalim-----	0-6	49	36	14-27	1.45-1.65	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	5	86
	6-9	38	37	14-27	1.35-1.65	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28			
	9-13	33	32	25-35	1.40-1.65	0.20-0.60	0.14-0.21	3.0-5.9	0.5-1.5	.28	.28			
	13-21	38	30	25-35	1.40-1.80	0.20-0.60	0.14-0.21	3.0-5.9	0.5-1.2	.28	.28			
	21-31	45	30	25-35	1.40-1.85	0.20-0.60	0.14-0.21	3.0-5.9	0.5-1.0	.28	.28			
	31-39	54	23	10-35	1.40-1.70	0.20-0.60	0.10-0.20	3.0-5.9	0.2-0.8	.32	.28			
	39-44	70	12	10-35	1.40-1.70	0.20-0.60	0.10-0.20	3.0-5.9	0.2-0.5	.32	.28			
	44-52	74	10	5-35	1.45-1.70	0.20-0.60	0.06-0.20	3.0-5.9	0.1-0.5	.32	.32			
	52-62	82	8	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	0.1-0.5	.17	.20			
	62-72	78	9	2-15	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.2	.15	.32			
	72-80	93	2	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.2	.15	.32			

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Kingman County, Kansas: Published

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Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index	
										K	Kf	T			
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct						
3532: Shellabarger-	0-6	84	9	4-10	1.40-1.55	2.00-6.00	0.10-0.13	0.0-2.9	0.5-2.0	.17	.17	5	2	134	
	6-11	59	24	17-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-1.2	.28	.32				
	11-19	64	13	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32				
	19-33	69	8	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32				
	33-47	80	4	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
	47-59	86	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
	59-73	89	2	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
	73-80	90	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
3533: Shellabarger-	0-7	64	27	8-12	1.35-1.50	2.00-6.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86	
	7-11	59	24	17-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-1.2	.28	.32				
	11-19	64	13	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32				
	19-33	69	8	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32				
	33-47	80	4	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
	47-59	86	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
	59-73	89	2	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
	73-80	90	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
3534: Shellabarger-	0-7	64	27	8-12	1.35-1.50	2.00-6.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86	
	7-11	59	24	17-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-1.2	.28	.32				
	11-19	64	13	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32				
	19-33	69	8	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32				
	33-47	80	4	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
	47-59	86	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
	59-73	89	2	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
	73-80	90	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
3535: Shellabarger-	0-7	64	27	8-12	1.35-1.50	2.00-6.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86	
	7-11	59	24	17-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-1.2	.28	.32				
	11-19	64	13	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32				
	19-33	69	8	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.28	.32				
	33-47	80	4	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
	47-59	86	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
	59-73	89	2	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
	73-80	90	3	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.0	.28	.32				
Nalim-----	0-6	49	36	14-27	1.45-1.65	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28	5	5	86	
	6-9	38	37	14-27	1.35-1.65	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.28	.28				
	9-13	33	32	25-35	1.40-1.65	0.20-0.60	0.14-0.21	3.0-5.9	0.5-1.5	.28	.28				
	13-21	38	30	25-35	1.40-1.80	0.20-0.60	0.14-0.21	3.0-5.9	0.5-1.2	.28	.28				
	21-31	45	30	25-35	1.40-1.85	0.20-0.60	0.14-0.21	3.0-5.9	0.5-1.0	.28	.28				
	31-39	54	23	10-35	1.40-1.70	0.20-0.60	0.10-0.20	3.0-5.9	0.2-0.8	.32	.28				
	39-44	70	12	10-35	1.40-1.70	0.20-0.60	0.10-0.20	3.0-5.9	0.2-0.5	.32	.28				
	44-52	74	10	5-35	1.45-1.70	0.20-0.60	0.06-0.20	3.0-5.9	0.1-0.5	.32	.32				
	52-62	82	8	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	0.1-0.5	.17	.20				
	62-72	78	9	2-15	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.2	.15	.32				
	72-80	93	2	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.2	.15	.32				
	3926: Water-----	---			---	---	---	---	---	---	---	-	---	---	
3966: Willowbrook--	0-4	62-75	20	8-18	1.45-1.80	2.00-6.00	0.16-0.18	0.0-2.9	1.0-2.0	.20	.20	4	3	86	
	4-9	62-75	21	8-18	1.45-1.80	2.00-6.00	0.16-0.18	0.0-2.9	1.0-2.0	.20	.20				
	9-13	64-78	20	5-15	1.50-1.80	2.00-6.00	0.16-0.19	0.0-2.9	0.5-1.0	.20	.20				
	13-17	50-78	20	5-15	1.50-1.80	2.00-6.00	0.16-0.19	0.0-2.9	0.5-1.0	.20	.20				
	17-19	50-76	38	5-15	1.50-1.80	2.00-6.00	0.13-0.17	0.0-2.9	0.2-1.0	.24	.24				
	19-26	50-76	21	5-15	1.50-1.80	2.00-6.00	0.13-0.17	0.0-2.9	0.2-1.0	.24	.24				
	26-45	88-100	3	0-5	1.60-1.80	6.00-19.99	0.02-0.07	0.0-2.9	0.0-0.5	.05	.05				
	45-51	86-100	1	0-1	1.60-1.80	6.00-19.99	0.02-0.05	0.0-2.9	0.0-0.1	.05	.05				
	51-80	86-100	1	0-1	1.60-1.80	6.00-19.99	0.02-0.05	0.0-2.9	0.0-0.0	.05	.05				
4005: Yaggy-----	0-5	54	38	5-12	1.50-1.60	2.00-6.00	0.16-0.18	0.0-2.9	0.5-1.0	.20	.20	3	3	86	
	5-11	69	24	5-12	1.50-1.60	2.00-6.00	0.16-0.18	0.0-2.9	0.5-1.0	.20	.20				
	11-14	31	54	8-26	1.45-1.55	0.60-2.00	0.17-0.20	0.0-2.9	0.0-1.0	.24	.24				
	14-24	98	2	0-2	1.55-1.65	5.95-19.98	0.04-0.06	0.0-2.9	0.0-0.1	.05	.05				
	24-31	94	5	0-2	1.55-1.65	5.95-19.98	0.04-0.06	0.0-2.9	0.0-0.1	.05	.05				
	31-42	97	3	0-2	1.55-1.65	5.95-19.98	0.04-0.06	0.0-2.9	0.0-0.1	.05	.05				
	42-53	96	4	0-1	1.60-1.70	5.95-19.98	0.02-0.05	0.0-2.9	0.0-0.1	.05	.05				
	53-69	99	1	0-1	1.60-1.70	5.95-19.98	0.02-0.05	0.0-2.9	0.0-0.0	.05	.05				
	69-80	99	1	0-1	1.60-1.70	5.95-19.98	0.02-0.05	0.0-2.9	0.0-0.1	.05	.05				
Saxman-----	0-4	79	15	1-7	1.50-1.60	5.95-19.98	0.10-0.12	0.0-2.9	0.0-1.3	.20	.20	5	2	134	
	4-8	80	15	1-7	1.50-1.70	5.95-19.98	0.10-0.12	0.0-2.9	0.0-1.0	.20	.20				
	8-13	78	14	1-8	1.50-1.70	6.00-19.99	0.10-0.12	0.0-2.9	0.0-1.0	.17	.17				
	13-22	81	12	0-7	1.50-1.60	5.95-19.98	0.06-0.11	0.0-2.9	0.0-0.6	.17	.17				
	22-30	90	6	0-7	1.50-1.75	5.95-19.98	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17				
	30-37	96	4	0-3	1.55-1.65	5.95-19.98	0.02-0.07	0.0-2.9	0.0-0.1	.15	.15				
	37-48	96	4	0-3	1.55-1.65	5.95-19.98	0.02-0.07	0.0-2.9	0.0-0.1	.15	.15				
	48-54	97	3	0-3	1.55-1.65	5.95-19.98	0.02-0.07	0.0-2.9	0.0-0.1	.15	.15				
	54-80	97	3	0-1	1.55-1.65	5.95-19.98	0.02-0.05	0.0-2.9	0.0-0.1	.05	.05				

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Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
4110: Zellmont-----	0-8	66	23	11-19	1.35-1.50	0.60-2.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	3	3	86
	8-18	49	28	20-34	1.40-1.55	0.20-0.60	0.14-0.21	3.0-5.9	0.0-1.0	.28	.28			
	18-26	54	22	10-28	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	0.0-0.5	.28	.32			
	26-32	46	19	20-35	1.40-1.55	0.20-0.60	0.14-0.18	3.0-5.9	0.0-0.5	.28	.28			
	32-80			---	1.85-2.00	0.06-0.20	---	---	---	---	---			
Poxmash-----	0-5	73	19	7-15	1.35-1.45	2.00-6.00	0.16-0.18	0.0-2.9	0.8-2.0	.20	.20	4	3	86
	5-9	71	20	7-15	1.35-1.45	2.00-6.00	0.16-0.18	0.0-2.9	0.5-1.5	.20	.20			
	9-15	77	11	10-18	1.45-1.55	2.00-6.00	0.12-0.18	0.0-2.9	0.2-1.0	.20	.20			
	15-20	87	6	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.17			
	20-33	90	4	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.0	.15	.15			
	33-48	96	2	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	0.0-0.0	.15	.15			
	48-80			---	1.85-2.00	0.06-0.20	---	---	---	---	---			
Aa: Albion-----	0-8	66	23	7-15	1.35-1.50	2.00-6.00	0.13-0.17	0.0-2.9	1.0-2.0	.20	.20	4	3	86
	8-16	67	19	10-18	1.45-1.60	2.00-6.00	0.12-0.18	0.0-2.9	---	.20	.24			
	16-26	66	24	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	---	.17	.20			
	26-60	85	9	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	---	.15	.32			
Ab: Albion-----	0-8	66	23	7-15	1.35-1.50	2.00-6.00	0.13-0.17	0.0-2.9	1.0-2.0	.20	.20	4	3	86
	8-16	67	19	10-18	1.45-1.60	2.00-6.00	0.12-0.18	0.0-2.9	---	.20	.24			
	16-26	66	24	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	---	.15	.20			
	26-60	85	9	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	---	.15	.32			
Ac: Albion-----	0-8	66	23	7-15	1.35-1.50	2.00-6.00	0.13-0.17	0.0-2.9	1.0-2.0	.20	.20	4	3	86
	8-16	67	19	10-18	1.45-1.60	2.00-6.00	0.12-0.18	0.0-2.9	---	.20	.24			
	16-26	82	9	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	---	.15	.20			
	26-60	92	2	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	---	.15	.32			
Ad: Albion-----	0-8	66	23	7-15	1.35-1.50	2.00-6.00	0.13-0.17	0.0-2.9	1.0-2.0	.20	.20	4	3	86
	8-16	67	19	10-18	1.45-1.60	2.00-6.00	0.12-0.18	0.0-2.9	---	.20	.24			
	16-26	66	24	4-15	1.45-1.60	2.00-6.00	0.09-0.12	0.0-2.9	---	.15	.20			
	26-60	85	9	2-10	1.50-1.65	5.95-19.98	0.03-0.10	0.0-2.9	---	.15	.32			
AED: Arents, Earthen Dam-	---			---	---	---	---	---	---	---	---	-	---	---
Ba: Blanket-----	0-18	26	53	15-27	1.30-1.50	0.60-2.00	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	5	5	56
	18-50	28	30	35-50	1.35-1.55	0.20-0.60	0.12-0.18	3.0-5.9	---	.43	.43			
	50-60	28	30	35-50	1.35-1.55	0.60-2.00	0.12-0.18	3.0-5.9	---	.43	.37			
Bb: Blanket-----	0-18	26	53	15-27	1.30-1.50	0.60-2.00	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	5	5	56
	18-50	28	30	35-50	1.35-1.55	0.20-0.60	0.12-0.18	3.0-5.9	---	.43	.43			
	50-60	28	30	35-50	1.35-1.55	0.60-2.00	0.12-0.18	3.0-5.9	---	.43	.37			
Bc: Blanket-----	0-5	20	49	27-35	1.30-1.45	0.60-2.00	0.15-0.20	3.0-5.9	1.0-3.0	.37	.37	5	6	48
	5-40	28	30	35-50	1.35-1.55	0.20-0.60	0.12-0.18	3.0-5.9	---	.43	.43			
	40-60	28	30	35-50	1.35-1.55	0.60-2.00	0.12-0.18	3.0-5.9	---	.43	.37			
Ca: Canadian-----	0-16	62	26	5-18	1.30-1.60	2.00-6.00	0.10-0.15	0.0-2.9	1.0-3.0	.20	.20	5	3	86
	16-32	66	20	10-18	1.40-1.70	2.00-6.00	0.10-0.20	0.0-2.9	---	.20	.20			
	32-60	62	26	5-18	1.40-1.70	1.98-19.98	0.07-0.20	0.0-2.9	---	.20	.20			
Cb: Carwile-----	0-10	62	26	5-18	1.30-1.65	0.60-2.00	0.11-0.20	0.0-2.9	1.0-3.0	.24	.24	5	3	86
	10-18	35	33	25-39	1.45-1.75	0.20-2.00	0.12-0.20	3.0-5.9	---	.37	.37			
	18-36	25	27	35-60	1.35-1.75	0.06-0.20	0.12-0.20	6.0-8.9	---	.37	.37			
	36-60	35	33	20-45	1.35-1.75	0.20-2.00	0.12-0.20	6.0-8.9	---	.32	.32			
Cc: Case-----	0-8	34	37	27-32	1.35-1.45	0.60-2.00	0.17-0.22	0.0-2.9	0.5-2.0	.32	.32	5	4L	86
	8-60	35	38	18-35	1.35-1.70	0.60-2.00	0.15-0.19	3.0-5.9	---	.32	.32			
Clark-----	0-11	34	37	27-32	1.35-1.45	0.60-2.00	0.17-0.22	3.0-5.9	1.0-2.0	.28	.28	5	4L	86
	11-60	38	36	18-35	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	---	.28	.28			
Cd: Case-----	0-8	34	37	27-32	1.35-1.45	0.60-2.00	0.17-0.22	0.0-2.9	0.5-2.0	.32	.32	5	4L	86
	8-60	35	38	18-35	1.35-1.70	0.60-2.00	0.15-0.19	3.0-5.9	---	.32	.32			
Clark-----	0-11	34	37	27-32	1.35-1.45	0.60-2.00	0.17-0.22	3.0-5.9	1.0-2.0	.28	.28	5	4L	86
	11-60	38	36	18-35	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	---	.28	.28			
Ce: Clark-----	0-11	34	37	27-32	1.35-1.45	0.60-2.00	0.17-0.22	3.0-5.9	1.0-2.0	.28	.28	5	4L	86
	11-60	38	36	18-35	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	---	.28	.28			
Cf: Clark-----	0-11	34	37	27-32	1.35-1.45	0.60-2.00	0.17-0.22	3.0-5.9	1.0-2.0	.28	.28	5	4L	86
	11-60	38	36	18-35	1.35-1.70	0.60-2.00	0.14-0.19	3.0-5.9	---	.28	.28			
Da: Dillwyn-----	0-8	79	16	2-8	1.50-1.60	5.95-19.98	0.08-0.12	0.0-2.9	0.0-2.0	.17	.17	5	2	134
	8-60	79	16	2-8	1.50-1.60	5.95-19.98	0.06-0.10	0.0-2.9	---	.17	.17			
Plevna-----	0-11	67	20	8-18	1.40-1.50	2.00-6.00	0.14-0.16	0.0-2.9	1.0-4.0	.20	.20	5	3	86
	11-36	67	20	8-18	1.40-1.50	2.00-6.00	0.12-0.16	0.0-2.9	---	.20	.20			
	36-60	95	1	1-7	1.50-1.60	2.00-6.00	0.05-0.07	0.0-2.9	---	.20	.20			
Fa: Farnum-----	0-16	66	23	8-14	1.45-1.55	2.00-6.00	0.13-0.18	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	16-50	34	36	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	---	.28	.28			
	50-60	42	38	12-29	1.40-1.55	0.60-2.00	0.13-0.16	0.0-2.9	---	.28	.28			

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Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
Fb:														
Farnum-----	0-13	42	38	14-27	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
	13-18	39	37	20-27	1.40-1.50	0.60-2.00	0.17-0.19	0.0-2.9	---	.28	.28			
	18-52	34	36	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	---	.28	.28			
	52-60	42	38	12-29	1.40-1.55	0.60-2.00	0.13-0.16	0.0-2.9	---	.28	.28			
Fc:														
Farnum-----	0-13	42	38	14-27	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
	13-18	39	37	20-27	1.40-1.50	0.60-2.00	0.17-0.19	0.0-2.9	---	.28	.28			
	18-52	34	36	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	---	.28	.28			
	52-60	42	38	12-29	1.40-1.55	0.60-2.00	0.13-0.16	0.0-2.9	---	.28	.28			
Fd:														
Farnum-----	0-13	42	38	14-27	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
	13-18	39	37	20-27	1.40-1.50	0.60-2.00	0.17-0.19	0.0-2.9	---	.28	.28			
	18-52	34	36	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	---	.28	.28			
	52-60	42	38	12-29	1.40-1.55	0.60-2.00	0.13-0.16	0.0-2.9	---	.28	.28			
Fe:														
Farnum-----	0-8	34	38	27-29	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
	8-40	34	36	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	---	.28	.28			
	40-60	42	38	12-29	1.40-1.55	0.60-2.00	0.13-0.16	0.0-2.9	---	.28	.28			
Ff:														
Farnum-----	0-13	42	38	14-27	1.35-1.45	0.60-2.00	0.19-0.22	0.0-2.9	1.0-3.0	.28	.28	5	6	48
	13-18	39	37	20-27	1.40-1.50	0.60-2.00	0.17-0.19	0.0-2.9	---	.28	.28			
	18-52	34	36	25-35	1.40-1.50	0.60-2.00	0.15-0.19	3.0-5.9	---	.28	.28			
	52-60	42	38	12-29	1.40-1.55	0.60-2.00	0.13-0.16	0.0-2.9	---	.28	.28			
Natrustolls--	---			---	---	---	---	---	---	---	---	---	---	---
Ka:														
Kaski-----	0-28	40	38	18-27	1.35-1.45	0.60-2.00	0.18-0.22	3.0-5.9	1.0-3.0	.28	.28	5	6	48
	28-42	35	38	18-35	1.40-1.50	0.60-2.00	0.13-0.19	3.0-5.9	---	.28	.28			
	42-60	39	42	8-30	1.45-1.55	0.60-2.00	0.13-0.19	0.0-2.9	---	.28	.28			
Kb:														
Kingman-----	0-18	7	62	27-35	1.35-1.45	0.20-0.60	0.21-0.23	3.0-5.9	2.0-4.0	.32	.32	5	4L	86
	18-48	7	62	27-35	1.40-1.50	0.20-0.60	0.18-0.20	3.0-5.9	---	.32	.32			
	48-60	64	15	12-30	1.45-1.60	0.20-2.00	0.12-0.19	0.0-2.9	---	.32	.32			
La:														
Lincoln-----	0-10	84	6	5-15	1.35-1.50	5.95-19.98	0.06-0.11	0.0-2.9	0.5-0.5	.17	.17	5	2	134
	10-60			5-15	1.30-1.60	5.95-19.98	0.02-0.08	0.0-2.9	0.0-0.5	.17	.17			
Ma:														
Mclain-----	0-14	25	53	18-27	1.30-1.55	0.20-0.60	0.15-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	14-42	7	51	35-50	1.45-1.70	0.06-0.20	0.12-0.22	6.0-8.9	---	.37	.37			
	42-60	18	50	20-45	1.40-1.70	0.00-0.60	0.12-0.24	6.0-8.9	---	.43	.43			
Na:														
Nashville----	0-28	10	68	18-27	1.20-1.40	0.60-2.00	0.20-0.24	0.0-2.9	2.0-4.0	.32	.32	3	6	48
	>28			---	---	---	---	---	---	---	---			
Nb:														
Nashville----	0-28	10	68	18-27	1.20-1.40	0.60-2.00	0.20-0.24	0.0-2.9	2.0-4.0	.32	.32	3	6	48
	>28			---	---	---	---	---	---	---	---			
Quinlan-----	0-13	42	37	15-27	1.30-1.55	0.60-2.00	0.13-0.24	0.0-2.9	0.0-1.0	.37	.37	2	4L	86
	>13			---	---	---	---	---	---	---	---			
Oa:														
Owens-----	0-6	30	32	35-40	1.35-1.55	0.00-0.06	0.12-0.14	6.0-8.9	0.5-2.0	.32	.32	2	4	86
	6-16	23	29	35-60	1.45-1.65	0.00-0.06	0.10-0.12	6.0-8.9	---	.32	.32			
	>16			---	---	---	---	---	---	---	---			
Pa:														
Pond Creek---	0-10	11	68	15-26	1.30-1.50	0.60-2.00	0.15-0.20	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	10-60	7	65	20-35	1.40-1.70	0.20-0.60	0.15-0.22	3.0-5.9	---	.37	.37			
Pb:														
Pratt-----	0-12	79	16	2-8	1.40-1.55	5.95-19.98	0.10-0.13	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	12-36	86	7	4-11	1.45-1.55	5.95-19.98	0.09-0.12	0.0-2.9	---	.17	.17			
	36-60	79	16	1-8	1.45-1.60	5.95-19.98	0.08-0.12	0.0-2.9	---	.17	.17			
Pc:														
Pratt-----	0-12	79	16	2-8	1.40-1.55	5.95-19.98	0.10-0.13	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	12-36	86	7	4-11	1.45-1.55	5.95-19.98	0.09-0.12	0.0-2.9	---	.17	.17			
	36-60	79	16	1-8	1.45-1.60	5.95-19.98	0.08-0.12	0.0-2.9	---	.17	.17			
Carwile-----	0-10	62	26	5-18	1.30-1.65	0.60-2.00	0.11-0.20	0.0-2.9	1.0-3.0	.24	.24	5	3	86
	10-18	35	33	25-39	1.45-1.75	0.20-2.00	0.12-0.20	3.0-5.9	---	.37	.37			
	18-36	25	27	35-60	1.35-1.75	0.06-0.20	0.12-0.20	6.0-8.9	---	.37	.37			
	36-60	35	33	20-45	1.35-1.75	0.20-2.00	0.12-0.20	6.0-8.9	---	.32	.32			
Pd:														
Pratt-----	0-12	79	16	2-8	1.40-1.55	5.95-19.98	0.10-0.13	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	12-36	86	7	4-11	1.45-1.55	5.95-19.98	0.09-0.12	0.0-2.9	---	.17	.17			
	36-60	79	16	1-8	1.45-1.60	5.95-19.98	0.08-0.12	0.0-2.9	---	.17	.17			
Tivoli-----	0-8	86	7	5-10	1.35-1.50	5.95-19.98	0.07-0.11	0.0-2.9	0.0-1.0	.17	.17	5	2	134
	8-60	93	1	1-10	1.50-1.70	5.95-19.98	0.02-0.08	0.0-2.9	---	.17	.17			
Qa:														
Quinlan-----	0-13	42	37	15-27	1.30-1.55	0.60-2.00	0.13-0.24	0.0-2.9	0.0-1.0	.37	.37	2	4L	86
	>13			---	---	---	---	---	---	---	---			
Qb:														
Quinlan-----	0-13	42	37	15-27	1.30-1.55	0.60-2.00	0.13-0.24	0.0-2.9	0.0-1.0	.37	.37	2	4L	86
	>13			---	---	---	---	---	---	---	---			
Ra:														
Renfrow-----	0-8	35	34	27-35	1.30-1.60	0.20-0.60	0.15-0.22	3.0-5.9	1.0-3.0	.43	.43	5	6	48
	8-12	31	33	32-40	1.45-1.70	0.20-0.60	0.15-0.20	3.0-5.9	---	.43	.43			
	12-50	26	29	35-55	1.40-1.70	0.00-0.06	0.10-0.18	6.0-8.9	---	.43	.43			

PHYSICAL PROPERTIES OF THE SOILS--Continued
Kingman County, Kansas: Published

(Single entries under "Sand and Silt" are a representative percentage are calculated using an algorithm. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										K	Kf	T		
	In	Pct	Pct	Pct	g/cc	in/hr	In/in	Pct	Pct					
Rb:														
Ruella-----	0-10	35	34	27-35	1.35-1.45	0.60-2.00	0.18-0.22	0.0-2.9	1.0-2.0	.32	.32	5	4L	86
	10-60	38	36	18-35	1.35-1.70	0.60-2.00	0.18-0.22	0.0-2.9	---	.32	.32			
Rc:														
Ruella-----	0-10	35	34	27-35	1.35-1.45	0.60-2.00	0.18-0.22	0.0-2.9	1.0-2.0	.32	.32	5	4L	86
	10-60	38	36	18-35	1.35-1.70	0.60-2.00	0.18-0.22	0.0-2.9	---	.32	.32			
Rock Outcrop-														
Sa:														
Shellabarger-	0-12	84	9	4-10	1.40-1.55	5.95-19.98	0.10-0.13	0.0-2.9	1.0-2.0	.20	.20	5	2	134
	12-38	60	18	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	---	.28	.32			
	38-60	66	24	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	---	.28	.32			
Sb:														
Shellabarger-	0-10	68	20	8-16	1.35-1.50	0.60-2.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	10-45	60	18	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	---	.28	.32			
	45-60	66	24	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	---	.28	.32			
Sc:														
Shellabarger-	0-10	68	20	8-16	1.35-1.50	0.60-2.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	10-45	60	18	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	---	.28	.32			
	45-60	66	24	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	---	.28	.32			
Sd:														
Shellabarger-	0-10	68	20	8-16	1.35-1.50	0.60-2.00	0.13-0.21	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	10-45	60	18	18-27	1.45-1.60	0.60-2.00	0.16-0.18	0.0-2.9	---	.28	.32			
	45-60	66	24	3-18	1.50-1.65	0.60-2.00	0.05-0.16	0.0-2.9	---	.28	.32			
Ta:														
Tivoli-----	0-7	93	1	1-10	1.35-1.50	5.95-19.98	0.02-0.08	0.0-2.9	0.0-1.0	.17	.17	5	1	250
	7-60	93	1	1-10	1.50-1.70	5.95-19.98	0.02-0.08	0.0-2.9	---	.17	.17			
W:														
Water-----	---			---	---	---	---	---	---	---	---	-	---	---
Wa:														
Waldeck-----	0-12	68	20	8-16	1.50-1.60	2.00-6.00	0.14-0.18	0.0-2.9	1.0-2.0	.20	.20	4	3	86
	12-36	68	20	8-16	1.50-1.60	2.00-6.00	0.12-0.17	0.0-2.9	---	.20	.20			
	36-60	97	1	1-4	1.55-1.65	5.95-19.98	0.05-0.07	0.0-2.9	---	.20	.24			
Za:														
Zenda-----	0-13	34	37	27-32	1.45-1.55	0.60-2.00	0.17-0.22	3.0-5.9	1.0-3.0	.28	.28	5	6	48
	13-60	38	36	18-35	1.45-1.60	0.60-2.00	0.15-0.19	3.0-5.9	---	.28	.28			

CHEMICAL PROPERTIES OF THE SOILS
Kingman County, Kansas

The Chemical Properties table shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils. Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. Soils having a high cation-exchange capacity can retain cations. The ability to retain cations helps to prevent the pollution of ground water.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water and can be dissolved and removed by water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

CHEMICAL PROPERTIES OF THE SOILS--Continued
Kingman County, Kansas

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Map symbol and soil name	Depth	Cation- exchange capacity	Effective Cation Exchange Capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm		
007AE:								
Albion-----	0-8	3.0-10	---	5.6-6.5	0	0	0	0
	8-16	4.0-11	---	6.1-7.8	0	0	0	0
	16-27	1.0-9.0	---	6.1-8.4	0	0	0	0
	27-60	0.0-6.0	---	6.1-8.4	0	0	0	0
Shellabarger----	0-14	3.0-11	---	5.1-6.5	---	---	---	---
	14-48	7.0-16	---	6.1-7.8	---	---	---	---
	48-60	1.0-11	---	6.1-8.4	---	---	---	---
007FA:								
Farnum-----	0-9	3.0-10	---	5.6-7.3	---	---	---	---
	9-60	10-21	---	6.1-8.4	---	---	---	---
077KA:								
Kanza-----	0-8	1.0-9.0	---	5.6-6.5	---	---	---	---
	8-60	0.0-7.0	---	5.6-8.4	---	---	---	---
077KR:								
Kirkland-----	0-12	11-23	---	5.6-7.3	0	0	0	0
	12-34	16-36	---	6.6-8.4	---	0	0	0
	34-60	14-36	---	7.4-8.4	---	0	0	0
Renfrow-----	0-9	11-23	---	6.1-7.8	0	0	0	0
	9-13	12-24	---	6.1-7.8	0	0	0	0
	13-60	14-33	---	6.1-8.4	0	0	0	0
077NN:								
Nashville-----	0-7	8.0-19	---	5.6-7.3	---	---	---	---
	7-30	7.0-16	---	5.6-7.3	---	---	---	---
	>30	---	0.0-0.0	---	---	---	---	---
077PC:								
Pond Creek-----	0-13	6.0-18	---	5.1-7.3	---	---	---	---
	13-60	8.0-21	---	6.1-8.4	---	---	---	---
077RC:								
Renfrow-----	0-9	11-23	---	6.1-7.8	0	0	0	0
	9-13	12-24	---	6.1-7.8	0	0	0	0
	13-60	14-33	---	6.1-8.4	0	0	0	0
Vernon-----	0-7	14-25	---	7.9-8.4	0-5	0	---	0-2
	7-24	16-37	---	7.9-8.4	0-5	0-10	---	2-20
	24-28	16-36	---	7.9-8.4	1-20	0-25	0.0-8.0	5-26
	28-80	10-20	---	7.4-9.0	15-25	0	0	0
077SB:								
Shellabarger----	0-13	3.0-11	---	5.1-6.5	---	---	---	---
	13-38	7.0-16	---	6.1-7.8	---	---	---	---
	38-60	1.0-11	---	6.1-8.4	---	---	---	---
077SE:								
Shellabarger----	0-13	3.0-11	---	5.1-6.5	---	---	---	---
	13-38	7.0-16	---	6.1-7.8	---	---	---	---
	38-60	1.0-11	---	6.1-8.4	---	---	---	---
077SF:								
Shellabarger----	0-13	3.0-11	---	5.1-6.5	---	---	---	---
	13-38	7.0-16	---	6.1-7.8	---	---	---	---
	38-60	1.0-11	---	6.1-8.4	---	---	---	---
077SG:								
Shellabarger----	0-13	3.0-11	---	5.1-6.5	---	---	---	---
	13-38	7.0-16	---	6.1-7.8	---	---	---	---
	38-60	1.0-11	---	6.1-8.4	---	---	---	---
077SH:								
Shellabarger----	0-13	5.0-14	---	5.6-7.3	0	0	---	0
	13-35	6.0-18	---	5.6-7.3	0	0	---	0
	35-39	10-21	---	5.6-7.8	0	0	---	0
	>39	---	0.0-0.0	---	---	---	---	---
151AO:								
Albion-----	0-8	3.0-10	---	5.6-6.5	0	0	0	0
	8-18	4.0-11	---	6.1-7.8	0	0	0	0
	18-29	1.0-9.0	---	6.1-8.4	0	0	0	0
	29-60	0.0-6.0	---	6.1-8.4	0	0	0	0
151CN:								
Clark-----	0-8	4.0-13	---	7.4-8.4	0-5	---	---	---
	8-60	7.0-21	---	7.4-8.4	15-45	---	---	---
151CO:								
Clark-----	0-8	11-21	---	7.4-8.4	0-5	---	---	---
	8-60	7.0-21	---	7.4-8.4	15-45	---	---	---
Ost-----	0-9	11-20	---	6.1-8.4	---	---	---	---
	9-14	8.0-21	---	6.6-8.4	---	---	---	---
	14-23	7.0-21	---	7.4-8.4	15-34	---	---	---
	23-60	2.0-18	---	7.4-8.4	15-34	---	---	---
151KP:								
Kanza-----	0-11	1.0-9.0	---	5.6-6.5	---	---	---	---
	11-40	0.0-7.0	---	5.6-8.4	---	---	---	---
Plevna-----	0-10	3.0-13	---	6.6-8.4	0	0	0	0
	10-40	3.0-11	---	6.6-8.4	0	0	0	0
	40-60	0.0-4.0	---	6.6-8.4	0	0	0	0
151ND:								
Naron-----	0-8	3.0-10	---	5.6-7.3	---	---	---	---
	8-38	7.0-16	---	5.6-7.8	---	---	---	---
	38-60	0.0-9.0	---	6.1-8.4	---	---	---	---

CHEMICAL PROPERTIES OF THE SOILS--Continued
Kingman County, Kansas

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Map symbol and soil name	Depth	Cation- exchange capacity	Effective Cation Exchange Capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm		
151NF: Naron-----	0-8	3.0-10	---	5.6-7.3	---	---	---	---
	8-38	7.0-16	---	5.6-7.8	---	---	---	---
	38-60	0.0-9.0	---	6.1-8.4	---	---	---	---
151OC: Ost-----	0-9	11-20	---	6.1-8.4	---	---	---	---
	9-14	8.0-21	---	6.6-8.4	---	---	---	---
	14-23	7.0-21	---	7.4-8.4	15-34	---	---	---
	23-60	2.0-18	---	7.4-8.4	15-34	---	---	---
151OS: Ost-----	0-9	11-20	---	6.1-8.4	---	---	---	---
	9-14	8.0-21	---	6.6-8.4	---	---	---	---
	14-23	7.0-21	---	7.4-8.4	15-34	---	---	---
	23-60	2.0-18	---	7.4-8.4	15-34	---	---	---
151PN: Pratt-----	0-10	1.0-5.0	---	5.6-7.3	---	---	---	---
	10-40	1.0-7.0	---	5.6-7.3	---	---	---	---
	40-60	0.0-5.0	---	6.1-7.3	---	---	---	---
151SE: Shellabarger----	0-11	3.0-11	---	5.1-6.5	---	---	---	---
	11-34	7.0-16	---	6.1-7.8	---	---	---	---
	34-60	1.0-11	---	6.1-8.4	---	---	---	---
151ZS: Zenda-----	0-14	11-21	---	6.6-8.4	---	---	0.0-4.0	---
	14-60	7.0-21	---	7.4-8.4	---	---	0.0-4.0	---
Drummond-----	0-8	11-20	---	7.4-8.4	---	---	4.0-16.0	---
	8-30	14-36	---	7.9-9.0	---	---	4.0-16.0	---
	30-60	---	0.0-0.0	---	---	---	---	---
173MA: Milan-----	0-11	6.0-18	---	5.6-6.5	---	---	---	---
	11-60	10-21	---	5.6-7.3	0-5	---	---	---
173PB: Plevna-----	0-9	3.0-13	---	6.6-8.4	0	0	0	0
	9-35	3.0-11	---	6.6-8.4	0	0	0	0
	35-60	0.0-4.0	---	6.6-8.4	0	0	0	0
173RA: Renfrow-----	0-9	11-23	---	6.1-7.8	0	0	0	0
	9-13	12-24	---	6.1-7.8	0	0	0	0
	13-60	14-33	---	6.1-8.4	0	0	0	0
173RC: Renfrow-----	0-9	11-23	---	6.1-7.8	0	0	0	0
	9-13	12-24	---	6.1-7.8	0	0	0	0
	13-60	14-33	---	6.1-8.4	0	0	0	0
Wellsford-----	0-7	14-25	---	6.6-8.4	---	---	0.0-2.0	---
	7-15	14-36	---	7.9-8.4	---	---	0.0-2.0	---
	15-20	---	0.0-0.0	---	---	---	---	---
173TA: Tabler-----	0-9	11-23	---	5.6-8.4	0	0	0	0
	9-32	16-33	---	6.1-8.4	0	0	0	0
	32-60	14-33	---	7.4-8.4	0	0	0	0
191RA: Renfrow-----	0-9	11-23	---	6.1-7.8	0	0	0	0
	9-13	12-24	---	6.1-7.8	0	0	0	0
	13-75	14-33	---	6.1-8.4	0	0	0	0
Grainola-----	0-8	6.0-16	---	6.6-8.4	---	0	0	0
	8-28	14-36	---	7.9-8.4	---	0	0	0
	28-36	14-36	---	7.9-8.4	---	0	0	0
	36-42	---	0.0-0.0	---	0	0	---	0
990: Abbyville-----	0-8	10-25	---	7.4-8.4	0	0	0.0-2.0	2-8
	8-15	15-20	---	7.9-9.0	0-1	0	2.0-8.0	13-25
	15-24	20-35	---	7.9-9.0	1-5	0	2.0-8.0	13-30
	24-35	20-35	---	7.9-9.0	1-5	0	2.0-8.0	13-30
	35-49	20-35	---	7.9-9.0	1-5	0	2.0-8.0	13-30
	49-61	15-35	---	7.9-9.0	0-5	0	2.0-4.0	4-15
	61-69	15-35	---	7.9-9.0	0-5	0	2.0-4.0	4-15
	69-80	15-35	---	7.9-9.0	0-5	0	2.0-4.0	4-15

CHEMICAL PROPERTIES OF THE SOILS--Continued
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Map symbol and soil name	Depth	Cation- exchange capacity	Effective Cation Exchange Capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm		
991: Abbyville, rarely flooded-	0-8	10-20	---	7.4-8.4	0	0	0.0-2.0	2-8
	8-15	15-20	---	7.9-9.0	0-1	0	2.0-8.0	13-25
	15-24	20-35	---	7.9-9.0	1-5	0	2.0-8.0	13-30
	24-35	20-35	---	7.9-9.0	1-5	0	2.0-8.0	13-30
	35-49	20-35	---	7.9-9.0	1-5	0	2.0-8.0	13-30
	49-61	15-35	---	7.9-9.0	0-5	0	2.0-4.0	4-15
	61-69	15-35	---	7.9-9.0	0-5	0	2.0-4.0	4-15
	69-80	15-35	---	7.9-9.0	0-5	0	2.0-4.0	4-15
Kisiwa, occasionally flooded-----	0-4	10-25	---	7.4-9.0	0-2	0	1.0-4.0	2-11
	4-7	10-25	---	7.4-9.0	0-2	0	1.0-4.0	2-8
	7-14	14-26	---	7.9-9.0	5-10	0	1.0-8.0	15-30
	14-23	14-26	---	7.9-9.0	5-10	0	1.0-8.0	15-30
	23-31	14-30	---	7.9-9.0	5-10	0	2.0-4.0	2-26
	31-40	14-30	---	7.9-9.0	5-10	0	1.0-4.0	2-18
	40-46	14-30	---	7.9-9.0	5-10	0	0.0-4.0	2-15
	46-52	3.0-10	---	7.9-9.0	5-10	0	0.0-4.0	2-4
	52-58	3.0-10	---	7.9-9.0	5-10	0	0.0-4.0	2-4
	58-65	0.0-6.0	---	7.9-9.0	0-2	0	0.0-4.0	2-4
	65-80	0.0-6.0	---	7.9-9.0	0-2	0	0.0-4.0	2-4
1004: Albion-----	0-9	5.0-15	---	5.6-6.5	0	0	0	0
	9-16	5.0-15	---	6.1-7.8	0	0	0	0
	16-27	5.0-15	---	6.1-7.8	0	0	0	0
	27-48	2.0-10	---	6.1-8.4	0	0	0	0
	48-80	2.0-5.0	---	6.1-8.4	0	0	0	0
1005: Albion-----	0-9	5.0-15	---	5.6-6.5	0	0	0	0
	9-16	5.0-15	---	6.1-7.8	0	0	0	0
	16-27	5.0-15	---	6.1-7.8	0	0	0	0
	27-48	2.0-10	---	6.1-8.4	0	0	0	0
	48-80	2.0-5.0	---	6.1-8.4	0	0	0	0
1006: Albion-----	0-9	5.0-15	---	5.6-6.5	0	0	0	0
	9-16	5.0-15	---	6.1-7.8	0	0	0	0
	16-27	5.0-15	---	6.1-7.8	0	0	0	0
	27-48	2.0-10	---	6.1-8.4	0	0	0	0
	48-80	2.0-5.0	---	6.1-8.4	0	0	0	0
1011: Albion-----	0-9	5.0-15	---	5.6-6.5	0	0	0	0
	9-16	5.0-15	---	6.1-7.8	0	0	0	0
	16-27	5.0-15	---	6.1-7.8	0	0	0	0
	27-48	2.0-10	---	6.1-8.4	0	0	0	0
	48-80	2.0-5.0	---	6.1-8.4	0	0	0	0
Shellabarger----	0-7	6.0-10	---	5.1-6.5	0	0	0	0
	7-11	9.0-12	---	6.1-7.8	0	0	0	0
	11-19	9.0-12	---	6.1-7.8	0	0	0	0
	19-33	9.0-12	---	6.1-7.8	0	0	0	0
	33-47	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	47-59	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	59-73	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	73-80	2.0-9.0	---	6.1-8.4	0-5	0	0	0
1017: Albion-----	0-9	5.0-15	---	5.6-6.5	0	0	0	0
	9-16	5.0-15	---	6.1-7.8	0	0	0	0
	16-27	5.0-15	---	6.1-7.8	0	0	0	0
	27-48	2.0-10	---	6.1-8.4	0	0	0	0
	48-80	2.0-5.0	---	6.1-8.4	0	0	0	0
Shellabarger, Eroded-----	0-5	6.0-10	---	5.1-6.5	0	0	0	0
	5-11	9.0-12	---	6.1-7.8	0	0	0	0
	11-19	9.0-12	---	6.1-7.8	0	0	0	0
	19-33	9.0-12	---	6.1-7.8	0	0	0	0
	33-47	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	47-59	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	59-73	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	73-80	2.0-9.0	---	6.1-8.4	0-5	0	0	0
1061: Arents, Earthen Dam-----	---	---	---	---	---	---	---	---

CHEMICAL PROPERTIES OF THE SOILS--Continued
Kingman County, Kansas

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Map symbol and soil name	Depth	Cation- exchange capacity	Effective Cation Exchange Capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm		
1359: Clark-----	0-11	10-25	---	7.4-8.4	0-5	0	0.0-1.0	0
	11-16	10-25	---	7.4-9.0	5-25	0	0.0-1.0	0
	16-28	10-25	---	7.4-9.0	0-25	0	0.0-1.0	0
	28-45	10-25	---	7.4-9.0	15-45	0	0.0-1.0	0
	45-65	5.0-20	---	7.4-9.0	15-25	0	0.0-1.0	0
	65-80	5.0-20	---	7.4-9.0	15-25	0	0.0-1.0	0
Ost-----	0-8	15-20	---	6.1-8.4	0	0	0	0
	8-12	10-25	---	6.6-8.4	0	0	0	0
	12-18	10-25	---	6.6-8.4	0	0	0	0
	18-23	10-25	---	7.4-8.4	15-34	0	0	0
	23-38	5.0-15	---	7.4-8.4	15-30	0	0	0
	38-54	5.0-15	---	7.4-8.4	15-30	0	0	0
	54-80	5.0-17	---	7.4-8.4	15-30	0	0	0
1555: Dillhut-----	0-4	1.0-3.0	---	5.6-6.5	0	0	0	0
	4-9	1.0-3.0	---	5.6-6.5	0	0	0	0
	9-18	0.0-2.0	---	5.6-6.5	0	0	0	0
	18-26	0.0-2.0	---	5.6-6.5	0	0	0	0
	26-41	10-18	---	6.6-7.3	0	0	0	0
	41-55	7.0-10	---	6.6-7.3	0	0	0	0
	55-65	7.0-10	---	6.6-7.3	0	0	0	0
	65-70	7.0-10	---	6.6-7.3	0	0	0	0
	70-80	3.0-9.0	---	6.1-7.3	0	0	0	0
Plev-----	0-4	3.0-6.0	---	5.1-6.5	0	0	0	0
	4-12	0.0-3.0	---	5.1-6.5	0	0	0	0
	12-35	0.0-1.0	---	5.6-6.5	0	0	0	0
	35-46	0.0-1.0	---	5.6-6.5	0	0	0	0
	46-57	7.0-15	---	6.1-7.3	0	0	0	0
	57-75	7.0-15	---	6.1-7.3	0	0	0	0
	75-80	3.0-9.0	---	6.1-7.3	0	0	0	0
1728: Farnum-----	0-5	9.0-15	---	5.6-7.3	0	0	0	0
	5-15	9.0-15	---	5.6-7.3	0	0	0	0
	15-21	8.0-18	---	6.1-7.8	0	0	0	0
	21-34	10-23	---	6.1-8.4	0	0	0	0
	34-48	10-23	---	6.1-8.4	0	0	0	0
	48-61	10-23	---	6.1-8.4	0	0	0	0
	61-73	10-23	---	6.1-8.4	0	0	0	0
	73-80	4.0-19	---	6.6-8.4	0	0	0	0
Funmar-----	0-6	7.0-19	---	6.1-7.3	0	0	0	0
	6-12	7.0-19	---	6.1-7.3	0	0	0	0
	12-17	13-19	---	6.6-7.3	0	0	0	0
	17-26	13-19	---	6.6-7.3	0	0	0	0
	26-32	13-19	---	6.6-7.3	0	0	0	0
	32-38	7.0-19	---	6.6-7.8	0	0	0	0
	38-54	24-41	---	6.6-7.8	0-5	0	0	0
	54-66	24-41	---	6.6-7.8	0-5	0	0	0
	66-80	11-18	---	6.6-7.8	0-5	0	0	0
2205: Jamash-----	0-4	16-21	---	6.1-7.8	0	0	0	0
	4-11	19-24	---	6.6-8.4	0	0	0	0
	11-15	15-27	---	7.4-8.4	0-2	0	0	0
	15-28	10-20	---	7.4-9.0	15-25	0	0	0
	28-80	10-20	---	7.4-9.0	15-25	0	0	0
Piedmont-----	0-4	16-21	---	6.1-7.3	0	0	0	0
	4-7	16-21	---	6.1-7.3	0	0	0	0
	7-13	19-24	---	6.1-7.8	0	0	0	0
	13-20	19-24	---	6.1-7.8	0	0	0	0
	20-24	21-33	---	6.6-8.4	0-2	0	0	0
	24-32	21-33	---	7.9-8.4	0-5	0	0	0
	32-80	10-20	---	7.4-9.0	15-25	0	0	0
2381: Kanza-----	0-4	2.0-10	---	5.6-6.5	0	0	0	0
	4-9	2.0-10	---	5.6-6.5	0	0	0	0
	9-17	2.0-5.0	---	5.6-6.5	0	0	0	0
	17-33	2.0-5.0	---	5.6-8.4	0-5	0	0	0
	33-80	2.0-5.0	---	5.6-8.4	0-5	0	0	0
Ninnescah-----	0-6	5.0-12	---	7.4-8.4	5-14	0	0.0-2.1	0-1
	6-14	5.0-12	---	7.4-8.4	5-14	0	0.0-2.0	0-1
	14-19	5.0-12	---	7.4-8.4	5-14	0	0.0-2.0	0-1
	19-30	5.0-8.0	---	7.4-8.4	5-11	0	0.0-1.0	0-1
	30-37	5.0-8.0	---	7.4-8.4	5-11	0	0.0-1.0	0-1
	37-52	3.0-8.0	---	6.6-8.4	0-10	0	0.0-1.0	0-1
	52-80	3.0-8.0	---	6.6-8.4	0-10	0	0.0-1.0	0-1
2390: Kaskan-----	0-7	11-17	---	6.1-7.3	0	0	0	0
	7-17	20-30	---	6.1-7.3	0	0	0	0
	17-24	10-16	---	6.1-7.8	0	0	0	0
	24-35	6.0-10	---	6.1-7.8	0-1	0	0	0
	35-41	0.0-4.0	---	6.1-7.8	0	0	0	0
	41-47	0.0-4.0	---	6.1-7.8	0	0	0	0
	47-66	0.0-4.0	---	6.1-7.8	0	0	0	0
	66-80	0.0-0.0	---	6.1-7.8	0	0	0	0

CHEMICAL PROPERTIES OF THE SOILS--Continued
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Map symbol and soil name	Depth	Cation- exchange capacity	Effective Cation Exchange Capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm		
2556: Langdon-----	0-8	0.0-3.0	---	5.1-7.3	0	0	0	0
	8-47	0.0-4.0	---	5.1-7.3	0	0	0	0
	47-64	0.0-1.0	---	5.1-7.3	0	0	0	0
	64-80	0.0-4.0	---	4.5-6.5	0	0	0	0
2812: Mahone-----	0-8	1.0-5.0	---	5.1-7.3	0	0	0	0
	8-14	1.0-5.0	---	5.1-7.3	0	0	0	0
	14-20	6.0-10	---	6.1-7.3	0	0	0	0
	20-25	6.0-10	---	6.1-7.3	0	0	0	0
	25-33	6.0-10	---	6.1-7.3	0	0	0	0
	33-39	6.0-10	---	6.1-8.4	0	0	0	0
	39-42	12-21	---	7.4-8.4	0-1	0	0	0
	42-48	12-21	---	7.4-8.4	0-1	0	0	0
	48-54	8.0-16	---	7.4-8.4	0-1	0	0	0
	54-61	8.0-16	---	7.4-8.4	0-1	0	0	0
	61-66	8.0-16	---	7.4-8.4	0-1	0	0	0
	66-71	8.0-16	---	7.4-8.4	0-1	0	0	0
	71-78	0.0-3.0	---	6.6-8.4	0	0	0	0
	78-80	0.0-3.0	---	6.6-8.4	0	0	0	0
2948: Nalim-----	0-6	9.0-15	---	5.6-7.3	0	0	0	0
	6-9	9.0-20	---	5.6-7.3	0	0	0	0
	9-13	15-25	---	5.6-8.4	0	0	0	0
	13-21	15-24	---	5.6-8.4	0	0	0	0
	21-31	15-20	---	5.6-8.4	0	0	0	0
	31-39	7.0-20	---	5.6-8.4	0	0	0	0
	39-44	7.0-20	---	5.6-8.4	0	0	0	0
	44-52	3.0-20	---	5.6-8.4	0	0	0	0
	52-62	2.0-10	---	5.6-7.3	0	0	0	0
	62-72	2.0-10	---	5.6-7.3	0	0	0	0
	72-80	2.0-5.0	---	5.6-7.3	0	0	0	0
3051: Ost-----	0-8	15-20	---	6.1-8.4	0	0	0	0
	8-12	10-25	---	6.6-8.4	0	0	0	0
	12-18	10-25	---	6.6-8.4	0	0	0	0
	18-23	10-25	---	7.4-8.4	15-34	0	0	0
	23-38	5.0-15	---	7.4-8.4	15-30	0	0	0
	38-54	5.0-15	---	7.4-8.4	15-30	0	0	0
	54-80	5.0-17	---	7.4-8.4	15-30	0	0	0
3052: Ost-----	0-8	15-20	---	6.1-8.4	0	0	0	0
	8-12	10-25	---	6.6-8.4	0	0	0	0
	12-18	10-25	---	6.6-8.4	0	0	0	0
	18-23	10-25	---	7.4-8.4	15-34	0	0	0
	23-38	5.0-15	---	7.4-8.4	15-30	0	0	0
	38-54	5.0-15	---	7.4-8.4	15-30	0	0	0
	54-80	5.0-17	---	7.4-8.4	15-30	0	0	0
Clark-----	0-11	10-25	---	7.4-8.4	0-5	0	0	0
	11-16	10-25	---	7.4-9.0	5-25	0	0	0
	16-28	10-25	---	7.4-9.0	0-25	0	0	0
	28-45	10-25	---	7.4-9.0	15-45	0	0	0
	45-65	5.0-20	---	7.4-9.0	15-25	0	0	0
	65-80	5.0-20	---	7.4-9.0	15-25	0	0	0
3170: Penalosa-----	0-5	10-16	---	5.1-7.3	0	0	0	0
	5-10	10-16	---	5.1-7.3	0	0	0	0
	10-14	17-21	---	6.1-8.4	0	0	0	0
	14-22	17-21	---	6.1-8.4	0	0	0	0
	22-28	21-30	---	6.6-8.4	0-2	0	0	0
	28-34	21-30	---	6.6-8.4	0-2	0	0	0
	34-39	21-30	---	6.6-8.4	0-2	0	0	0
	39-48	10-16	---	6.6-8.4	0	0	0	0
	48-61	21-30	---	6.6-8.4	0-10	0	0	0
	61-71	21-30	---	6.6-8.4	0-10	0	0	0
	71-80	21-30	---	6.6-8.4	0-10	0	0	0
3171: Penalosa-----	0-5	10-16	---	5.1-7.3	0	0	0	0
	5-10	10-16	---	5.1-7.3	0	0	0	0
	10-14	17-21	---	6.1-8.4	0	0	0	0
	14-22	17-21	---	6.1-8.4	0	0	0	0
	22-28	21-30	---	6.6-8.4	0-2	0	0	0
	28-34	21-30	---	6.6-8.4	0-2	0	0	0
	34-39	21-30	---	6.6-8.4	0-2	0	0	0
	39-48	10-16	---	6.6-8.4	0	0	0	0
	48-61	21-30	---	6.6-8.4	0-10	0	0	0
	61-71	21-30	---	6.6-8.4	0-10	0	0	0
	71-80	21-30	---	6.6-8.4	0-10	0	0	0
3180: Pratt-----	0-8	0.0-3.0	0.0-0.0	5.6-7.3	0	0	0	0
	8-24	2.0-5.0	0.0-0.0	5.6-7.3	0	0	0	0
	24-64	3.0-7.0	0.0-0.0	5.6-7.3	0	0	0	0
	64-80	1.0-3.0	0.0-0.0	6.1-7.3	0	0	0	0

CHEMICAL PROPERTIES OF THE SOILS--Continued
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Map symbol and soil name	Depth	Cation- exchange capacity	Effective Cation Exchange Capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm		
3181:								
Pratt-----	0-8	0.0-3.0	0.0-0.0	5.6-7.3	0	0	0	0
	8-24	2.0-5.0	0.0-0.0	5.6-7.3	0	0	0	0
	24-64	3.0-7.0	0.0-0.0	5.6-7.3	0	0	0	0
	64-80	1.0-3.0	0.0-0.0	6.1-7.3	0	0	0	0
Turon-----	0-8	1.0-3.0	---	5.1-7.3	0	0	0	0
	8-28	2.0-5.0	---	5.1-7.3	0	0	0	0
	28-40	3.0-7.0	---	5.1-7.3	0	0	0	0
	40-58	24-33	---	6.6-7.8	0	0	0	0
	58-75	24-33	---	6.6-7.8	0	0	0	0
	75-80	24-33	---	6.6-7.8	0	0	0	0
3445:								
Shellabarger, Moderately Eroded-----	0-6	6.0-10	---	5.1-6.5	0	0	0	0
	6-11	9.0-12	---	6.1-7.8	0	0	0	0
	11-19	9.0-12	---	6.1-7.8	0	0	0	0
	19-33	9.0-12	---	6.1-7.8	0	0	0	0
	33-47	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	47-59	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	59-73	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	73-80	2.0-9.0	---	6.1-8.4	0-5	0	0	0
3510:								
Saltcreek-----	0-5	5.0-10	---	4.5-6.6	0	0	0	0
	5-10	5.0-10	---	4.5-6.6	0	0	0	0
	10-26	10-18	---	6.1-7.3	0	0	0	0
	26-39	10-18	---	6.1-7.3	0	0	0	0
	39-56	24-35	---	6.1-8.4	0-5	0	0	0
	56-66	24-35	---	6.1-8.4	0-5	0	0	0
	66-80	24-35	---	6.1-8.4	0-5	0	0	0
Funmar-----	0-6	7.0-19	---	6.1-7.3	0	0	0	0
	6-12	7.0-19	---	6.1-7.3	0	0	0	0
	12-17	13-19	---	6.6-7.3	0	0	0	0
	17-26	13-19	---	6.6-7.3	0	0	0	0
	26-32	13-19	---	6.6-7.3	0	0	0	0
	32-38	7.0-19	---	6.6-7.8	0	0	0	0
	38-54	24-41	---	6.6-7.8	0-5	0	0	0
	54-66	24-41	---	6.6-7.8	0-5	0	0	0
	66-80	11-18	---	6.6-7.8	0-5	0	0	0
Farnum-----	0-5	9.0-15	---	5.6-7.3	0	0	0	0
	5-15	9.0-15	---	5.6-7.3	0	0	0	0
	15-21	8.0-18	---	6.1-7.8	0	0	0	0
	21-34	10-23	---	6.1-8.4	0	0	0	0
	34-48	10-23	---	6.1-8.4	0	0	0	0
	48-61	10-23	---	6.1-8.4	0	0	0	0
	61-73	10-23	---	6.1-8.4	0	0	0	0
	73-80	4.0-19	---	6.6-8.4	0	0	0	0
3530:								
Shellabarger, Eroded-----	0-5	6.0-10	---	5.1-6.5	0	0	0	0
	5-11	9.0-12	---	6.1-7.8	0	0	0	0
	11-19	9.0-12	---	6.1-7.8	0	0	0	0
	19-33	9.0-12	---	6.1-7.8	0	0	0	0
	33-47	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	47-59	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	59-73	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	73-80	2.0-9.0	---	6.1-8.4	0-5	0	0	0
Albion-----	0-9	5.0-15	---	5.6-6.5	0	0	0	0
	9-16	5.0-15	---	6.1-7.8	0	0	0	0
	16-27	5.0-15	---	6.1-7.8	0	0	0	0
	27-48	2.0-10	---	6.1-8.4	0	0	0	0
	48-80	2.0-5.0	---	6.1-8.4	0	0	0	0
3531:								
Shellabarger, Moderately Eroded-----	0-6	6.0-10	---	5.1-6.5	0	0	0	0
	6-11	9.0-12	---	6.1-7.8	0	0	0	0
	11-19	9.0-12	---	6.1-7.8	0	0	0	0
	19-33	9.0-12	---	6.1-7.8	0	0	0	0
	33-47	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	47-59	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	59-73	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	73-80	2.0-9.0	---	6.1-8.4	0-5	0	0	0
Nalim-----	0-6	9.0-15	---	5.6-7.3	0	0	0	0
	6-9	9.0-20	---	5.6-7.3	0	0	0	0
	9-13	15-25	---	5.6-8.4	0	0	0	0
	13-21	15-24	---	5.6-8.4	0	0	0	0
	21-31	15-20	---	5.6-8.4	0	0	0	0
	31-39	7.0-20	---	5.6-8.4	0	0	0	0
	39-44	7.0-20	---	5.6-8.4	0	0	0	0
	44-52	3.0-20	---	5.6-8.4	0	0	0	0
	52-62	2.0-10	---	5.6-7.3	0	0	0	0
	62-72	2.0-10	---	5.6-7.3	0	0	0	0
	72-80	2.0-5.0	---	5.6-7.3	0	0	0	0

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Map symbol and soil name	Depth	Cation- exchange capacity	Effective Cation Exchange Capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm		
3532: Shellabarger----	0-6	4.0-7.0	---	5.1-6.5	0	0	0	0
	6-11	9.0-12	---	6.1-7.8	0	0	0	0
	11-19	9.0-12	---	6.1-7.8	0	0	0	0
	19-33	9.0-12	---	6.1-7.8	0	0	0	0
	33-47	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	47-59	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	59-73	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	73-80	2.0-9.0	---	6.1-8.4	0-5	0	0	0
3533: Shellabarger----	0-7	6.0-10	---	5.1-6.5	0	0	0	0
	7-11	9.0-12	---	6.1-7.8	0	0	0	0
	11-19	9.0-12	---	6.1-7.8	0	0	0	0
	19-33	9.0-12	---	6.1-7.8	0	0	0	0
	33-47	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	47-59	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	59-73	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	73-80	2.0-9.0	---	6.1-8.4	0-5	0	0	0
3534: Shellabarger----	0-7	6.0-10	---	5.1-6.5	0	0	0	0
	7-11	9.0-12	---	6.1-7.8	0	0	0	0
	11-19	9.0-12	---	6.1-7.8	0	0	0	0
	19-33	9.0-12	---	6.1-7.8	0	0	0	0
	33-47	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	47-59	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	59-73	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	73-80	2.0-9.0	---	6.1-8.4	0-5	0	0	0
3535: Shellabarger----	0-7	6.0-10	---	5.1-6.5	0	0	0	0
	7-11	9.0-12	---	6.1-7.8	0	0	0	0
	11-19	9.0-12	---	6.1-7.8	0	0	0	0
	19-33	9.0-12	---	6.1-7.8	0	0	0	0
	33-47	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	47-59	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	59-73	2.0-9.0	---	6.1-8.4	0-5	0	0	0
	73-80	2.0-9.0	---	6.1-8.4	0-5	0	0	0
Nalim-----	0-6	9.0-15	---	5.6-7.3	0	0	0	0
	6-9	9.0-20	---	5.6-7.3	0	0	0	0
	9-13	15-25	---	5.6-8.4	0	0	0	0
	13-21	15-24	---	5.6-8.4	0	0	0	0
	21-31	15-20	---	5.6-8.4	0	0	0	0
	31-39	7.0-20	---	5.6-8.4	0	0	0	0
	39-44	7.0-20	---	5.6-8.4	0	0	0	0
	44-52	3.0-20	---	5.6-8.4	0	0	0	0
	52-62	2.0-10	---	5.6-7.3	0	0	0	0
	62-72	2.0-10	---	5.6-7.3	0	0	0	0
	72-80	2.0-5.0	---	5.6-7.3	0	0	0	0
3926: Water-----	---	---	---	---	---	---	---	---
3966: Willowbrook----	0-4	5.0-11	---	5.6-8.4	0	0	0	0
	4-9	5.0-11	---	5.6-8.4	0	0	0	0
	9-13	5.0-11	---	5.6-8.4	0	0	0	0
	13-17	5.0-11	---	5.6-8.4	0	0	0	0
	17-19	3.0-10	---	7.4-8.4	0-5	0	0	0
	19-26	3.0-10	---	7.4-8.4	0-5	0	0	0
	26-45	0.0-3.0	---	7.4-8.4	0	0	0	0
	45-51	0.0-2.0	---	7.4-8.4	0	0	0	0
	51-80	0.0-2.0	---	7.4-8.4	0	0	0	0
4005: Yaggy-----	0-5	6.0-9.0	---	7.4-8.4	0-3	0	0	0
	5-11	6.0-9.0	---	7.4-8.4	0-3	0	0	0
	11-14	5.0-16	---	7.4-8.4	0-5	0	0	0
	14-24	0.0-4.0	---	7.4-8.4	0	0	0	0
	24-31	0.0-4.0	---	7.4-8.4	0	0	0	0
	31-42	0.0-4.0	---	7.4-8.4	0	0	0	0
	42-53	0.0-4.0	---	7.4-8.4	0	0	0	0
	53-69	0.0-4.0	---	7.4-8.4	0	0	0	0
	69-80	0.0-4.0	---	7.4-8.4	0	0	0	0
Saxman-----	0-4	1.0-5.0	1.0-5.0	4.5-6.0	0	0	0	0
	4-8	1.0-5.0	1.0-5.0	4.5-6.0	0	0	0	0
	8-13	1.0-5.0	1.0-5.0	4.5-6.0	0	0	0	0
	13-22	1.0-4.0	---	6.6-8.4	0	0	0	0
	22-30	1.0-4.0	---	6.6-8.4	0	0	0	0
	30-37	0.0-2.0	---	6.6-8.4	0	0	0	0
	37-48	0.0-2.0	---	6.6-8.4	0	0	0	0
	48-54	0.0-2.0	---	6.6-8.4	0	0	0	0
	54-80	0.0-0.0	---	6.6-8.4	0	0	0	0

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Map symbol and soil name	Depth	Cation- exchange capacity	Effective Cation Exchange Capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm		
4110:								
Zellmont-----	0-8	6.0-10	---	5.6-7.3	0	0	0	0
	8-18	13-18	---	6.1-7.8	0	0	0	0
	18-26	7.0-11	---	6.1-7.8	0-2	0	0	0
	26-32	13-18	---	6.6-8.4	0-2	0	0	0
	32-80	---	---	---	10-20	0	0	0
Poxmash-----	0-5	5.0-15	---	5.6-6.5	0	0	0	0
	5-9	5.0-15	---	5.6-6.5	0	0	0	0
	9-15	5.0-15	---	6.1-7.8	0	0	0	0
	15-20	2.0-10	---	6.1-8.4	0	0	0	0
	20-33	2.0-5.0	---	5.6-8.4	0	0	0	0
	33-48	2.0-5.0	---	5.6-8.4	0	0	0	0
	48-80	---	---	---	---	---	---	---
Aa:								
Albion-----	0-8	3.0-10	---	5.6-6.5	0	0	0	0
	8-16	4.0-11	---	6.1-7.8	0	0	0	0
	16-26	1.0-9.0	---	6.1-8.4	0	0	0	0
	26-60	0.0-6.0	---	6.1-8.4	0	0	0	0
Ab:								
Albion-----	0-8	3.0-10	---	5.6-6.5	0	0	0	0
	8-16	4.0-11	---	6.1-7.8	0	0	0	0
	16-26	1.0-9.0	---	6.1-8.4	0	0	0	0
	26-60	0.0-6.0	---	6.1-8.4	0	0	0	0
Ac:								
Albion-----	0-8	3.0-10	---	5.6-6.5	0	0	0	0
	8-16	4.0-11	---	6.1-7.8	0	0	0	0
	16-26	1.0-9.0	---	6.1-8.4	0	0	0	0
	26-60	0.0-6.0	---	6.1-8.4	0	0	0	0
Ad:								
Albion-----	0-8	3.0-10	---	5.6-6.5	0	0	0	0
	8-16	4.0-11	---	6.1-7.8	0	0	0	0
	16-26	1.0-9.0	---	6.1-8.4	0	0	0	0
	26-60	0.0-6.0	---	6.1-8.4	0	0	0	0
AED:								
Arents, Earthen Dam-----	---	---	---	---	---	---	---	---
Ba:								
Blanket-----	0-18	6.0-18	---	6.1-7.8	0	0	0	0
	18-50	14-30	---	6.1-8.4	---	0	0	0
	50-60	14-30	---	7.9-8.4	---	0	0	0
Bb:								
Blanket-----	0-18	6.0-18	---	6.1-7.8	0	0	0	0
	18-50	14-30	---	6.1-8.4	---	0	0	0
	50-60	14-30	---	7.9-8.4	---	0	0	0
Bc:								
Blanket-----	0-5	11-23	---	6.1-7.8	0	0	0	0
	5-40	14-30	---	6.1-8.4	---	0	0	0
	40-60	14-30	---	7.9-8.4	---	0	0	0
Ca:								
Canadian-----	0-16	2.0-13	---	5.6-7.3	0	0	0	0
	16-32	4.0-11	---	6.1-8.4	0	0	0	0
	32-60	2.0-11	---	6.1-8.4	0	0	0	0
Cb:								
Carwile-----	0-10	2.0-13	---	5.1-7.3	---	---	---	---
	10-18	10-24	---	5.1-7.3	---	---	---	---
	18-36	14-36	---	6.1-8.4	---	---	---	---
	36-60	8.0-27	---	6.6-8.4	---	---	---	---
Cc:								
Case-----	0-8	11-21	---	7.4-8.4	0-5	---	---	---
	8-60	7.0-21	---	7.4-8.4	5-25	---	---	---
Clark-----	0-11	11-21	---	7.4-8.4	0-5	---	---	---
	11-60	7.0-21	---	7.4-8.4	15-45	---	---	---
Cd:								
Case-----	0-8	11-21	---	7.4-8.4	0-5	---	---	---
	8-60	7.0-21	---	7.4-8.4	5-25	---	---	---
Clark-----	0-11	11-21	---	7.4-8.4	0-5	---	---	---
	11-60	7.0-21	---	7.4-8.4	15-45	---	---	---
Ce:								
Clark-----	0-11	11-21	---	7.4-8.4	0-5	---	---	---
	11-60	7.0-21	---	7.4-8.4	15-45	---	---	---
Cf:								
Clark-----	0-11	11-21	---	7.4-8.4	0-5	---	---	---
	11-60	7.0-21	---	7.4-8.4	15-45	---	---	---
Da:								
Dillwyn-----	0-8	0.0-6.0	---	5.6-7.3	---	---	---	---
	8-60	0.0-5.0	---	5.6-7.8	---	---	---	---
Plevna-----	0-11	3.0-13	---	6.6-8.4	0	0	0	0
	11-36	3.0-11	---	6.6-8.4	0	0	0	0
	36-60	0.0-4.0	---	6.6-8.4	0	0	0	0
Fa:								
Farnum-----	0-16	3.0-10	---	5.6-7.3	---	---	---	---
	16-50	10-21	---	6.1-8.4	---	---	---	---
	50-60	4.0-18	---	6.6-8.4	---	---	---	---

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Map symbol and soil name	Depth	Cation- exchange capacity	Effective Cation Exchange Capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm		
Fb:								
Farnum-----	0-13	6.0-18	---	5.6-7.3	---	---	---	---
	13-18	8.0-16	---	6.1-7.8	---	---	---	---
	18-52	10-21	---	6.1-8.4	---	---	---	---
	52-60	4.0-18	---	6.6-8.4	---	---	---	---
Fc:								
Farnum-----	0-13	6.0-18	---	5.6-7.3	---	---	---	---
	13-18	8.0-16	---	6.1-7.8	---	---	---	---
	18-52	10-21	---	6.1-8.4	---	---	---	---
	52-60	4.0-18	---	6.6-8.4	---	---	---	---
Fd:								
Farnum-----	0-13	6.0-18	---	5.6-7.3	---	---	---	---
	13-18	8.0-16	---	6.1-7.8	---	---	---	---
	18-52	10-21	---	6.1-8.4	---	---	---	---
	52-60	4.0-18	---	6.6-8.4	---	---	---	---
Fe:								
Farnum-----	0-8	11-19	---	5.6-7.3	---	---	---	---
	8-40	10-21	---	6.1-8.4	---	---	---	---
	40-60	4.0-18	---	6.6-8.4	---	---	---	---
Ff:								
Farnum-----	0-13	6.0-18	---	5.6-7.3	---	---	---	---
	13-18	8.0-16	---	6.1-7.8	---	---	---	---
	18-52	10-21	---	6.1-8.4	---	---	---	---
	52-60	4.0-18	---	6.6-8.4	---	---	---	---
Natrutolls----	---	---	---	---	---	---	---	---
Ka:								
Kaski-----	0-28	7.0-18	---	5.6-7.3	---	---	---	---
	28-42	7.0-21	---	5.6-7.8	---	---	---	---
	42-60	3.0-18	---	5.6-8.4	---	---	---	---
Kb:								
Kingman-----	0-18	11-24	---	7.4-8.4	0	0	0.0-4.0	0
	18-48	10-21	---	7.4-8.4	0	0	0.0-4.0	0
	48-60	4.0-18	---	7.4-8.4	0	0	0.0-4.0	0
La:								
Lincoln-----	0-10	2.0-9.0	---	7.4-8.4	---	---	---	---
	10-60	2.0-9.0	---	7.9-8.4	1-5	---	---	---
Ma:								
Mclain-----	0-14	7.0-18	---	6.1-8.4	0	0	0	0
	14-42	14-30	---	6.1-8.4	0	0	0	0
	42-60	8.0-27	---	6.6-8.4	0	0	0	0
Na:								
Nashville-----	0-28	8.0-19	---	5.6-7.3	---	---	---	---
	>28	---	0.0-0.0	---	---	---	---	---
Nb:								
Nashville-----	0-28	8.0-19	---	5.6-7.3	---	---	---	---
	>28	---	0.0-0.0	---	---	---	---	---
Quinlan-----	0-13	6.0-17	---	7.4-8.4	0-5	0	0	0
	>13	---	0.0-0.0	---	---	---	---	---
Oa:								
Owens-----	0-6	14-25	---	6.6-8.4	---	---	0.0-2.0	---
	6-16	14-36	---	7.9-8.4	---	---	0.0-2.0	---
	>16	---	0.0-0.0	---	---	---	---	---
Pa:								
Pond Creek-----	0-10	6.0-18	---	5.1-7.3	---	---	---	---
	10-60	8.0-21	---	6.1-8.4	---	---	---	---
Pb:								
Pratt-----	0-12	1.0-5.0	---	5.6-7.3	---	---	---	---
	12-36	1.0-7.0	---	5.6-7.3	---	---	---	---
	36-60	0.0-5.0	---	6.1-7.3	---	---	---	---
Pc:								
Pratt-----	0-12	1.0-5.0	---	5.6-7.3	---	---	---	---
	12-36	1.0-7.0	---	5.6-7.3	---	---	---	---
	36-60	0.0-5.0	---	6.1-7.3	---	---	---	---
Carwile-----	0-10	2.0-13	---	5.1-7.3	---	---	---	---
	10-18	10-24	---	5.1-7.3	---	---	---	---
	18-36	14-36	---	6.1-8.4	---	---	---	---
	36-60	8.0-27	---	6.6-8.4	---	---	---	---
Pd:								
Pratt-----	0-12	1.0-5.0	---	5.6-7.3	---	---	---	---
	12-36	1.0-7.0	---	5.6-7.3	---	---	---	---
	36-60	0.0-5.0	---	6.1-7.3	---	---	---	---
Tivoli-----	0-8	2.0-7.0	---	6.1-7.8	---	---	---	---
	8-60	0.0-6.0	---	6.1-8.4	---	---	---	---
Qa:								
Quinlan-----	0-13	6.0-17	---	7.4-8.4	0-5	0	0	0
	>13	---	0.0-0.0	---	---	---	---	---
Qb:								
Quinlan-----	0-13	6.0-17	---	7.4-8.4	0-5	0	0	0
	>13	---	0.0-0.0	---	---	---	---	---
Ra:								
Renfrow-----	0-8	11-23	---	6.1-7.8	0	0	0	0
	8-12	12-24	---	6.1-7.8	0	0	0	0
	12-50	14-33	---	6.1-8.4	0	0	0	0

CHEMICAL PROPERTIES OF THE SOILS--Continued
Kingman County, Kansas

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Map symbol and soil name	Depth	Cation- exchange capacity	Effective Cation Exchange Capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	pH	Pct	Pct	mmhos/cm		
Rb:								
Ruella-----	0-10	11-22	---	7.4-8.4	---	---	---	---
	10-60	7.0-21	---	7.4-8.4	---	---	---	---
Rc:								
Ruella-----	0-10	11-22	---	7.4-8.4	---	---	---	---
	10-60	7.0-21	---	7.4-8.4	---	---	---	---
Rock Outcrop----	---	---	---	---	---	---	---	---
Sa:								
Shellabarger----	0-12	2.0-7.0	---	5.1-6.5	---	---	---	---
	12-38	7.0-16	---	6.1-7.8	---	---	---	---
	38-60	1.0-11	---	6.1-8.4	---	---	---	---
Sb:								
Shellabarger----	0-10	3.0-11	---	5.1-6.5	---	---	---	---
	10-45	7.0-16	---	6.1-7.8	---	---	---	---
	45-60	1.0-11	---	6.1-8.4	---	---	---	---
Sc:								
Shellabarger----	0-10	3.0-11	---	5.1-6.5	---	---	---	---
	10-45	7.0-16	---	6.1-7.8	---	---	---	---
	45-60	1.0-11	---	6.1-8.4	---	---	---	---
Sd:								
Shellabarger----	0-10	3.0-11	---	5.1-6.5	---	---	---	---
	10-45	7.0-16	---	6.1-7.8	---	---	---	---
	45-60	1.0-11	---	6.1-8.4	---	---	---	---
Ta:								
Tivoli-----	0-7	0.0-7.0	---	6.1-7.8	---	---	---	---
	7-60	0.0-6.0	---	6.1-8.4	---	---	---	---
W:								
Water-----	---	---	---	---	---	---	---	---
Wa:								
Waldeck-----	0-12	3.0-11	---	7.4-8.4	---	---	---	---
	12-36	3.0-10	---	7.4-8.4	---	---	---	---
	36-60	0.0-3.0	---	7.4-8.4	---	---	---	---
Za:								
Zenda-----	0-13	11-21	---	6.6-8.4	---	---	0.0-4.0	---
	13-60	7.0-21	---	7.4-8.4	---	---	0.0-4.0	---

WATER FEATURES Kingman County, Kansas

The Water Features table gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations. Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The months in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The Water Features table indicates, by month, depth to the top (upper limit) and base (lower limit) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table. Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The Water Features table indicates surface water depth and the duration and frequency of ponding. Duration is expressed as very brief if less than 2 days, brief if 2 to 7 days, long if 7 to 30 days, and very long if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. None means that ponding is not probable; rare that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); occasional that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and frequent that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and frequency are estimated. Duration is expressed as extremely brief if 0.1 hour to 4 hours, very brief if 4 hours to 2 days, brief if 2 to 7 days, long if 7 to 30 days, and very long if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. None means that flooding is not probable; very rare that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); rare that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); occasional that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); frequent that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and very frequent that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
007AE: Albion-----	B		Ft	Ft	Ft				
Shellabarger-----	B		---	---	---	---	---	---	---
007FA: Farnum-----	B		---	---	---	---	---	---	---
077KA: Kanza-----	D		---	---	---	---	---	---	---
		January	0.0-3.0	>6.0	---	---	---	Very brief	Frequent
		February	0.0-3.0	>6.0	---	---	---	Very brief	Frequent
		March	0.0-3.0	>6.0	---	---	---	Very brief	Frequent
		April	---	---	---	---	---	Very brief	Frequent
		May	---	---	---	---	---	Very brief	Frequent
		June	---	---	---	---	---	Very brief	Frequent
		July	---	---	---	---	---	Very brief	Frequent
		August	---	---	---	---	---	Very brief	Frequent
		September	---	---	---	---	---	Very brief	Frequent
		October	---	---	---	---	---	Very brief	Frequent
		November	---	---	---	---	---	Very brief	Frequent
		December	0.0-3.0	>6.0	---	---	---	Very brief	Frequent
077KR: Kirkland-----	D		---	---	---	---	---	---	---
Renfrow-----	D		---	---	---	---	---	---	---
077NN: Nashville-----	B		---	---	---	---	---	---	---
077PC: Pond Creek-----	B		---	---	---	---	---	---	---
077RC: Renfrow-----	D		---	---	---	---	---	---	---
Vernon-----	D		---	---	---	---	---	---	---
077SB: Shellabarger-----	B		---	---	---	---	---	---	---
077SE: Shellabarger-----	B		---	---	---	---	---	---	---
077SF: Shellabarger-----	B		---	---	---	---	---	---	---
077SG: Shellabarger-----	B		---	---	---	---	---	---	---
077SH: Shellabarger-----	B		---	---	---	---	---	---	---
151AO: Albion-----	B		---	---	---	---	---	---	---
151CN: Clark-----	B		---	---	---	---	---	---	---
151CO: Clark-----	B		---	---	---	---	---	---	---
Ost-----	B		---	---	---	---	---	---	---
151KP: Kanza-----	D		---	---	---	---	---	---	---
		January	0.0-3.0	>6.0	---	---	---	Very brief	Frequent
		February	0.0-3.0	>6.0	---	---	---	Very brief	Frequent
		March	0.0-3.0	>6.0	---	---	---	Very brief	Frequent
		April	---	---	---	---	---	Very brief	Frequent
		May	---	---	---	---	---	Very brief	Frequent
		June	---	---	---	---	---	Very brief	Frequent
		July	---	---	---	---	---	Very brief	Frequent
		August	---	---	---	---	---	Very brief	Frequent
		September	---	---	---	---	---	Very brief	Frequent
		October	---	---	---	---	---	Very brief	Frequent
		November	---	---	---	---	---	Very brief	Frequent
		December	0.0-3.0	>6.0	---	---	---	Very brief	Frequent

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Plevna-----	D		Ft	Ft	Ft				
		January	0.0-2.0	>6.0	---	---	---	---	None
		February	0.0-2.0	>6.0	---	---	---	---	None
		March	0.0-2.0	>6.0	---	---	---	Long	Frequent
		April	0.0-2.0	>6.0	---	---	---	Long	Frequent
		May	0.0-2.0	>6.0	---	---	---	Long	Frequent
		June	0.0-2.0	>6.0	---	---	---	Long	Frequent
		July	0.0-2.0	>6.0	---	---	---	Long	Frequent
		August	0.0-2.0	>6.0	---	---	---	Long	Frequent
		September	0.0-2.0	>6.0	---	---	---	Long	Frequent
		October	0.0-2.0	>6.0	---	---	---	Long	Frequent
		November	0.0-2.0	>6.0	---	---	---	---	None
		December	0.0-2.0	>6.0	---	---	---	---	None
151ND: Naron-----	B		---	---	---	---	---	---	---
151NF: Naron-----	B		---	---	---	---	---	---	---
151OC: Ost-----	B		---	---	---	---	---	---	---
151OS: Ost-----	B		---	---	---	---	---	---	---
151PN: Pratt-----	A		---	---	---	---	---	---	---
151SE: Shellabarger-----	B		---	---	---	---	---	---	---
151ZS: Drummond-----	D								
		January	2.0-4.0	>6.0	---	---	---	---	None
		February	2.0-4.0	>6.0	---	---	---	---	None
		March	2.0-4.0	>6.0	---	---	---	---	None
		April	2.0-4.0	>6.0	---	---	---	---	None
		November	2.0-4.0	>6.0	---	---	---	---	None
		December	2.0-4.0	>6.0	---	---	---	---	None
Zenda-----	C								
		January	2.0-4.0	>6.0	---	---	---	---	None
		February	2.0-4.0	>6.0	---	---	---	---	None
		March	2.0-4.0	>6.0	---	---	---	---	None
		April	2.0-4.0	>6.0	---	---	---	Very brief	Occasional
		May	---	---	---	---	---	Very brief	Occasional
		June	---	---	---	---	---	Very brief	Occasional
		July	---	---	---	---	---	Very brief	Occasional
		August	---	---	---	---	---	Very brief	Occasional
		September	---	---	---	---	---	Very brief	Occasional
		October	2.0-4.0	>6.0	---	---	---	---	None
		November	2.0-4.0	>6.0	---	---	---	---	None
		December	2.0-4.0	>6.0	---	---	---	---	None
173MA: Milan-----	B		---	---	---	---	---	---	---
173PB: Plevna-----	D								
		January	0.0-2.0	>6.0	---	---	---	---	None
		February	0.0-2.0	>6.0	---	---	---	---	None
		March	0.0-2.0	>6.0	---	---	---	Long	Frequent
		April	0.0-2.0	>6.0	---	---	---	Long	Frequent
		May	0.0-2.0	>6.0	---	---	---	Long	Frequent
		June	0.0-2.0	>6.0	---	---	---	Long	Frequent
		July	0.0-2.0	>6.0	---	---	---	Long	Frequent
		August	0.0-2.0	>6.0	---	---	---	Long	Frequent
		September	0.0-2.0	>6.0	---	---	---	Long	Frequent
		October	0.0-2.0	>6.0	---	---	---	Long	Frequent
		November	0.0-2.0	>6.0	---	---	---	---	None
		December	0.0-2.0	>6.0	---	---	---	---	None
173RA: Renfrow-----	D		---	---	---	---	---	---	---
173RC: Renfrow-----	D		---	---	---	---	---	---	---
Wellsford-----	D		---	---	---	---	---	---	---
173TA: Tabler-----	D		---	---	---	---	---	---	---
191RA: Renfrow-----	D		---	---	---	---	---	---	---
Grainola-----	D		---	---	---	---	---	---	---

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
990: Abbyville-----	C		---	---	---	---	---	---	---
		February	2.0-4.0	>6.0	---	---	---	---	None
		March	2.0-4.0	>6.0	---	---	---	---	None
		April	2.0-4.0	>6.0	---	---	---	---	None
		May	2.0-4.0	>6.0	---	---	---	---	None
		June	2.0-4.0	>6.0	---	---	---	---	None
991: Abbyville, rarely flooded-	C								
		January	---	---	---	---	---	---	Rare
		February	2.0-4.0	>6.0	---	---	---	---	Rare
		March	2.0-4.0	>6.0	---	---	---	---	Rare
		April	2.0-4.0	>6.0	---	---	---	---	Rare
		May	2.0-4.0	>6.0	---	---	---	---	Rare
		June	2.0-4.0	>6.0	---	---	---	---	Rare
		July	---	---	---	---	---	---	Rare
		August	---	---	---	---	---	---	Rare
		September	---	---	---	---	---	---	Rare
		October	---	---	---	---	---	---	Rare
		November	---	---	---	---	---	---	Rare
		December	---	---	---	---	---	---	Rare
Kisiwa, occasionally flooded-----	D								
		January	0.0	1.5	0.0-2.0	Brief	Occasional	Long	Occasional
			5.4	>6.0					
		February	0.0	1.5	0.0-2.0	Brief	Occasional	Long	Occasional
			5.4	>6.0					
		March	0.0	1.5	0.0-2.0	Brief	Occasional	Long	Occasional
			5.4	>6.0					
		April	0.0	1.5	0.0-2.0	Brief	Occasional	Long	Occasional
			5.4	>6.0					
		May	0.0	1.5	0.0-2.0	Brief	Occasional	Long	Occasional
			5.4	>6.0					
		June	0.0	1.5	---	---	---	---	---
			5.4	>6.0					
		July	5.4	>6.0	---	---	---	---	---
			5.4	>6.0					
		August	5.4	>6.0	---	---	---	---	---
			5.4	>6.0					
		September	0.0	1.5	---	---	---	---	---
			5.4	>6.0					
		October	0.0	1.5	---	---	---	---	---
			5.4	>6.0					
		November	0.0	1.5	---	---	---	---	---
			5.4	>6.0					
		December	0.0	1.5	---	---	---	---	---
			5.4	>6.0					
1004: Albion-----	B		---	---	---	---	---	---	---
1005: Albion-----	B		---	---	---	---	---	---	---
1006: Albion-----	B		---	---	---	---	---	---	---
1011: Albion-----	B		---	---	---	---	---	---	---
Shellabarger-----	B		---	---	---	---	---	---	---
1017: Shellabarger, Eroded-----	B		---	---	---	---	---	---	---
Albion-----	B		---	---	---	---	---	---	---
1359: Clark-----	B		---	---	---	---	---	---	---
Ost-----	B		---	---	---	---	---	---	---
1555: Dillhut-----	B		---	---	---	---	---	---	---
Plev-----	B		---	---	---	---	---	---	---
		February	0.5	4.0	---	---	---	---	None
		March	0.5	4.0	---	---	---	---	None
		April	0.5	4.0	---	---	---	---	None
		May	0.5	4.0	---	---	---	---	None
1728: Farnum-----	B		---	---	---	---	---	---	---
Funmar-----	C		---	---	---	---	---	---	---
2205:			---	---	---	---	---	---	---

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Jamash-----	D		Ft	Ft	Ft				
Piedmont-----	D		---	---	---	---	---	---	---
2381: Kanza-----	D		---	---	---	---	---	---	---
		January	0.0-3.0	>6.0	---	---	---	Very brief	Frequent
		February	0.0-3.0	>6.0	---	---	---	Very brief	Frequent
		March	0.0-3.0	>6.0	---	---	---	Very brief	Frequent
		April	---	---	---	---	---	Very brief	Frequent
		May	---	---	---	---	---	Very brief	Frequent
		June	---	---	---	---	---	Very brief	Frequent
		July	---	---	---	---	---	Very brief	Frequent
		August	---	---	---	---	---	Very brief	Frequent
		September	---	---	---	---	---	Very brief	Frequent
		October	---	---	---	---	---	Very brief	Frequent
		November	---	---	---	---	---	Very brief	Frequent
		December	0.0-3.0	>6.0	---	---	---	Very brief	Frequent
Ninnescah-----	B								
		February	2.0	>6.0	---	---	---	---	None
		March	2.0	>6.0	---	---	---	Long	Occasional
		April	2.0	>6.0	---	---	---	Long	Occasional
		May	2.0	>6.0	---	---	---	Long	Occasional
		June	2.0	>6.0	---	---	---	Long	Occasional
		July	---	---	---	---	---	Long	Occasional
		August	---	---	---	---	---	Long	Occasional
		September	---	---	---	---	---	Long	Occasional
		October	---	---	---	---	---	Long	Occasional
2390: Kaskan-----	B								
		January	---	---	---	---	---	---	Rare
		February	5.0	>6.0	---	---	---	---	Rare
		March	5.0	>6.0	---	---	---	---	Rare
		April	5.0	>6.0	---	---	---	---	Rare
		May	5.0	>6.0	---	---	---	---	Rare
		June	5.0	>6.0	---	---	---	---	Rare
		July	---	---	---	---	---	---	Rare
		August	---	---	---	---	---	---	Rare
		September	---	---	---	---	---	---	Rare
		October	---	---	---	---	---	---	Rare
		November	---	---	---	---	---	---	Rare
		December	---	---	---	---	---	---	Rare
2556: Langdon-----	A								
			---	---	---	---	---	---	---
2812: Mahone-----	C								
		January	---	---	---	---	---	---	Rare
		February	5.0	>6.0	---	---	---	---	Rare
		March	5.0	>6.0	---	---	---	---	Rare
		April	5.0	>6.0	---	---	---	---	Rare
		May	5.0	>6.0	---	---	---	---	Rare
		June	5.0	>6.0	---	---	---	---	Rare
		July	---	---	---	---	---	---	Rare
		August	---	---	---	---	---	---	Rare
		September	---	---	---	---	---	---	Rare
		October	---	---	---	---	---	---	Rare
		November	---	---	---	---	---	---	Rare
		December	---	---	---	---	---	---	Rare
2948: Nalim-----	B								
			---	---	---	---	---	---	---
3051: Ost-----	B								
			---	---	---	---	---	---	---
3052: Ost-----	B								
			---	---	---	---	---	---	---
Clark-----	B								
			---	---	---	---	---	---	---
3170: Penalosa-----	C								
			---	---	---	---	---	---	---
3171: Penalosa-----	C								
			---	---	---	---	---	---	---
3180: Pratt-----	A								
			---	---	---	---	---	---	---
3181: Pratt-----	A								
			---	---	---	---	---	---	---
Turon-----	A								
			---	---	---	---	---	---	---

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
3445: Shellabarger, Moderately Eroded-----	B		Ft	Ft	Ft				
3510: Saltcreek-----	C		---	---	---	---	---	---	---
Funmar-----	C		---	---	---	---	---	---	---
Farnum-----	B		---	---	---	---	---	---	---
3530: Shellabarger, Eroded-----	B		---	---	---	---	---	---	---
Albion-----	B		---	---	---	---	---	---	---
3531: Shellabarger, Moderately Eroded-----	B		---	---	---	---	---	---	---
Nalim-----	B		---	---	---	---	---	---	---
3532: Shellabarger-----	B		---	---	---	---	---	---	---
3533: Shellabarger-----	B		---	---	---	---	---	---	---
3534: Shellabarger-----	B		---	---	---	---	---	---	---
3535: Shellabarger-----	B		---	---	---	---	---	---	---
Nalim-----	B		---	---	---	---	---	---	---
3926: Water-----	---		---	---	---	---	---	---	---
3966: Willowbrook-----	B	February	2.0-4.0	>6.0	---	---	None	---	None
		March	2.0-4.0	>6.0	---	---	None	Brief	Occasional
		April	2.0-4.0	>6.0	---	---	None	Brief	Occasional
		May	2.0-4.0	>6.0	---	---	None	Brief	Occasional
		June	2.0-4.0	>6.0	---	---	None	Brief	Occasional
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
		October	---	---	---	---	None	Brief	Occasional
4005: Yaggy-----	C	January	2.0-4.0	>6.0	---	---	---	---	None
		February	2.0-4.0	>6.0	---	---	---	---	None
		March	2.0-4.0	>6.0	---	---	---	Brief	Occasional
		April	2.0-4.0	>6.0	---	---	---	Brief	Occasional
		May	2.0-4.0	>6.0	---	---	---	Brief	Occasional
		June	---	---	---	---	---	Brief	Occasional
		July	---	---	---	---	---	Brief	Occasional
		August	---	---	---	---	---	Brief	Occasional
		September	---	---	---	---	---	Brief	Occasional
		October	---	---	---	---	---	Brief	Occasional
		December	2.0-4.0	>6.0	---	---	---	---	None
Saxman-----	A	January	---	---	---	---	---	---	Rare
		February	2.0-3.0	>6.0	---	---	---	---	Rare
		March	2.0-3.0	>6.0	---	---	---	---	Rare
		April	2.0-3.0	>6.0	---	---	---	---	Rare
		May	2.0-3.0	>6.0	---	---	---	---	Rare
		June	2.0-3.0	>6.0	---	---	---	---	Rare
		July	---	---	---	---	---	---	Rare
		August	---	---	---	---	---	---	Rare
		September	---	---	---	---	---	---	Rare
		October	---	---	---	---	---	---	Rare
		November	---	---	---	---	---	---	Rare
		December	---	---	---	---	---	---	Rare
4110: Zellmont-----	B		---	---	---	---	---	---	---
Poxmash-----	B		---	---	---	---	---	---	---
Aa: Albion-----	B		---	---	---	---	---	---	---

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Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Ab: Albion-----	B		Ft	Ft	Ft				
Ac: Albion-----	B		---	---	---	---	---	---	---
Ad: Albion-----	B		---	---	---	---	---	---	---
Ba: Blanket-----	C		---	---	---	---	---	---	---
Bb: Blanket-----	C		---	---	---	---	---	---	---
Bc: Blanket-----	C		---	---	---	---	---	---	---
Ca: Canadian-----	B		---	---	---	---	---	---	---
		March	---	---	---	---	---	---	Rare
		April	---	---	---	---	---	---	Rare
		May	---	---	---	---	---	---	Rare
		June	---	---	---	---	---	---	Rare
Cb: Carwile-----	D								
		January	0.0	>6.0	0.0-1.0	Brief	---	---	None
		February	0.0	>6.0	0.0-1.0	Brief	---	---	None
		March	0.0	>6.0	0.0-1.0	Brief	---	---	None
		April	0.0	>6.0	0.0-1.0	Brief	---	---	None
		October	0.0	>6.0	0.0-1.0	Brief	---	---	None
		November	0.0	>6.0	0.0-1.0	Brief	---	---	None
		December	0.0	>6.0	0.0-1.0	Brief	---	---	None
Cc: Case-----	B		---	---	---	---	---	---	---
Clark-----	B		---	---	---	---	---	---	---
Cd: Case-----	B		---	---	---	---	---	---	---
Clark-----	B		---	---	---	---	---	---	---
Ce: Clark-----	B		---	---	---	---	---	---	---
Cf: Clark-----	B		---	---	---	---	---	---	---
Da: Dillwyn-----	A								
		January	1.0-3.0	>6.0	---	---	---	---	None
		February	1.0-3.0	>6.0	---	---	---	---	None
		March	1.0-3.0	>6.0	---	---	---	Brief	Occasional
		April	1.0-3.0	>6.0	---	---	---	Brief	Occasional
		May	1.0-3.0	>6.0	---	---	---	Brief	Occasional
		June	1.0-3.0	>6.0	---	---	---	Brief	Occasional
		July	1.0-3.0	>6.0	---	---	---	Brief	Occasional
		August	1.0-3.0	>6.0	---	---	---	Brief	Occasional
		September	1.0-3.0	>6.0	---	---	---	Brief	Occasional
		October	1.0-3.0	>6.0	---	---	---	Brief	Occasional
		November	1.0-3.0	>6.0	---	---	---	---	None
		December	1.0-3.0	>6.0	---	---	---	---	None
Plevna-----	D								
		January	0.0-2.0	>6.0	---	---	---	---	None
		February	0.0-2.0	>6.0	---	---	---	---	None
		March	0.0-2.0	>6.0	---	---	---	Long	Frequent
		April	0.0-2.0	>6.0	---	---	---	Long	Frequent
		May	0.0-2.0	>6.0	---	---	---	Long	Frequent
		June	0.0-2.0	>6.0	---	---	---	Long	Frequent
		July	0.0-2.0	>6.0	---	---	---	Long	Frequent
		August	0.0-2.0	>6.0	---	---	---	Long	Frequent
		September	0.0-2.0	>6.0	---	---	---	Long	Frequent
		October	0.0-2.0	>6.0	---	---	---	Long	Frequent
		November	0.0-2.0	>6.0	---	---	---	---	None
		December	0.0-2.0	>6.0	---	---	---	---	None
Fa: Farnum-----	B		---	---	---	---	---	---	---
Fb: Farnum-----	B		---	---	---	---	---	---	---
Fc:			---	---	---	---	---	---	---

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Farnum-----	B		Ft	Ft	Ft				
Fd: Farnum-----	B		---	---	---	---	---	---	---
Fe: Farnum-----	B		---	---	---	---	---	---	---
Ff: Farnum-----	B		---	---	---	---	---	---	---
Natrustolls-----	---		---	---	---	---	---	---	---
Ka: Kaski-----	B	March	---	---	---	---	---	Very brief	Occasional
		April	---	---	---	---	---	Very brief	Occasional
		May	---	---	---	---	---	Very brief	Occasional
		June	---	---	---	---	---	Very brief	Occasional
		July	---	---	---	---	---	Very brief	Occasional
		August	---	---	---	---	---	Very brief	Occasional
Kb: Kingman-----	D	January	0.0-2.0	>6.0	---	---	---	Very brief	Occasional
		February	0.0-2.0	>6.0	---	---	---	Very brief	Occasional
		March	0.0-2.0	>6.0	---	---	---	Very brief	Occasional
		April	---	---	---	---	---	Very brief	Occasional
		May	---	---	---	---	---	Very brief	Occasional
		June	---	---	---	---	---	Very brief	Occasional
		July	---	---	---	---	---	Very brief	Occasional
		August	---	---	---	---	---	Very brief	Occasional
		September	---	---	---	---	---	Very brief	Occasional
		October	---	---	---	---	---	Very brief	Occasional
		November	---	---	---	---	---	Very brief	Occasional
		December	0.0-2.0	>6.0	---	---	---	Very brief	Occasional
La: Lincoln-----	A	January	5.0-6.0	>6.0	---	---	---	---	None
		February	5.0-6.0	>6.0	---	---	---	---	None
		March	5.0-6.0	>6.0	---	---	---	---	None
		April	5.0-6.0	>6.0	---	---	---	Very brief	Occasional
		May	5.0-6.0	>6.0	---	---	---	Very brief	Occasional
		June	---	---	---	---	---	Very brief	Occasional
		July	---	---	---	---	---	Very brief	Occasional
		August	---	---	---	---	---	Very brief	Occasional
		September	---	---	---	---	---	Very brief	Occasional
		October	---	---	---	---	---	Very brief	Occasional
		November	5.0-6.0	>6.0	---	---	---	---	None
		December	5.0-6.0	>6.0	---	---	---	---	None
Ma: McLain-----	C	March	---	---	---	---	---	---	Rare
		April	---	---	---	---	---	---	Rare
		May	---	---	---	---	---	---	Rare
		June	---	---	---	---	---	---	Rare
Na: Nashville-----	B		---	---	---	---	---	---	---
Nb: Nashville-----	B		---	---	---	---	---	---	---
Quinlan-----	C		---	---	---	---	---	---	---
Oa: Owens-----	D		---	---	---	---	---	---	---
Pa: Pond Creek-----	B		---	---	---	---	---	---	---
Pb: Pratt-----	A		---	---	---	---	---	---	---
Pc: Pratt-----	A		---	---	---	---	---	---	---
Carwile-----	D	January	0.0	>6.0	0.0-1.0	Brief	---	---	None
		February	0.0	>6.0	0.0-1.0	Brief	---	---	None
		March	0.0	>6.0	0.0-1.0	Brief	---	---	None
		April	0.0	>6.0	0.0-1.0	Brief	---	---	None
		October	0.0	>6.0	0.0-1.0	Brief	---	---	None
		November	0.0	>6.0	0.0-1.0	Brief	---	---	None
		December	0.0	>6.0	0.0-1.0	Brief	---	---	None

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Pd: Pratt-----	A		Ft	Ft	Ft				
Tivoli-----	A		---	---	---	---	---	---	---
Qa: Quinlan-----	C		---	---	---	---	---	---	---
Qb: Quinlan-----	C		---	---	---	---	---	---	---
Ra: Renfrow-----	D		---	---	---	---	---	---	---
Rb: Ruella-----	B		---	---	---	---	---	---	---
Rc: Ruella-----	B		---	---	---	---	---	---	---
Rock Outcrop-----	D		---	---	---	---	---	---	---
Sa: Shellabarger-----	B		---	---	---	---	---	---	---
Sb: Shellabarger-----	B		---	---	---	---	---	---	---
Sc: Shellabarger-----	B		---	---	---	---	---	---	---
Sd: Shellabarger-----	B		---	---	---	---	---	---	---
Ta: Tivoli-----	A		---	---	---	---	---	---	---
W: Water-----	---		---	---	---	---	---	---	---
Wa: Waldeck-----	C	January	2.0-4.0	>6.0	---	---	---	---	None
		February	2.0-4.0	>6.0	---	---	---	---	None
		March	2.0-4.0	>6.0	---	---	---	Brief	Occasional
		April	2.0-4.0	>6.0	---	---	---	Brief	Occasional
		May	---	---	---	---	---	Brief	Occasional
		June	---	---	---	---	---	Brief	Occasional
		July	---	---	---	---	---	Brief	Occasional
		August	---	---	---	---	---	Brief	Occasional
		September	---	---	---	---	---	Brief	Occasional
		October	2.0-4.0	>6.0	---	---	---	Brief	Occasional
		November	2.0-4.0	>6.0	---	---	---	---	None
		December	2.0-4.0	>6.0	---	---	---	---	None
Za: Zenda-----	C	January	2.0-4.0	>6.0	---	---	---	---	None
		February	2.0-4.0	>6.0	---	---	---	---	None
		March	2.0-4.0	>6.0	---	---	---	---	None
		April	2.0-4.0	>6.0	---	---	---	Very brief	Occasional
		May	---	---	---	---	---	Very brief	Occasional
		June	---	---	---	---	---	Very brief	Occasional
		July	---	---	---	---	---	Very brief	Occasional
		August	---	---	---	---	---	Very brief	Occasional
		September	---	---	---	---	---	Very brief	Occasional
		October	2.0-4.0	>6.0	---	---	---	---	None
		November	2.0-4.0	>6.0	---	---	---	---	None
		December	2.0-4.0	>6.0	---	---	---	---	None

The following table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A restrictive layer is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. Depth to top is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as low, moderate, or high, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as low, moderate, or high. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

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Map symbol and soil name	Restrictive layer				Potential for Frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated Steel	Concrete
1011: Albion----- Shellabarger----	---	---	---	---	Low Low	Low Low	Low Moderate
1017: Shellabarger, Eroded----- Albion-----	---	---	---	---	Low Low	Low Low	Moderate Low
1061: Arents, Earthen Dam-----	---	---	---	---	---	---	---
1359: Clark----- Ost-----	---	---	---	---	Low Low	Moderate Moderate	Low Low
1555: Dillhut----- Plev-----	---	---	---	---	Low Low	Low High	Moderate Moderate
1728: Farnum----- Funmar-----	---	---	---	---	Low Low	Moderate Moderate	Low Low
2205: Jamash-----	12-15	Bedrock (paralithic)	---	Moderately cemented	None	High	Low
Piedmont-----	32-36	Bedrock (paralithic)	---	Moderately cemented	None	High	Low
2381: Kanza----- Ninnescah-----	---	---	---	---	Low Low	High High	Moderate Low
2390: Kaskan-----	---	---	---	---	Low	Moderate	Low
2556: Langdon-----	---	---	---	---	Low	Low	Low
2812: Mahone-----	---	---	---	---	Low	Low	Low
2948: Nalim-----	---	---	---	---	Low	Moderate	Low
3051: Ost-----	---	---	---	---	Low	Moderate	Low
3052: Ost----- Clark-----	---	---	---	---	Low Low	Moderate Moderate	Low Low
3170: Penalosa-----	---	---	---	---	Low	High	Low
3171: Penalosa-----	---	---	---	---	Low	High	Low
3180: Pratt-----	---	---	---	---	Low	Low	Moderate
3181: Pratt----- Turon-----	---	---	---	---	Low Low	Low Low	Moderate Moderate
3445: Shellabarger, Moderately Eroded-----	---	---	---	---	Low	Low	Moderate
3510: Saltcreek----- Funmar----- Farnum-----	---	---	---	---	Low Low Low	Moderate Moderate Moderate	Low Low Low
3530: Shellabarger, Eroded----- Albion-----	---	---	---	---	Low Low	Low Low	Moderate Low
3531: Shellabarger, Moderately Eroded----- Nalim-----	---	---	---	---	Low	Low	Moderate
3532: Shellabarger----	---	---	---	---	Low	Moderate	Low
3533: Shellabarger----	---	---	---	---	Low	Low	Moderate
3534: Shellabarger----	---	---	---	---	Low	Low	Moderate
3535: Shellabarger----	---	---	---	---	Low	Low	Moderate
3926: Water-----	---	---	---	---	Low	Moderate	Low
3966: Willowbrook-----	---	---	---	---	Low	---	---
4005: Yaggy----- Saxman-----	---	---	---	---	Low Low	High Low	Low High
4110: Zellmont-----	20-39	Bedrock (paralithic)	---	Moderately cemented	Low	Low	Moderate
Poxmash-----	48-53	Bedrock (paralithic)	---	---	Low	Low	Low

Map symbol and soil name	Restrictive layer				Potential for Frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated Steel	Concrete
		In	In				
Aa: Albion-----	---	---	---	---	None	Low	Low
Ab: Albion-----	---	---	---	---	None	Low	Low
Ac: Albion-----	---	---	---	---	None	Low	Low
Ad: Albion-----	---	---	---	---	None	Low	Low
AED: Arents, Earthen Dam-----	---	---	---	---	None	---	Low
Ba: Blanket-----	---	---	---	---	None	High	Low
Bb: Blanket-----	---	---	---	---	None	High	Low
Bc: Blanket-----	---	---	---	---	None	High	Low
Ca: Canadian-----	---	---	---	---	None	Low	Low
Cb: Carwile-----	---	---	---	---	Low	High	Moderate
Cc: Case-----	---	---	---	---	Low	Moderate	Low
Clark-----	---	---	---	---	Low	Moderate	Low
Cd: Case-----	---	---	---	---	Low	Moderate	Low
Clark-----	---	---	---	---	Low	Moderate	Low
Ce: Clark-----	---	---	---	---	Low	Moderate	Low
Cf: Clark-----	---	---	---	---	Low	Moderate	Low
Da: Dillwyn-----	---	---	---	---	Low	Low	Low
Plevna-----	---	---	---	---	Low	High	Low
Fa: Farnum-----	---	---	---	---	Low	Moderate	Low
Fb: Farnum-----	---	---	---	---	Low	Moderate	Low
Fc: Farnum-----	---	---	---	---	Low	Moderate	Low
Fd: Farnum-----	---	---	---	---	Low	Moderate	Low
Fe: Farnum-----	---	---	---	---	Low	Moderate	Low
Ff: Farnum-----	---	---	---	---	Low	Moderate	Low
Natrustolls-----	---	---	---	---	Low	Low	---
Ka: Kaski-----	---	---	---	---	Low	Low	Low
Kb: Kingman-----	---	---	---	---	Low	High	Low
La: Lincoln-----	---	---	---	---	Low	Low	Low
Ma: McLain-----	---	---	---	---	Low	High	Low
Na: Nashville-----	20-40	Bedrock (paralithic)	---	Extremely weakly cemented	Low	Low	Low
Nb: Nashville-----	20-40	Bedrock (paralithic)	---	Extremely weakly cemented	Low	Low	Low
Quinlan-----	10-20	Bedrock (paralithic)	---	Extremely weakly cemented	Low	Moderate	Low
Oa: Owens-----	10-20	Bedrock (paralithic)	---	Extremely weakly cemented	Low	High	Low
Pa: Pond Creek-----	---	---	---	---	Low	Moderate	Moderate
Pb: Pratt-----	---	---	---	---	Low	Low	Moderate
Pc: Pratt-----	---	---	---	---	Low	Low	Moderate
Carwile-----	---	---	---	---	Low	High	Moderate
Pd: Pratt-----	---	---	---	---	Low	Low	Moderate
Tivoli-----	---	---	---	---	Low	Low	Low
Qa: Quinlan-----	10-20	Bedrock (paralithic)	---	Extremely weakly cemented	Low	Moderate	Low
Qb: Quinlan-----	10-20	Bedrock (paralithic)	---	Extremely weakly cemented	Low	Moderate	Low
Ra: Renfrow-----	---	---	---	---	Low	High	Low
Rb: Ruella-----	9-20	Bedrock (paralithic)	---	Moderately cemented	Low	Low	Low

Map symbol and soil name	Restrictive layer				Potential for Frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated Steel	Concrete
Rc:		In	In				
Ruella-----	9-20	Bedrock (paralithic)	---	Moderately cemented	Low	Low	Low
Rock Outcrop----	---	---	---	---	None	---	---
Sa:							
Shellabarger----	---	---	---	---	Low	Low	Moderate
Sb:							
Shellabarger----	---	---	---	---	None	Low	Moderate
Sc:							
Shellabarger----	---	---	---	---	None	Low	Moderate
Sd:							
Shellabarger----	---	---	---	---	None	Low	Moderate
Ta:							
Tivoli-----	---	---	---	---	Low	Low	Low
W:							
Water-----	---	---	---	---	None	---	Low
Wa:							
Waldeck-----	---	---	---	---	Low	Moderate	Low
Za:							
Zenda-----	---	---	---	---	Low	High	Low

WATER MANAGEMENT
Kingman County, Kansas

The soils of the survey area are rated in the Water Management table according to limitations that affect their suitability for water management. Soils are rated for pond reservoir areas, drainage, irrigation, terraces and diversions, and grassed waterways. Restrictive features that affect each soil for the specified use is also provided in the table.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Moderately limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Limited indicates that the soil has one or more features that are significant limitations for the specified use. The limitations can be overcome, but generally require special design, soil reclamation, or installation procedures that may result in additional expense. Fair performance and moderate to high maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Limitation class terms, such as very limited or limited, etc., limitation ratings, and numerical ratings are shown for each soil feature listed. As many as three soil features may be listed for each soil component if applicable. The overall limitation rating for the soil component is based on the most severe limitation.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects traffic ability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and the potential for frost action. Excavating and grading and the stability of ditch banks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a very limited hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, which conduct surface water to outlets at a non-erosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

WATER MANAGEMENT--Continued
Kingman County, Kansas

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
007AE: Albion-----	Limitation: deep to water	Limitation: slope soil blowing droughty	Limitation: slope too sandy soil blowing	Limitation: slope droughty
Shellabarger----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: slope soil blowing	Limitation: slope
007FA: Farnum-----	Limitation: deep to water	Limitation: soil blowing	Limitation: soil blowing	Favorable
077KA: Kanza-----	Limitation: flooding cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
077KR: Kirkland-----	Limitation: deep to water	Limitation: erodes easily percs slowly	Limitation: erodes easily	Limitation: erodes easily percs slowly
Renfrow-----	Limitation: deep to water	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly
077NN: Nashville-----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily depth to rock
077PC: Pond Creek-----	Limitation: deep to water	Limitation: erodes easily	Limitation: erodes easily	Limitation: erodes easily
077RC: Renfrow-----	Limitation: deep to water	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly
Vernon-----	Limitation: deep to water	Limitation: percs slowly rooting depth droughty	Limitation: erodes easily percs slowly	Limitation: erodes easily rooting depth droughty
077SB: Shellabarger----	Limitation: deep to water	Limitation: soil blowing	Limitation: soil blowing	Favorable
077SE: Shellabarger----	Limitation: deep to water	Limitation: soil blowing	Limitation: soil blowing	Favorable
077SF: Shellabarger----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: soil blowing	Favorable
077SG: Shellabarger----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: soil blowing	Favorable
077SH: Shellabarger----	Limitation: deep to water	Limitation: soil blowing depth to rock	Limitation: soil blowing depth to rock	Limitation: depth to rock
151AO: Albion-----	Limitation: deep to water	Limitation: slope soil blowing droughty	Limitation: too sandy soil blowing	Limitation: droughty
151CN: Clark-----	Limitation: deep to water	Limitation: soil blowing	Limitation: soil blowing	Favorable
151CO: Clark-----	Limitation: deep to water	Favorable	Favorable	Favorable
Ost-----	Limitation: deep to water	Favorable	Favorable	Favorable
151KP: Kanza-----	Limitation: flooding cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
Plevna-----	Limitation: flooding	Limitation: flooding wetness soil blowing	Limitation: wetness soil blowing	Limitation: wetness
151ND: Naron-----	Limitation: deep to water	Limitation: soil blowing	Limitation: soil blowing	Favorable
151NF: Naron-----	Limitation: deep to water	Limitation: soil blowing	Limitation: soil blowing	Favorable

WATER MANAGEMENT--Continued
Kingman County, Kansas

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
151OC: Ost-----	Limitation: deep to water	Favorable	Favorable	Favorable
151OS: Ost-----	Limitation: deep to water	Favorable	Favorable	Favorable
151PN: Pratt-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: slope droughty
151SE: Shellabarger----	Limitation: deep to water	Limitation: soil blowing	Limitation: too sandy soil blowing	Favorable
151ZS: Drummond-----	Limitation: excess sodium excess salt percs slowly	Limitation: percs slowly wetness droughty	Limitation: erodes easily percs slowly wetness	Limitation: erodes easily excess sodium excess salt
Zenda-----	Limitation: flooding	Limitation: flooding wetness	Limitation: wetness	Favorable
173MA: Milan-----	Limitation: deep to water	Favorable	Favorable	Favorable
173PB: Plevna-----	Limitation: flooding	Limitation: flooding wetness soil blowing	Limitation: wetness soil blowing	Limitation: wetness
173RA: Renfrow-----	Limitation: deep to water	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly
173RC: Renfrow-----	Limitation: deep to water	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly
Wellsford-----	Limitation: deep to water	Limitation: percs slowly depth to rock	Limitation: percs slowly depth to rock	Limitation: percs slowly depth to rock
173TA: Tabler-----	Limitation: percs slowly	Limitation: erodes easily percs slowly wetness	Limitation: erodes easily percs slowly wetness	Limitation: erodes easily percs slowly
191RA: Renfrow-----	Limitation: deep to water	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly
Grainola-----	Limitation: deep to water	Limitation: percs slowly depth to rock droughty	Limitation: erodes easily percs slowly depth to rock	Limitation: erodes easily depth to rock droughty
990: Abbyville-----	Limitation: excess sodium	Limitation: excess sodium excess salt wetness	Limitation: wetness	Limitation: excess sodium
991: Abbyville, rarely flooded-	Limitation: excess sodium	Limitation: excess sodium excess salt wetness	Limitation: wetness	Limitation: excess sodium
Kisiwa, occasionally flooded-----	Limitation: excess sodium percs slowly ponding	Limitation: excess sodium percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily excess sodium wetness
1004: Albion-----	Limitation: deep to water	Limitation: soil blowing	Limitation: too sandy soil blowing	Favorable
1005: Albion-----	Limitation: deep to water	Limitation: soil blowing	Limitation: too sandy soil blowing	Favorable
1006: Albion-----	Limitation: deep to water	Limitation: soil blowing	Limitation: too sandy soil blowing	Favorable

WATER MANAGEMENT--Continued
Kingman County, Kansas

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
1011: Albion-----	Limitation: deep to water	Limitation: soil blowing	Limitation: too sandy	Favorable
Shellabarger----	Limitation: deep to water	Favorable	Limitation: soil blowing	Favorable
1017: Shellabarger, Eroded-----	Limitation: deep to water	Favorable	Limitation: soil blowing	Favorable
Albion-----	Limitation: deep to water	Limitation: soil blowing	Limitation: too sandy	Favorable
1061: Arents, Earthen Dam-----	---	---	---	---
1359: Clark-----	Limitation: deep to water	Favorable	Favorable	Favorable
Ost-----	Limitation: deep to water	Favorable	Favorable	Favorable
1555: Dillhut-----	Favorable	Limitation: wetness droughty	Limitation: wetness soil blowing	Limitation: droughty
Plev-----	Limitation: cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
1728: Farnum-----	Limitation: deep to water	Favorable	Favorable	Favorable
Funmar-----	Limitation: deep to water	Limitation: percs slowly	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly
2205: Jamash-----	Limitation: deep to water	Limitation: percs slowly slope depth to rock	Limitation: erodes easily percs slowly depth to rock	Limitation: erodes easily rooting depth depth to rock
Piedmont-----	Limitation: deep to water	Limitation: percs slowly depth to rock	Limitation: erodes easily percs slowly depth to rock	Limitation: erodes easily rooting depth depth to rock
2381: Kanza-----	Limitation: flooding cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness	Limitation: wetness droughty
Ninnescah-----	Limitation: flooding cutbanks cave	Limitation: wetness soil blowing	Limitation: too sandy wetness soil blowing	Limitation: wetness
2390: Kaskan-----	Limitation: deep to water	Favorable	Limitation: erodes easily too sandy	Limitation: erodes easily
2556: Langdon-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: too sandy soil blowing	Limitation: droughty
2812: Mahone-----	Limitation: deep to water	Limitation: fast intake soil blowing	Limitation: soil blowing	Favorable
2948: Nalim-----	Limitation: deep to water	Favorable	Favorable	Favorable
3051: Ost-----	Limitation: deep to water	Favorable	Favorable	Favorable
3052: Ost-----	Limitation: deep to water	Favorable	Favorable	Favorable
Clark-----	Limitation: deep to water	Favorable	Favorable	Favorable
3170: Penalosa-----	Limitation: deep to water	Limitation: percs slowly	Limitation: erodes easily	Limitation: erodes easily percs slowly
3171: Penalosa-----	Limitation: deep to water	Limitation: percs slowly	Limitation: erodes easily	Limitation: erodes easily percs slowly

WATER MANAGEMENT--Continued
Kingman County, Kansas

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
3180: Pratt-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: too sandy soil blowing	Limitation: droughty
3181: Pratt-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: too sandy soil blowing	Limitation: droughty
Turon-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: too sandy soil blowing	Limitation: droughty
3445: Shellabarger, Moderately Eroded-----	Limitation: deep to water	Favorable	Limitation: soil blowing	Favorable
3510: Saltcreek-----	Limitation: deep to water	Limitation: soil blowing	Limitation: erodes easily percs slowly soil blowing	Limitation: erodes easily percs slowly
Funmar-----	Limitation: deep to water	Limitation: percs slowly	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly
Farnum-----	Limitation: deep to water	Favorable	Favorable	Favorable
3530: Shellabarger, Eroded-----	Limitation: deep to water	Favorable	Limitation: soil blowing	Favorable
Albion-----	Limitation: deep to water	Limitation: soil blowing	Limitation: too sandy soil blowing	Favorable
3531: Shellabarger, Moderately Eroded-----	Limitation: deep to water	Favorable	Limitation: soil blowing	Favorable
Nalim-----	Limitation: deep to water	Favorable	soil blowing Favorable	Favorable
3532: Shellabarger----	Limitation: deep to water	Favorable	Limitation: soil blowing	Favorable
3533: Shellabarger----	Limitation: deep to water	Favorable	Limitation: soil blowing	Favorable
3534: Shellabarger----	Limitation: deep to water	Favorable	Limitation: soil blowing	Favorable
3535: Shellabarger----	Limitation: deep to water	Favorable	Limitation: soil blowing	Favorable
Nalim-----	Limitation: deep to water	Favorable	Favorable	Favorable
3926: Water-----	---	---	---	---
3966: Willowbrook----	Limitation: flooding cutbanks cave	Limitation: flooding wetness soil blowing	Limitation: too sandy wetness soil blowing	Favorable
4005: Yaggy-----	Limitation: flooding cutbanks cave	Limitation: wetness soil blowing droughty	Limitation: too sandy wetness soil blowing	Limitation: droughty
Saxman-----	Limitation: cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: droughty
4110: Zellmont-----	Limitation: deep to water	Limitation: soil blowing	Limitation: too sandy soil blowing	Favorable
Poxmash-----	Limitation: deep to water	Limitation: soil blowing	Limitation: too sandy soil blowing	Favorable
Aa: Albion-----	Limitation: deep to water	Limitation: soil blowing droughty	Limitation: too sandy soil blowing	Limitation: droughty

WATER MANAGEMENT--Continued
Kingman County, Kansas

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
Ab: Albion-----	Limitation: deep to water	Limitation: soil blowing droughty	Limitation: too sandy soil blowing	Limitation: droughty
Ac: Albion-----	Limitation: deep to water	Limitation: slope soil blowing droughty	Limitation: too sandy soil blowing	Limitation: droughty
Ad: Albion-----	Limitation: deep to water	Limitation: slope soil blowing droughty	Limitation: slope too sandy soil blowing	Limitation: slope droughty
AED: Arents, Earthen Dam-----	---	---	---	---
Ba: Blanket-----	Limitation: deep to water	Limitation: erodes easily	Limitation: erodes easily	Limitation: erodes easily
Bb: Blanket-----	Limitation: deep to water	Limitation: erodes easily	Limitation: erodes easily	Limitation: erodes easily
Bc: Blanket-----	Limitation: deep to water	Limitation: erodes easily	Limitation: erodes easily	Limitation: erodes easily
Ca: Canadian-----	Limitation: deep to water	Limitation: soil blowing droughty	Limitation: soil blowing	Limitation: droughty
Cb: Carwile-----	Limitation: percs slowly	Limitation: percs slowly wetness soil blowing	Limitation: erodes easily wetness soil blowing	Limitation: erodes easily percs slowly rooting depth
Cc: Case-----	Limitation: deep to water	Limitation: slope	Favorable	Favorable
Clark-----	Limitation: deep to water	Limitation: slope	Favorable	Favorable
Cd: Case-----	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
Clark-----	Limitation: deep to water	Limitation: slope	Favorable	Favorable
Ce: Clark-----	Limitation: deep to water	Favorable	Favorable	Favorable
Cf: Clark-----	Limitation: deep to water	Favorable	Favorable	Favorable
Da: Dillwyn-----	Limitation: cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
Plevna-----	Limitation: flooding	Limitation: flooding wetness soil blowing	Limitation: wetness soil blowing	Limitation: wetness
Fa: Farnum-----	Limitation: deep to water	Limitation: soil blowing	Limitation: soil blowing	Favorable
Fb: Farnum-----	Limitation: deep to water	Favorable	Favorable	Favorable
Fc: Farnum-----	Limitation: deep to water	Favorable	Favorable	Favorable
Fd: Farnum-----	Limitation: deep to water	Limitation: slope	Favorable	Favorable
Fe: Farnum-----	Limitation: deep to water	Limitation: slope	Favorable	Favorable
Ff: Farnum-----	Limitation: deep to water	Favorable	Favorable	Favorable
Natrustolls----	---	---	---	---
Ka: Kaski-----	Limitation: deep to water	Limitation: flooding	Favorable	Favorable
Kb: Kingman-----	Limitation: flooding	Limitation: flooding wetness	Limitation: wetness	Limitation: wetness

WATER MANAGEMENT--Continued
Kingman County, Kansas

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
La: Lincoln-----	Limitation: deep to water	Limitation: fast intake soil blowing droughty	Limitation: too sandy soil blowing	Limitation: droughty
Ma: McLain-----	Limitation: deep to water	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly
Na: Nashville-----	Limitation: deep to water	Limitation: depth to rock	Limitation: depth to rock	Limitation: depth to rock
Nb: Nashville-----	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
Quinlan-----	Limitation: deep to water	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope depth to rock
Oa: Owens-----	Limitation: deep to water	Limitation: percs slowly depth to rock	Limitation: percs slowly depth to rock	Limitation: percs slowly depth to rock
Pa: Pond Creek-----	Limitation: deep to water	Limitation: erodes easily	Limitation: erodes easily	Limitation: erodes easily
Pb: Pratt-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: too sandy soil blowing	Limitation: droughty
Pc: Pratt-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: too sandy soil blowing	Limitation: droughty
Carwile-----	Limitation: percs slowly	Limitation: percs slowly wetness soil blowing	Limitation: erodes easily wetness soil blowing	Limitation: erodes easily percs slowly rooting depth
Pd: Pratt-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: slope droughty
Tivoli-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: slope droughty
Qa: Quinlan-----	Limitation: deep to water	Limitation: erodes easily depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily depth to rock
Qb: Quinlan-----	Limitation: deep to water	Limitation: erodes easily slope depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily depth to rock
Ra: Renfrow-----	Limitation: deep to water	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly
Rb: Ruella-----	Limitation: deep to water	Favorable	Favorable	Favorable
Rc: Ruella-----	Limitation: deep to water	Limitation: slope	Favorable	Favorable
Rock Outcrop----	---	---	---	---
Sa: Shellabarger----	Limitation: deep to water	Limitation: fast intake soil blowing	Limitation: soil blowing	Favorable
Sb: Shellabarger----	Limitation: deep to water	Limitation: soil blowing	Limitation: soil blowing	Favorable
Sc: Shellabarger----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: soil blowing	Favorable
Sd: Shellabarger----	Limitation: deep to water	Limitation: slope soil blowing	Limitation: soil blowing	Favorable

WATER MANAGEMENT--Continued
Kingman County, Kansas

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Features affecting--			
	Drainage	Irrigation	Terraces and diversions	Grassed waterways
Ta: Tivoli-----	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: slope droughty
W: Water-----	---	---	---	---
Wa: Waldeck-----	Limitation: flooding	Limitation: flooding wetness soil blowing	Limitation: wetness soil blowing	Favorable
Za: Zenda-----	Limitation: flooding	Limitation: flooding wetness	Limitation: wetness	Favorable

WATER MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
007AE: Albion-----	55	Very limited Seepage	1.00	Somewhat limited Seepage	0.98	Very limited Deep to water	1.00
Shellabarger-----	45	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.09	Very limited Deep to water	1.00
007FA: Farnum-----	100	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.07	Very limited Deep to water	1.00
077KA: Kanza-----	100	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.65	Very limited Cutbanks cave	1.00
077KR: Kirkland-----	70	Somewhat limited Seepage	0.05	Somewhat limited Hard to pack	0.22	Very limited Deep to water	1.00
Renfrow-----	30	Not limited		Somewhat limited Hard to pack	0.19	Very limited Deep to water	1.00
077NN: Nashville-----	100	Somewhat limited Seepage Depth to bedrock	0.70 0.11	Very limited Piping Thin layer	1.00 0.86	Very limited Deep to water	1.00
077PC: Pond Creek-----	100	Somewhat limited Seepage	0.05	Somewhat limited Piping	0.73	Very limited Deep to water	1.00
077RC: Renfrow-----	65	Not limited		Somewhat limited Hard to pack	0.19	Very limited Deep to water	1.00
Vernon-----	35	Somewhat limited Depth to bedrock	0.08	Very limited Piping Thin layer	1.00 0.81	Very limited Deep to water	1.00
077SB: Shellabarger-----	100	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.09	Very limited Deep to water	1.00
077SE: Shellabarger-----	100	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.09	Very limited Deep to water	1.00
077SF: Shellabarger-----	100	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.09	Very limited Deep to water	1.00
077SG: Shellabarger-----	100	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.09	Very limited Deep to water	1.00
077SH: Shellabarger-----	100	Somewhat limited Seepage Depth to bedrock	0.70 0.01	Somewhat limited Piping Thin layer	0.94 0.52	Very limited Deep to water	1.00
151AO: Albion-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.98	Very limited Deep to water	1.00
151CN: Clark-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping Seepage	0.12 0.08	Very limited Deep to water	1.00
151CO: Clark-----	70	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.12	Very limited Deep to water	1.00
Ost-----	30	Somewhat limited Seepage	0.05	Very limited Piping	1.00	Very limited Deep to water	1.00
151KP: Kanza-----	50	Very limited		Very limited		Very limited	

WATER MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Plevna-----	50	Seepage	1.00	Depth to saturated zone Seepage	1.00 0.98	Cutbanks cave	1.00
		Very limited Seepage	1.00	Very limited Seepage Depth to saturated zone	1.00 1.00	Very limited Cutbanks cave	1.00
151ND: Naron-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.08	Very limited Deep to water	1.00
151NF: Naron-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.08	Very limited Deep to water	1.00
151OC: Ost-----	100	Somewhat limited Seepage	0.05	Very limited Piping	1.00	Very limited Deep to water	1.00
151OS: Ost-----	100	Somewhat limited Seepage	0.05	Very limited Piping	1.00	Very limited Deep to water	1.00
151PN: Pratt-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.57	Very limited Deep to water	1.00
151SE: Shellabarger-----	100	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.09	Very limited Deep to water	1.00
151ZS: Drummond-----	50	Not limited		Somewhat limited Depth to saturated zone Salinity	0.43	Somewhat limited Salty water	0.50
					0.12	Deep to water Cutbanks cave	0.25 0.10
Zenda-----	50	Somewhat limited Seepage	0.70	Somewhat limited Depth to saturated zone Piping	0.43	Somewhat limited Slow refill	0.30
					0.15	Deep to water Cutbanks cave	0.25 0.10
173MA: Milan-----	100	Somewhat limited Seepage	0.05	Somewhat limited Piping	0.10	Very limited Deep to water	1.00
173PB: Plevna-----	100	Very limited Seepage	1.00	Very limited Seepage Depth to saturated zone	1.00 1.00	Very limited Cutbanks cave	1.00
173RA: Renfrow-----	100	Not limited		Somewhat limited Hard to pack	0.19	Very limited Deep to water	1.00
173RC: Renfrow-----	65	Not limited		Somewhat limited Hard to pack	0.19	Very limited Deep to water	1.00
Wellsford-----	35	Very limited Seepage Depth to bedrock	1.00 0.66	Very limited Thin layer Hard to pack	1.00 0.50	Very limited Deep to water	1.00
173TA: Tabler-----	100	Not limited		Somewhat limited Hard to pack	0.16	Very limited Deep to water	1.00
191RA: Renfrow-----	70	Not limited		Somewhat limited Hard to pack	0.19	Very limited Deep to water	1.00
Grainola-----	30	Somewhat limited Depth to bedrock	0.03	Somewhat limited Thin layer Hard to pack	0.66 0.50	Very limited Deep to water	1.00

WATER MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
990: Abbyville-----	95	Not limited		Very limited Piping Depth to saturated zone Seepage	1.00 0.43 0.04	Very limited Slow refill Deep to water Cutbanks cave Salty water	1.00 0.25 0.10 0.01
991: Abbyville, rarely flooded-----	45	Not limited		Very limited Piping Depth to saturated zone Seepage	 1.00 0.43 0.04	Very limited Slow refill Deep to water Cutbanks cave Salty water	 1.00 0.25 0.10 0.01
Kisiwa, occasionally flooded-----	40	Very limited Seepage	 1.00	Very limited Ponding Depth to saturated zone Seepage Piping	 1.00 1.00 1.00 1.00	Very limited Deep to water	 1.00
1004: Albion-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.99	Very limited Deep to water	1.00
1005: Albion-----	75	Very limited Seepage	1.00	Somewhat limited Seepage	0.90	Very limited Deep to water	1.00
1006: Albion-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.90	Very limited Deep to water	1.00
1011: Albion-----	70	Very limited Seepage	1.00	Somewhat limited Seepage	0.90	Very limited Deep to water	1.00
Shellabarger-----	30	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.88	Very limited Deep to water	1.00
1017: Shellabarger, Eroded	40	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.88	Very limited Deep to water	1.00
Albion-----	45	Very limited Seepage	1.00	Somewhat limited Seepage	0.90	Very limited Deep to water	1.00
1061: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
1359: Clark-----	70	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.52	Very limited Deep to water	1.00
Ost-----	30	Somewhat limited Seepage	0.05	Somewhat limited Piping	0.82	Very limited Deep to water	1.00
1555: Dillhut-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.13	Very limited Deep to water	1.00
Plev-----	35	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 1.00	Very limited Deep to water	1.00
1728: Farnum-----	40	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.01	Very limited Deep to water	1.00
Funmar-----	40	Somewhat limited Seepage	0.05	Not limited		Very limited Deep to water	1.00

WATER MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2205: Jamash-----	60	Somewhat limited Depth to bedrock	0.66	Very limited Thin layer	1.00	Very limited Deep to water	1.00
Piedmont-----	40	Somewhat limited Depth to bedrock Seepage	0.08 0.05	Somewhat limited Thin layer	0.81	Very limited Deep to water	1.00
2381: Kanza-----	50	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.90	Very limited Cutbanks cave	1.00
Ninnescah-----	50	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.12	Very limited Cutbanks cave Deep to water	1.00 0.00
2390: Kaskan-----	85	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Deep to water	1.00
2556: Langdon-----	50	Very limited Seepage	1.00	Somewhat limited Seepage	0.50	Very limited Deep to water	1.00
2812: Mahone-----	95	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.93	Very limited Deep to water	1.00
2948: Nalim-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.98	Very limited Deep to water	1.00
3051: Ost-----	90	Somewhat limited Seepage	0.05	Somewhat limited Piping	0.82	Very limited Deep to water	1.00
3052: Ost-----	55	Somewhat limited Seepage	0.05	Somewhat limited Piping	0.82	Very limited Deep to water	1.00
Clark-----	45	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.52	Very limited Deep to water	1.00
3170: Penalosa-----	100	Somewhat limited Seepage	0.70	Not limited		Very limited Deep to water	1.00
3171: Penalosa-----	100	Somewhat limited Seepage	0.70	Not limited		Very limited Deep to water	1.00
3180: Pratt-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Deep to water	1.00
3181: Pratt-----	45	Very limited Seepage	1.00	Somewhat limited Seepage	0.86	Very limited Deep to water	1.00
Turon-----	30	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.87 0.77	Very limited Deep to water	1.00
3445: Shellabarger, Moderately Eroded--	100	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.88	Very limited Deep to water	1.00
3510: Saltcreek-----	50	Somewhat limited Seepage	0.70	Not limited		Very limited Deep to water	1.00
Funmar-----	30	Somewhat limited Seepage	0.05	Not limited		Very limited Deep to water	1.00
Farnum-----	20	Somewhat limited		Somewhat limited		Very limited	

WATER MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
		Seepage	0.70	Piping	0.01	Deep to water	1.00
3530: Shellabarger, Eroded	45	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.88	Very limited Deep to water	1.00
Albion-----	40	Very limited Seepage	1.00	Somewhat limited Seepage	0.90	Very limited Deep to water	1.00
3531: Shellabarger, Moderately Eroded--	50	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.88	Very limited Deep to water	1.00
Nalim-----	50	Very limited Seepage	1.00	Somewhat limited Seepage	0.98	Very limited Deep to water	1.00
3532: Shellabarger-----	80	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.88	Very limited Deep to water	1.00
3533: Shellabarger-----	85	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.88	Very limited Deep to water	1.00
3534: Shellabarger-----	85	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.88	Very limited Deep to water	1.00
3535: Shellabarger-----	55	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.88	Very limited Deep to water	1.00
Nalim-----	45	Very limited Seepage	1.00	Somewhat limited Seepage	0.98	Very limited Deep to water	1.00
3926: Water-----	100	Not rated		Not rated		Not rated	
3966: Willowbrook-----	90	Very limited Seepage	1.00	Very limited Seepage Depth to saturated zone	1.00 0.43	Very limited Cutbanks cave Deep to water	1.00 0.25
4005: Yaggy-----	60	Very limited Seepage	1.00	Very limited Seepage Depth to saturated zone	1.00 0.43	Very limited Cutbanks cave Deep to water	1.00 0.25
Saxman-----	30	Very limited Seepage	1.00	Very limited Seepage Depth to saturated zone	1.00 0.86	Very limited Cutbanks cave Deep to water	1.00 0.06
4110: Zellmont-----	70	Somewhat limited Seepage Depth to bedrock	0.70 0.08	Somewhat limited Thin layer	0.81	Very limited Deep to water	1.00
Poxmash-----	30	Very limited Seepage Depth to bedrock	1.00 0.00	Very limited Seepage Thin layer	1.00 0.08	Very limited Deep to water	1.00
Aa: Albion-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.49	Very limited Deep to water	1.00
Ab: Albion-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.49	Very limited Deep to water	1.00
Ac: Albion-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.98	Very limited Deep to water	1.00

WATER MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ad: Albion-----	100	Very limited Seepage Slope	1.00 0.00	Somewhat limited Seepage	0.49	Very limited Deep to water	1.00
AED: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
Ba: Blanket-----	100	Somewhat limited Seepage	0.70	Not limited		Very limited Deep to water	1.00
Bb: Blanket-----	100	Somewhat limited Seepage	0.70	Not limited		Very limited Deep to water	1.00
Bc: Blanket-----	100	Somewhat limited Seepage	0.70	Not limited		Very limited Deep to water	1.00
Ca: Canadian-----	100	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.07	Very limited Deep to water	1.00
Cb: Carwile-----	100	Somewhat limited Seepage	0.57	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Cc: Case-----	60	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.12	Very limited Deep to water	1.00
Clark-----	40	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.13	Very limited Deep to water	1.00
Cd: Case-----	60	Somewhat limited Seepage Slope	0.70 0.00	Somewhat limited Piping	0.12	Very limited Deep to water	1.00
Clark-----	40	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.13	Very limited Deep to water	1.00
Ce: Clark-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.13	Very limited Deep to water	1.00
Cf: Clark-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.13	Very limited Deep to water	1.00
Da: Dillwyn-----	60	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.18	Very limited Cutbanks cave Deep to water	1.00 0.00
Plevna-----	40	Very limited Seepage	1.00	Very limited Seepage Depth to saturated zone	1.00 1.00	Very limited Cutbanks cave	1.00
Fa: Farnum-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.12	Very limited Deep to water	1.00
Fb: Farnum-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.03	Very limited Deep to water	1.00
Fc: Farnum-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.03	Very limited Deep to water	1.00

WATER MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Fd: Farnum-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.03	Very limited Deep to water	1.00
Fe: Farnum-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.12	Very limited Deep to water	1.00
Ff: Farnum-----	60	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.03	Very limited Deep to water	1.00
Natrustolls-----	40	Not rated		Not rated		Not rated	
Ka: Kaski-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.75	Very limited Deep to water	1.00
Kb: Kingman-----	100	Somewhat limited Seepage	0.57	Very limited Depth to saturated zone Piping Seepage	1.00 0.09 0.08	Somewhat limited Slow refill Cutbanks cave	0.43 0.10
La: Lincoln-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.39	Very limited Deep to water	1.00
Ma: McLain-----	100	Somewhat limited Seepage	0.01	Not limited		Very limited Deep to water	1.00
Na: Nashville-----	100	Somewhat limited Seepage Depth to bedrock	0.70 0.17	Very limited Piping Thin layer	1.00 0.91	Very limited Deep to water	1.00
Nb: Nashville-----	60	Somewhat limited Seepage Depth to bedrock	0.70 0.17	Very limited Piping Thin layer	1.00 0.91	Very limited Deep to water	1.00
Quinlan-----	40	Very limited Seepage Depth to bedrock	1.00 0.74	Very limited Thin layer Piping	1.00 1.00	Very limited Deep to water	1.00
Oa: Owens-----	100	Very limited Seepage Depth to bedrock	1.00 0.61	Very limited Thin layer Hard to pack	1.00 0.50	Very limited Deep to water	1.00
Pa: Pond Creek-----	100	Somewhat limited Seepage	0.05	Somewhat limited Piping	0.68	Very limited Deep to water	1.00
Pb: Pratt-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.57	Very limited Deep to water	1.00
Pc: Pratt-----	60	Very limited Seepage	1.00	Somewhat limited Seepage	0.57	Very limited Deep to water	1.00
Carwile-----	40	Somewhat limited Seepage	0.57	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Pd: Pratt-----	50	Very limited Seepage	1.00	Somewhat limited Seepage	0.57	Very limited Deep to water	1.00
Tivoli-----	50	Very limited Seepage	1.00	Somewhat limited Seepage	0.99	Very limited Deep to water	1.00
Qa: Quinlan-----	100	Very limited Seepage	1.00	Very limited Thin layer	1.00	Very limited Deep to water	1.00

WATER MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Pond Reservoir Area		Embankments, Dikes, and Levees		Excavated Ponds (Aquifer- fed)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Qb: Quinlan-----	100	Depth to bedrock	0.74	Piping	1.00		
		Very limited Seepage	1.00	Very limited Thin layer	1.00	Very limited Deep to water	1.00
		Depth to bedrock	0.74	Piping	1.00		
Ra: Renfrow-----	100	Not limited		Somewhat limited Hard to pack	0.19	Very limited Deep to water	1.00
Rb: Ruella-----	100	Somewhat limited Depth to bedrock Seepage	0.84 0.70	Very limited Thin layer	1.00	Very limited Deep to water	1.00
Rc: Ruella-----	60	Somewhat limited Depth to bedrock Seepage	0.84 0.70	Very limited Thin layer	1.00	Very limited Deep to water	1.00
Rock Outcrop-----	40	Not rated		Not rated		Not rated	
Sa: Shellabarger-----	100	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.09	Very limited Deep to water	1.00
Sb: Shellabarger-----	100	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.09	Very limited Deep to water	1.00
Sc: Shellabarger-----	100	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.09	Very limited Deep to water	1.00
Sd: Shellabarger-----	100	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.09	Very limited Deep to water	1.00
Ta: Tivoli-----	100	Very limited Seepage Slope	1.00 0.12	Somewhat limited Seepage	0.99	Very limited Deep to water	1.00
W: Water-----	100	Not rated		Not rated		Not rated	
Wa: Waldeck-----	100	Very limited Seepage	1.00	Very limited Seepage Depth to saturated zone	1.00 0.43	Very limited Cutbanks cave Deep to water	1.00 0.25
Za: Zenda-----	100	Somewhat limited Seepage	0.70	Somewhat limited Depth to saturated zone Piping	0.43	Somewhat limited Slow refill	0.30
					0.14	Deep to water Cutbanks cave	0.25 0.10

SANITARY FACILITIES
Kingman County, Kansas

Sanitary Facilities

The following tables show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A trench sanitary landfill is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

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In an area sanitary landfill, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

SANITARY FACILITIES--Continued
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(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
007AE: Albion-----	55	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
Shellabarger-----	45	Slope	0.16	Slope	1.00
		Somewhat limited Restricted permeability	0.50	Very limited Slope	1.00
		Slope	0.16	Seepage	0.50
007FA: Farnum-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
077KA: Kanza-----	100	Very limited Flooding Depth to saturated zone	1.00	Very limited Flooding Seepage	1.00
077KR: Kirkland-----	70	Filtering capacity	1.00	Depth to saturated zone	1.00
		Very limited Restricted permeability	1.00	Somewhat limited Slope	0.00
		Renfrow-----	30	Somewhat limited Slope	0.00
077NN: Nashville-----	100	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	0.67
				Seepage	0.50
077PC: Pond Creek-----	100	Very limited Restricted permeability	1.00	Not limited	
077RC: Renfrow-----	65	Very limited Restricted permeability	1.00	Somewhat limited Slope	0.00
Vernon-----	35	Very limited Restricted permeability	1.00	Very limited Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	0.00
077SB: Shellabarger-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
077SE: Shellabarger-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
077SF: Shellabarger-----	100	Somewhat limited Restricted permeability	0.50	Slope	0.00
				Somewhat limited Slope	0.67
077SG: Shellabarger-----	100	Somewhat limited Restricted permeability	0.50	Seepage	0.50
				Somewhat limited Slope	0.67
077SH: Shellabarger-----	100	Very limited Depth to bedrock	1.00	Seepage	0.50
				Very limited Depth to soft bedrock	1.00
				Seepage	0.50
151AO: Albion-----	100	Very limited Filtering capacity	1.00	Slope	0.00
				Very limited Seepage	1.00
151CN: Clark-----	100	Somewhat limited		Slope	0.67
				Somewhat limited	

SANITARY FACILITIES--Continued
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Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
151CO: Clark-----	70	Restricted permeability	0.50	Seepage	0.50
				Slope	0.00
		Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
Ost-----	30	Very limited Restricted permeability	1.00	Not limited	
151KP: Kanza-----	50	Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
Plevna-----	50	Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
				Depth to saturated zone	1.00
151ND: Naron-----	100	Somewhat limited Restricted permeability	0.50	Very limited Seepage	1.00
151NF: Naron-----	100	Somewhat limited Restricted permeability	0.50	Very limited Seepage	1.00
				Slope	0.00
151OC: Ost-----	100	Very limited Restricted permeability	1.00	Not limited	
151OS: Ost-----	100	Very limited Restricted permeability	1.00	Somewhat limited Slope	0.09
151PN: Pratt-----	100	Very limited Filtering capacity	1.00	Very limited Slope	1.00
		Slope	0.16	Seepage	1.00
151SE: Shellabarger-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
				Slope	0.09
151ZS: Drummond-----	50	Very limited Restricted permeability	1.00	Very limited Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
Zenda-----	50	Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.50	Seepage	0.50
173MA: Milan-----	100	Very limited Restricted permeability	1.00	Somewhat limited Slope	0.00
173PB: Plevna-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
173RA: Renfrow-----	100	Very limited Restricted permeability	1.00	Somewhat limited Slope	0.00
173RC: Renfrow-----	65	Very limited		Somewhat limited	

SANITARY FACILITIES--Continued
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Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Wellsford-----	35	Restricted permeability	1.00	Slope	0.09
		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	0.09
173TA: Tabler-----	100	Very limited		Not limited	
		Restricted permeability	1.00		
191RA: Renfrow-----	70	Very limited		Somewhat limited	
		Restricted permeability	1.00	Slope	0.00
Grainola-----	30	Very limited		Very limited	
		Restricted permeability	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	0.00
990: Abbyville-----	95	Very limited		Very limited	
		Restricted permeability	1.00	Depth to	
		Depth to	1.00	saturated zone	1.00
		saturated zone			
991: Abbyville, rarely flooded-----	45	Very limited		Very limited	
		Restricted permeability	1.00	Depth to	1.00
		Depth to	1.00	saturated zone	
		Flooding	0.40	Flooding	0.40
Kisiwa, occasionally flooded-----	40	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Seepage	1.00
		Depth to	1.00		
		saturated zone			
		Filtering capacity	1.00		
1004: Albion-----	90	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
1005: Albion-----	75	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.09
1006: Albion-----	100	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
				Slope	0.67
1011: Albion-----	70	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
Shellabarger-----	30	Somewhat limited		Slope	0.09
		Restricted permeability	0.50	Somewhat limited	
				Seepage	0.50
				Slope	0.00
1017: Shellabarger, Eroded	40	Somewhat limited		Very limited	
		Restricted permeability	0.50	Slope	1.00
		Slope	0.16	Seepage	0.50
Albion-----	45	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Slope	0.16	Slope	1.00
1061: Arents, Earthen Dam-	100	Not rated		Not rated	
1359: Clark-----	70	Somewhat limited		Somewhat limited	

SANITARY FACILITIES--Continued
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Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Ost-----	30	Restricted permeability	0.50	Seepage	0.50
		Very limited Restricted permeability	1.00	Slope	0.33
				Somewhat limited Slope	0.67
1555: Dillhut-----	35	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
Plev-----	35	Restricted permeability	0.50	Slope	0.00
		Very limited Depth to saturated zone	1.00	Very limited Seepage	1.00
		Filtering capacity	1.00		
1728: Farnum-----	40	Restricted permeability	0.50		
		Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
				Slope	0.09
Funmar-----	40	Very limited Restricted permeability	1.00	Somewhat limited Slope	0.09
2205: Jamash-----	60	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
Piedmont-----	40			Slope	0.00
		Very limited Restricted permeability	1.00	Very limited Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	0.00
2381: Kanza-----	50	Very limited Flooding	1.00	Very limited Flooding	1.00
Ninnescah-----	50	Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Very limited Flooding	1.00	Very limited Flooding	1.00
2390: Kaskan-----	85	Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Very limited Filtering capacity	1.00	Very limited Seepage	1.00
2556: Langdon-----	50	Restricted permeability	0.50	Flooding	0.40
		Depth to saturated zone	0.43		
		Flooding	0.40		
2812: Mahone-----	95	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
		Slope	0.00	Slope	1.00
		Very limited Filtering capacity	1.00	Very limited Seepage	1.00
2948: Nalim-----	80	Restricted permeability	0.50	Flooding	0.40
		Depth to saturated zone	0.43		
		Flooding	0.40		
3051: Ost-----	90	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
				Not limited	

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Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
3052: Ost-----	55	Restricted permeability	1.00		
Clark-----	45	Very limited Restricted permeability	1.00	Somewhat limited Slope	0.00
		Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
3170: Penalosa-----	100	Very limited Restricted permeability	1.00	Slope	0.00
3171: Penalosa-----	100	Very limited Restricted permeability	1.00	Somewhat limited Seepage	0.50
3180: Pratt-----	85	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
3181: Pratt-----	45	Very limited Filtering capacity	1.00	Slope	1.00
Turon-----	30	Very limited Restricted permeability	1.00	Very limited Seepage	0.09
		Filtering capacity	1.00	Slope	1.00
3445: Shellabarger, Moderately Eroded--	100	Somewhat limited		Somewhat limited	
		Restricted permeability	0.50	Seepage	0.50
3510: Saltcreek-----	50	Very limited Restricted permeability	1.00	Slope	0.33
Funmar-----	30	Very limited Restricted permeability	1.00	Somewhat limited Seepage	0.50
Farnum-----	20	Somewhat limited Restricted permeability	0.50	Slope	0.00
3530: Shellabarger, Eroded	45	Very limited Restricted permeability	1.00	Not limited	
		Slope	0.16	Somewhat limited Seepage	0.50
Albion-----	40	Very limited Filtering capacity	1.00	Seepage	0.50
		Slope	0.16	Very limited Seepage	1.00
3531: Shellabarger, Moderately Eroded--	50	Somewhat limited		Slope	1.00
		Restricted permeability	0.50	Somewhat limited	
Nalim-----	50	Very limited Restricted permeability	1.00	Seepage	0.50
		Filtering capacity	1.00	Slope	0.33
3532: Shellabarger-----	80	Somewhat limited Restricted permeability	0.50	Very limited Seepage	1.00
				Slope	0.33
3533: Shellabarger-----	85	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
				Slope	0.00
				Somewhat limited Seepage	0.50

SANITARY FACILITIES--Continued
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Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
3534: Shellabarger-----	85	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage Slope	0.50 0.00
3535: Shellabarger-----	55	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage Slope	0.50 0.00
Nalim-----	45	Very limited Restricted permeability Filtering capacity	1.00 1.00	Very limited Seepage Slope	1.00 0.00
3926: Water-----	100	Not rated		Not rated	
3966: Willowbrook-----	90	Very limited Flooding Filtering capacity Depth to saturated zone	1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
4005: Yaggy-----	60	Very limited Flooding Depth to saturated zone Filtering capacity	1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
Saxman-----	30	Very limited Depth to saturated zone Filtering capacity Flooding	1.00 1.00 0.40	Very limited Seepage Depth to saturated zone Flooding	1.00 1.00 0.40
4110: Zellmont-----	70	Very limited Depth to bedrock Restricted permeability	1.00 1.00	Very limited Depth to soft bedrock Seepage	1.00 0.50
Poxmash-----	30	Very limited Filtering capacity Depth to bedrock	1.00 0.73	Very limited Seepage Depth to soft bedrock	1.00 0.32
Aa: Albion-----	100	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
Ab: Albion-----	100	Very limited Filtering capacity	1.00	Very limited Seepage Slope	1.00 0.00
Ac: Albion-----	100	Very limited Filtering capacity	1.00	Very limited Seepage Slope	1.00 0.67
Ad: Albion-----	100	Very limited Filtering capacity Slope	1.00 0.37	Very limited Seepage Slope	1.00 1.00
AED: Arents, Earthen Dam-	100	Not rated		Not rated	
Ba: Blanket-----	100	Very limited Restricted permeability	1.00	Somewhat limited Seepage	0.50
Bb: Blanket-----	100	Very limited Restricted permeability	1.00	Somewhat limited Seepage Slope	0.50 0.00

SANITARY FACILITIES--Continued
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Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Bc: Blanket-----	100	Very limited Restricted permeability	1.00	Somewhat limited Seepage Slope	0.50 0.09
Ca: Canadian-----	100	Very limited Filtering capacity Flooding	1.00 0.40	Very limited Seepage Flooding	1.00 0.40
Cb: Carwile-----	100	Very limited Restricted permeability Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Seepage	1.00 0.32
Cc: Case-----	60	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage Slope	0.50 0.33
Clark-----	40	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage Slope	0.50 0.33
Cd: Case-----	60	Somewhat limited Restricted permeability Slope	0.50 0.37	Very limited Slope Seepage	1.00 0.50
Clark-----	40	Somewhat limited Restricted permeability	0.50	Very limited Slope Seepage	1.00 0.50
Ce: Clark-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
Cf: Clark-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage Slope	0.50 0.09
Da: Dillwyn-----	60	Very limited Depth to saturated zone Filtering capacity	1.00 1.00	Very limited Seepage Depth to saturated zone	1.00 1.00
Plevna-----	40	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
Fa: Farnum-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
Fb: Farnum-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
Fc: Farnum-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage Slope	0.50 0.00
Fd: Farnum-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Slope Seepage	0.67 0.50
Fe: Farnum-----	100	Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage Slope	0.50 0.33
Ff: Farnum-----	60	Somewhat limited		Somewhat limited	

SANITARY FACILITIES--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Natrustolls-----	40	Restricted permeability	0.50	Seepage	0.50
Ka: Kaski-----	100	Not rated		Not rated	
Kb: Kingman-----	100	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	0.50	Seepage	0.50
La: Lincoln-----	100	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
Ma: McLain-----	100	Restricted permeability	1.00	Seepage	0.32
		Flooding	1.00		
		Filtering capacity	1.00		
Nb: Nashville-----	100	Depth to saturated zone	0.08		
		Restricted permeability	1.00	Somewhat limited Flooding	0.40
		Flooding	0.40		
Oa: Owens-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	0.00
Pa: Pond Creek-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Pb: Pratt-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Pc: Pratt-----	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Pd: Pratt-----	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qa: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qb: Quinlan-----	40	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qc: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qd: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qe: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qf: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qg: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qh: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qi: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qj: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qk: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Ql: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qm: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qn: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qo: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qp: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qq: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qr: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qs: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qt: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qu: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qv: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qw: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qx: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qy: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00
Qz: Quinlan-----	100	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Restricted permeability	0.50	Slope	1.00

SANITARY FACILITIES--Continued
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Map symbol and soil name	Pct of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Qb: Quinlan-----	100	Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	0.00
Ra: Renfrow-----	100	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
				Slope	0.33
Rb: Rueella-----	100	Very limited Restricted permeability	1.00	Somewhat limited Slope	0.00
Rc: Rueella-----	100	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
				Seepage	0.50
Rc: Rueella-----	60			Slope	0.09
		Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
Rock Outcrop-----	40			Slope	0.67
		Not rated		Seepage	0.50
Sa: Shellabarger-----	100			Not rated	
		Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
Sb: Shellabarger-----	100			Slope	0.00
		Somewhat limited Restricted permeability	0.50	Somewhat limited Seepage	0.50
Sc: Shellabarger-----	100			Slope	0.00
		Somewhat limited Restricted permeability	0.50	Somewhat limited Slope	0.67
Sd: Shellabarger-----	100			Seepage	0.50
		Somewhat limited Restricted permeability	0.50	Somewhat limited Slope	0.67
Ta: Tivoli-----	100			Seepage	0.50
		Very limited Slope	1.00	Very limited Slope	1.00
W: Water-----	100	Filtering capacity	1.00	Seepage	1.00
Wa: Waldeck-----	100	Not rated		Not rated	
Za: Zenda-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.50	Seepage	0.50

SANITARY FACILITIES--Continued
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Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
007AE: Albion-----	55	Very limited Seepage Too Sandy Slope	1.00 1.00 0.16	Very limited Seepage Slope	1.00 0.16	Very limited Too Sandy Seepage Slope Gravel content	1.00 1.00 0.16 0.00
Shellabarger-----	45	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16
007FA: Farnum-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
077KA: Kanza-----	100	Very limited Flooding Depth to saturated zone Seepage Too Sandy	1.00 1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Seepage Depth to saturated zone Too Sandy	1.00 1.00 0.50
077KR: Kirkland-----	70	Very limited Too clayey	1.00	Not limited		Very limited Too clayey	1.00
Renfrow-----	30	Very limited Too clayey	1.00	Not limited		Hard to compact Very limited Too clayey Hard to compact	1.00 1.00 1.00
077NN: Nashville-----	100	Very limited Depth to bedrock Seepage	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
077PC: Pond Creek-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
077RC: Renfrow-----	65	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
Vernon-----	35	Very limited Depth to bedrock Too clayey Sodium content	1.00 1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Too clayey Sodium content Hard to compact	1.00 1.00 1.00 1.00
077SB: Shellabarger-----	100	Not limited		Not limited		Not limited	
077SE: Shellabarger-----	100	Not limited		Not limited		Not limited	
077SF: Shellabarger-----	100	Not limited		Not limited		Not limited	
077SG: Shellabarger-----	100	Not limited		Not limited		Not limited	
077SH: Shellabarger-----	100	Very limited Depth to bedrock Seepage	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
151AO: Albion-----	100	Very limited Seepage Too Sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too Sandy Seepage	1.00 1.00
151CN: Clark-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
151CO: Clark-----	70	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Ost-----	30	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
151KP: Kanza-----	50	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Too Sandy Seepage Depth to saturated zone	1.00 1.00 1.00
Plevna-----	50	Too Sandy Very limited Flooding	1.00 1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone Seepage	1.00 0.50
151ND: Naron-----	100	Very limited Seepage	1.00	Very limited Seepage	1.00	Not limited	

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Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151NF: Naron-----	100	Very limited Seepage	1.00	Very limited Seepage	1.00	Not limited	
151OC: Ost-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
151OS: Ost-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
151PN: Pratt-----	100	Very limited Seepage Too Sandy Slope	1.00 1.00 0.16	Very limited Seepage Slope	1.00 0.16	Very limited Seepage Too Sandy Slope	1.00 0.50 0.16
151SE: Shellabarger-----	100	Not limited		Not limited		Not limited	
151ZS: Drummond-----	50	Very limited Depth to saturated zone Seepage	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Hard to compact Depth to saturated zone	1.00 0.09
Zenda-----	50	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.09
173MA: Milan-----	100	Somewhat limited Too clayey	0.50	Not limited		Very limited Hard to compact Too clayey	1.00 0.50
173PB: Plevna-----	100	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Depth to saturated zone Seepage	1.00 0.50
173RA: Renfrow-----	100	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
173RC: Renfrow-----	65	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
Wellsford-----	35	Very limited Depth to bedrock Too clayey Seepage	1.00 1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00
173TA: Tabler-----	100	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
191RA: Renfrow-----	70	Somewhat limited Too clayey	0.50	Not limited		Very limited Hard to compact Too clayey	1.00 0.50
Grainola-----	30	Very limited Depth to bedrock Too clayey Seepage	1.00 1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00
990: Abbyville-----	95	Very limited Depth to saturated zone Sodium content Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Sodium content Too clayey Depth to saturated zone	1.00 0.50 0.09
991: Abbyville, rarely flooded-----	45	Very limited Depth to saturated zone Sodium content Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Sodium content Too clayey Depth to saturated zone	1.00 0.50 0.09
Kisiwa, occasionally flooded-----	40	Flooding Very limited	0.40	Very limited Flooding	1.00	Very limited Ponding	1.00

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Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1004: Albion-----	90	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Sodium content	1.00			Sodium content	1.00
		Seepage	1.00			Too clayey	1.00
1005: Albion-----	75	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
1006: Albion-----	100	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
1011: Albion-----	70	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
Shellabarger-----	30	Not limited		Not limited		Not limited	
1017: Shellabarger, Eroded	40	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16
Albion-----	45	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Too Sandy	1.00
		Too Sandy	1.00	Slope	0.16	Seepage	1.00
		Slope	0.16			Slope	0.16
1061: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
1359: Clark-----	70	Not limited		Not limited		Not limited	
Ost-----	30	Not limited		Not limited		Not limited	
1555: Dillhut-----	35	Very limited Seepage	1.00	Very limited Seepage	1.00	Not limited	
Plev-----	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Seepage	1.00	Seepage	1.00	Too Sandy	1.00
		Too Sandy	1.00			Seepage	1.00
1728: Farnum-----	40	Not limited		Not limited		Not limited	
Funmar-----	40	Somewhat limited Too clayey	0.50	Not limited		Very limited Hard to compact	1.00
						Too clayey	0.50
2205: Jamash-----	60	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
Piedmont-----	40	Too clayey	0.50			Too clayey	0.50
		Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
		Too clayey	1.00			Too clayey	1.00
2381: Kanza-----	50	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Too Sandy	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Depth to saturated zone	1.00
Ninnescah-----	50	Too Sandy	1.00				
		Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
		Too Sandy	1.00	Seepage	1.00	Too Sandy	0.50
		Seepage	1.00				
2390: Kaskan-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Too Sandy	1.00
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00	Flooding	0.40		
		Flooding	0.40				
2556: Langdon-----	50	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Too Sandy	1.00
		Too Sandy	1.00	Slope	0.00	Seepage	1.00

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Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2812: Mahone-----	95	Slope	0.00			Slope	0.00
		Very limited		Very limited		Somewhat limited	
		Depth to	1.00	Depth to	1.00	Seepage	0.50
		saturated zone		saturated zone			
2948: Nalim-----	80	Seepage	1.00	Seepage	1.00		
		Flooding	0.40	Flooding	0.40		
		Very limited		Not limited		Very limited	
		Seepage	1.00			Seepage	1.00
3051: Ost-----	90	Too clayey	0.50			Too clayey	0.50
		Not limited		Not limited		Not limited	
3052: Ost-----	55	Not limited		Not limited		Not limited	
		Not limited		Not limited		Not limited	
3170: Penalosa-----	100	Somewhat limited		Not limited		Very limited	
		Too clayey	0.50			Hard to compact	1.00
3171: Penalosa-----	100	Too clayey				Too clayey	0.50
		Somewhat limited	0.50	Not limited		Very limited	
3180: Pratt-----	85	Too clayey				Hard to compact	1.00
		Very limited		Very limited		Too clayey	0.50
3181: Pratt-----	45	Seepage	1.00	Seepage	1.00	Very limited	
		Too Sandy	1.00			Too Sandy	1.00
Turon-----	30	Seepage	1.00	Seepage	1.00	Seepage	1.00
		Too Sandy	1.00			Very limited	
3445: Shellabarger, Moderately Eroded--	100	Not limited		Not limited		Seepage	1.00
						Too Sandy	0.50
3510: Saltcreek-----	50	Very limited		Not limited		Not limited	
		Too clayey	1.00			Very limited	
Funmar-----	30	Not limited		Not limited		Too clayey	1.00
		Somewhat limited	0.50			Hard to compact	1.00
Farnum-----	20	Too clayey				Very limited	
		Not limited		Not limited		Hard to compact	1.00
3530: Shellabarger, Eroded	45	Not limited		Not limited		Too clayey	0.50
		Slope	0.16	Somewhat limited	0.16	Not limited	
Albion-----	40	Slope	0.16	Very limited	0.16	Somewhat limited	0.16
		Seepage	1.00	Seepage	1.00	Slope	
3531: Shellabarger, Moderately Eroded--	50	Too Sandy	1.00	Slope	0.16	Very limited	
		Slope	0.16			Too Sandy	1.00
Nalim-----	50	Not limited		Not limited		Seepage	1.00
		Very limited	1.00	Not limited		Too clayey	0.50
3532: Shellabarger-----	80	Too clayey	0.50				
		Not limited		Not limited		Not limited	
3533: Shellabarger-----	85	Not limited		Not limited		Not limited	
		Not limited		Not limited		Not limited	
3534: Shellabarger-----	85	Not limited		Not limited		Not limited	
		Not limited		Not limited		Not limited	
3535: Shellabarger-----	55	Not limited		Not limited		Not limited	
		Very limited		Not limited		Very limited	
Nalim-----	45	Seepage	1.00	Not limited		Seepage	1.00
		Too clayey	0.50			Too clayey	0.50
3926: Water-----	100	Not rated		Not rated		Not rated	
3966: Willowbrook-----	90	Not rated					
		Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too Sandy	1.00
		Depth to	1.00	Depth to	1.00	Seepage	1.00
		saturated zone		saturated zone			
		Seepage	1.00	Seepage	1.00	Depth to	0.09
		Too Sandy	1.00			saturated zone	

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Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4005: Yaggy-----	60	Very limited Flooding Depth to saturated zone Seepage Too Sandy	1.00 1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Too Sandy Seepage Depth to saturated zone	1.00 1.00 0.09
Saxman-----	30	Very limited Depth to saturated zone Seepage Too Sandy Flooding	1.00 1.00 1.00 1.00 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 1.00 1.00 0.40	Very limited Too Sandy Seepage Depth to saturated zone	1.00 1.00 0.47
4110: Zellmont-----	70	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
Poxmash-----	30	Very limited Depth to bedrock Too Sandy	1.00 1.00	Very limited Seepage Depth to bedrock	1.00 0.32	Very limited Too Sandy Seepage Depth to bedrock Gravel content	1.00 1.00 0.32 0.01
Aa: Albion-----	100	Very limited Seepage Too Sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Seepage Too Sandy Gravel content	1.00 0.50 0.00
Ab: Albion-----	100	Very limited Seepage Too Sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too Sandy Seepage Gravel content	1.00 1.00 0.00
Ac: Albion-----	100	Very limited Seepage Too Sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too Sandy Seepage Gravel content	1.00 1.00 0.00
Ad: Albion-----	100	Very limited Seepage Too Sandy Slope	1.00 1.00 0.37	Very limited Seepage Slope	1.00 0.37	Very limited Too Sandy Seepage Slope Gravel content	1.00 1.00 0.37 0.00
AED: Arents, Earthen Dam-	100	Not rated		Not rated		Not rated	
Ba: Blanket-----	100	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
Bb: Blanket-----	100	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
Bc: Blanket-----	100	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
Ca: Canadian-----	100	Very limited Seepage Flooding	1.00 0.40	Very limited Seepage Flooding	1.00 0.40	Very limited Seepage	1.00
Cb: Carwile-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact	1.00 1.00
Cc: Case-----	60	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Clark-----	40	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Cd: Case-----	60	Somewhat limited Too clayey Slope	0.50 0.37	Somewhat limited Slope	0.37	Somewhat limited Too clayey Slope	0.50 0.37
Clark-----	40	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Ce: Clark-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50

SANITARY FACILITIES--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Cf: Clark-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Da: Dillwyn-----	60	Very limited Depth to saturated zone Seepage	1.00 1.00	Very limited Depth to saturated zone Seepage	1.00 1.00	Very limited Seepage Depth to saturated zone Too Sandy	1.00 0.86 0.50
Plevna-----	40	Too Sandy Very limited Flooding	1.00 1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone Seepage	1.00 0.50
Fa: Farnum-----	100	Depth to saturated zone Seepage	1.00 1.00	Depth to saturated zone Seepage	1.00 1.00		
Fb: Farnum-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Fc: Farnum-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Fd: Farnum-----	100	Not limited		Not limited		Not limited	
Fe: Farnum-----	100	Not limited		Not limited		Not limited	
Ff: Farnum-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Na: Nashville-----	100	Not limited		Not limited		Not limited	
Ka: Kaski-----	100	Not rated		Not rated		Not rated	
Kb: Kingman-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Not limited	
La: Lincoln-----	100	Very limited Flooding Depth to saturated zone Seepage Too Sandy	1.00 1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Too Sandy Seepage	1.00 1.00
Ma: McLain-----	100	Very limited Depth to bedrock Seepage	1.00 1.00	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04
Na: Nashville-----	100	Somewhat limited Too clayey Flooding	0.50 0.40	Somewhat limited Flooding	0.40	Very limited Hard to compact Too clayey	1.00 0.50
Nb: Nashville-----	60	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04
Quinlan-----	40	Very limited Depth to bedrock Seepage Slope	1.00 1.00 0.16	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to bedrock Slope	1.00 0.16
Oa: Owens-----	100	Very limited Depth to bedrock Too clayey Seepage	1.00 1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00
Pa: Pond Creek-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Pb: Pratt-----	100	Very limited Seepage Too Sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Seepage Too Sandy	1.00 0.50
Pc: Pratt-----	60	Very limited Seepage Too Sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Seepage Too Sandy	1.00 1.00

SANITARY FACILITIES--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Carwile-----	40	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact	1.00
Pd: Pratt-----	50	Very limited Seepage Too Sandy Slope	1.00 1.00 0.04	Very limited Seepage Slope	1.00 0.04	Very limited Seepage Too Sandy Slope	1.00 1.00 0.04
Tivoli-----	50	Very limited Seepage Too Sandy Slope	1.00 1.00 0.16	Very limited Seepage Slope	1.00 0.16	Very limited Too Sandy Seepage Slope	1.00 1.00 0.16
Qa: Quinlan-----	100	Very limited Depth to bedrock Seepage	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
Qb: Quinlan-----	100	Very limited Depth to bedrock Seepage	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
Ra: Renfrow-----	100	Very limited Too clayey	1.00	Not limited		Very limited Too clayey Hard to compact	1.00 1.00
Rb: Ruella-----	100	Very limited Depth to bedrock Too clayey	1.00 0.50	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Too clayey	1.00 0.50
Rc: Ruella-----	60	Very limited Depth to bedrock Too clayey	1.00 0.50	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Too clayey	1.00 0.50
Rock Outcrop-----	40	Not rated		Not rated		Not rated	
Sa: Shellabarger-----	100	Not limited		Not limited		Not limited	
Sb: Shellabarger-----	100	Not limited		Not limited		Not limited	
Sc: Shellabarger-----	100	Not limited		Not limited		Not limited	
Sd: Shellabarger-----	100	Not limited		Not limited		Not limited	
Ta: Tivoli-----	100	Very limited Seepage Too Sandy Slope	1.00 1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Too Sandy Seepage Slope	1.00 1.00 1.00
W: Water-----	100	Not rated		Not rated		Not rated	
Wa: Waldeck-----	100	Very limited Flooding Depth to saturated zone Seepage Too Sandy	1.00 1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Seepage Too Sandy Depth to saturated zone	1.00 1.00 0.09
Za: Zenda-----	100	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.09

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The nature of the soil is also important in the application of organic wastes and wastewater to land as fertilizers and irrigation; it is also important when the soil is used as a medium for treatment and disposal of these wastes. Favorable soil properties are required to prevent environmental damage.

The use of organic wastes and wastewater as production resources will result in energy conservation, prevent the waste of these important resources, and prevent problems associated with their disposal. Where disposal is the goal, and a maximum amount is disposed in a minimum area to hold costs to a minimum, risk of environmental damage is the principal constraint. Where the reuse goal is pursued, and a minimum amount is applied to a maximum area to obtain the greatest benefit, environmental damage is unlikely.

Interpretations developed for waste management may include ratings for (1) manure and food processing wastes; (2) municipal sewage sludge; (3) irrigation use of wastewater; or (4) treatment of wastewater by the slow rate process, overland flow process, or rapid infiltration process. If available, these should be located in this subsection.

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

The Ag-Waste tables show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, phosphorus, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slightly limited indicates that the soil has features that are generally favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

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The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding.

The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

See the National Soil Handbook, September 1992, Part 620, for criteria used in rating soils for sanitary facilities and waste management.

AGRICULTURAL WASTE MANAGEMENT--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
007AE: Albion-----	55	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Too steep for surface application	1.00
		Slope	0.16	Slope	0.16	Filtering capacity	1.00
		Too acid	0.03	Too acid	0.14	Too steep for sprinkler application	0.39
						Too acid	0.14
Shellabarger-----	45	Somewhat limited Slope	0.16	Somewhat limited Too acid	0.42	Very limited Too steep for surface application	1.00
		Too acid	0.11	Slope	0.16	Too acid	0.42
						Too steep for sprinkler application	0.39
007FA: Farnum-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00
077KA: Kanza-----	100	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Runoff limitation	0.40	Too acid	0.14	Too acid	0.14
		Too acid	0.03	Droughty	0.03	Droughty	0.03
077KR: Kirkland-----	70	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
		Runoff limitation	0.40				
Renfrow-----	30	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
		Runoff limitation	0.40				
077NN: Nashville-----	100	Somewhat limited Depth to bedrock	0.46	Somewhat limited Depth to bedrock	0.46	Somewhat limited Depth to bedrock	0.46
						Too steep for surface application	0.31
077PC: Pond Creek-----	100	Somewhat limited Restricted permeability	0.30	Somewhat limited Restricted permeability	0.22	Somewhat limited Restricted permeability	0.22
		Too acid	0.02	Too acid	0.07	Too acid	0.07
077RC: Renfrow-----	65	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
		Runoff limitation	0.40				
Vernon-----	35	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
		Droughty	0.95	Droughty	0.95	Droughty	0.95
		Sodium content	0.92	Sodium content	0.92	Sodium content	0.92
		Runoff limitation	0.40	Depth to bedrock	0.29	Depth to bedrock	0.29
		Depth to bedrock	0.29				
077SB: Shellabarger-----	100	Somewhat limited Too acid	0.11	Somewhat limited Too acid	0.42	Somewhat limited Too acid	0.42
077SE: Shellabarger-----	100	Somewhat limited Too acid	0.11	Somewhat limited Too acid	0.42	Somewhat limited Too acid	0.42
077SF: Shellabarger-----	100	Somewhat limited Too acid	0.11	Somewhat limited Too acid	0.42	Somewhat limited Too acid	0.42
						Too steep for surface application	0.31
077SG: Shellabarger-----	100	Somewhat limited		Somewhat limited		Somewhat limited	

AGRICULTURAL WASTE MANAGEMENT--Continued
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(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
077SH: Shellabarger-----	100	Too acid	0.11	Too acid	0.42	Too acid Too steep for surface application	0.42 0.31
		Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.30	Restricted permeability	0.22	Restricted permeability	0.22
		Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
151AO: Albion-----	100	Droughty	0.00	Droughty	0.00	Droughty	0.00
		Filtering capacity	0.00	Filtering capacity	0.00	Filtering capacity	0.00
		Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
151CN: Clark-----	100	Too acid	0.03	Too acid	0.14	Too steep for surface application Too acid	0.31 0.14
		Not limited		Not limited		Not limited	
		Not limited		Not limited		Not limited	
		Somewhat limited		Somewhat limited		Somewhat limited	
151CO: Clark-----	70	Restricted permeability	0.30	Restricted permeability	0.22	Restricted permeability	0.22
		Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
151KP: Kanza-----	50	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Droughty	0.82	Droughty	0.82	Droughty	0.82
		Runoff limitation	0.40	Too acid	0.14	Too acid	0.14
		Very limited		Very limited		Very limited	
Plevna-----	50	Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	0.00	Filtering capacity	0.00	Filtering capacity	0.00
		Not limited		Not limited		Not limited	
151ND: Naron-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Filtering capacity	0.00	Filtering capacity	0.00	Filtering capacity	0.00
		Somewhat limited		Somewhat limited		Somewhat limited	
		Filtering capacity	0.00	Filtering capacity	0.00	Filtering capacity	0.00
151NF: Naron-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Filtering capacity	0.00	Filtering capacity	0.00	Filtering capacity	0.00
		Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.30	Restricted permeability	0.22	Restricted permeability	0.22
151OC: Ost-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.30	Restricted permeability	0.22	Restricted permeability	0.22
		Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.30	Restricted permeability	0.22	Restricted permeability	0.22
151OS: Ost-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.30	Restricted permeability	0.22	Restricted permeability	0.22
		Somewhat limited		Somewhat limited		Somewhat limited	
		Too steep for surface application	0.00	Too steep for surface application	0.00	Too steep for surface application	0.00
151PN: Pratt-----	100	Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Leaching limitation	0.45	Slope	0.16	Too steep for sprinkler application	1.00
		Slope	0.16			Too steep for sprinkler application	0.39
151SE: Shellabarger-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Too acid	0.11	Too acid	0.42	Too acid	0.42

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Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151ZS: Drummond-----	50	Very limited Restricted permeability Droughty Salinity Depth to saturated zone Runoff limitation	1.00 1.00 0.50 0.43 0.40	Very limited Restricted permeability Droughty Salinity Depth to saturated zone	1.00 1.00 1.00 0.43	Too steep for surface application Very limited Restricted permeability Droughty Salinity Depth to saturated zone	0.00 1.00 1.00 1.00 0.43
Zenda-----	50	Somewhat limited Flooding Depth to saturated zone	0.60 0.43	Very limited Flooding Depth to saturated zone	1.00 0.43	Somewhat limited Flooding Depth to saturated zone	0.60 0.43
173MA: Milan-----	100	Somewhat limited Restricted permeability Too acid	0.30 0.03	Somewhat limited Restricted permeability Too acid	0.22 0.14	Somewhat limited Restricted permeability Too acid	0.22 0.14
173PB: Plevna-----	100	Very limited Filtering capacity Flooding Depth to saturated zone Runoff limitation	1.00 1.00 1.00 0.40	Very limited Filtering capacity Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Filtering capacity Flooding Depth to saturated zone	1.00 1.00 1.00
173RA: Renfrow-----	100	Very limited Restricted permeability Runoff limitation	1.00 0.40	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
173RC: Renfrow-----	65	Very limited Restricted permeability Runoff limitation	1.00 0.40	Very limited Restricted permeability	1.00	Very limited Restricted permeability Too steep for surface application	1.00 0.00
Wellsford-----	35	Very limited Restricted permeability Depth to bedrock Droughty Runoff limitation	1.00 1.00 1.00 0.40	Very limited Droughty Restricted permeability Depth to bedrock	1.00 1.00 1.00	Very limited Droughty Restricted permeability Depth to bedrock Too steep for surface application	1.00 1.00 1.00 0.00
173TA: Tabler-----	100	Very limited Restricted permeability Runoff limitation	1.00 0.40	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
191RA: Renfrow-----	70	Very limited Restricted permeability Runoff limitation	1.00 0.40	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
Grainola-----	30	Very limited Restricted permeability Runoff limitation Depth to bedrock Droughty	1.00 0.40 0.06 0.05	Very limited Restricted permeability Depth to bedrock Droughty	1.00 0.06 0.05	Very limited Restricted permeability Depth to bedrock Droughty	1.00 0.06 0.05
990: Abbyville-----	95	Very limited Sodium content Restricted permeability Depth to saturated zone Salinity	1.00 1.00 0.43 0.01	Very limited Sodium content Restricted permeability Depth to saturated zone	1.00 1.00 0.43	Very limited Sodium content Restricted permeability Depth to saturated zone	1.00 1.00 0.43
991: Abbyville, rarely flooded-----	45	Very limited Sodium content	1.00	Very limited Sodium content	1.00	Very limited Sodium content	1.00

AGRICULTURAL WASTE MANAGEMENT--Continued
Kingman County, Kansas

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Kisiwa, occasionally flooded-----	40	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Depth to saturated zone	0.43	Depth to saturated zone	0.43	Depth to saturated zone	0.43
		Salinity	0.01	Flooding	0.40	Filtering capacity	0.00
		Filtering capacity	0.00	Filtering capacity	0.00	Very limited	
1004: Albion-----	90	Very limited		Very limited		Very limited	
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
1005: Albion-----	75	Sodium content	1.00	Sodium content	1.00	Sodium content	1.00
		Filtering capacity	1.00	Flooding	1.00	Filtering capacity	1.00
		Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
1006: Albion-----	100	Too acid	0.03	Too acid	0.14	Too acid	0.14
		Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.03	Too acid	0.14	Too steep for surface application	0.00
1011: Albion-----	70	Too steep for surface application		Too steep for surface application		Too steep for surface application	
		Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.03	Too acid	0.14	Too acid	0.14
Shellabarger-----	30	Too steep for surface application		Too steep for surface application		Too steep for surface application	
		Somewhat limited		Somewhat limited		Somewhat limited	
		Too acid	0.11	Too acid	0.42	Too acid	0.42
		Filtering capacity	0.00	Filtering capacity	0.00	Filtering capacity	0.00
1017: Shellabarger, Eroded	40	Very limited		Very limited		Very limited	
		Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Too acid	0.42	Too steep for surface application	1.00
		Too acid	0.11	Slope	0.16	Too acid	0.42
Albion-----	45	Filtering capacity	0.00	Filtering capacity	0.00	Too steep for sprinkler application	0.39
		Very limited		Very limited		Filtering capacity	0.00
		Filtering capacity	1.00	Filtering capacity	1.00	Very limited	
		Too steep for surface application		Too steep for surface application		Too steep for surface application	
1061: Arents, Earthen Dam-	100	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Slope	0.16	Slope	0.16	Filtering capacity	1.00
		Too acid	0.03	Too acid	0.14	Too steep for sprinkler application	0.39
		Not rated		Not rated		Too acid	0.14

AGRICULTURAL WASTE MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1359: Clark-----	70	Not limited		Not limited		Somewhat limited Too steep for surface application	0.08
Ost-----	30	Somewhat limited Restricted permeability	0.30	Somewhat limited Restricted permeability	0.22	Somewhat limited Too steep for surface application Restricted permeability	0.31 0.22
1555: Dillhut-----	35	Very limited Filtering capacity Too acid	1.00 0.00	Very limited Filtering capacity Too acid	1.00 0.01	Very limited Filtering capacity Too acid	1.00 0.01
Plev-----	35	Very limited Filtering capacity Depth to saturated zone Too acid Droughty	1.00 1.00 1.00 0.03 0.01	Very limited Filtering capacity Depth to saturated zone Too acid Droughty	1.00 1.00 1.00 0.14 0.01	Very limited Filtering capacity Depth to saturated zone Too acid Droughty	1.00 1.00 1.00 0.14 0.01
1728: Farnum-----	40	Somewhat limited Too acid	0.00	Somewhat limited Too acid	0.01	Somewhat limited Too acid Too steep for surface application	0.01 0.00
Funmar-----	40	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability Too steep for surface application	1.00 0.00
2205: Jamash-----	60	Very limited Restricted permeability Depth to bedrock	1.00 1.00	Very limited Droughty Restricted permeability Depth to bedrock	1.00 1.00 1.00	Very limited Droughty Restricted permeability Depth to bedrock	1.00 1.00 1.00
Piedmont-----	40	Droughty Runoff limitation Very limited Restricted permeability Runoff limitation Depth to bedrock Droughty	1.00 0.40 1.00 1.00 0.40 0.29 0.05	Very limited Restricted permeability Depth to bedrock Droughty	1.00 0.29 0.05	Very limited Restricted permeability Depth to bedrock Droughty	1.00 0.29 0.05
2381: Kanza-----	50	Very limited Flooding Depth to saturated zone Filtering capacity Runoff limitation Too acid	1.00 1.00 1.00 0.40 0.03	Very limited Flooding Depth to saturated zone Filtering capacity Too acid	1.00 1.00 1.00 0.14	Very limited Flooding Depth to saturated zone Filtering capacity Too acid	1.00 1.00 1.00 0.14
Ninnescah-----	50	Very limited Depth to saturated zone Flooding Filtering capacity	1.00 0.60 0.00	Very limited Flooding Depth to saturated zone Filtering capacity	1.00 1.00 0.00	Very limited Depth to saturated zone Flooding Filtering capacity	1.00 0.60 0.00
2390: Kaskan-----	85	Very limited Filtering capacity	1.00	Very limited Filtering capacity Flooding	1.00 0.40	Very limited Filtering capacity	1.00
2556: Langdon-----	50	Very limited Filtering capacity Droughty	1.00 0.62	Very limited Filtering capacity Too acid	1.00 0.67	Very limited Filtering capacity Too steep for surface application	1.00 1.00

AGRICULTURAL WASTE MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2812: Mahone-----	95	Leaching limitation	0.45	Droughty	0.62	Too acid	0.67
		Too acid	0.18	Slope	0.00	Droughty	0.62
		Slope	0.00			Too steep for sprinkler application	0.10
2948: Nalim-----	80	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Too acid	0.43	Too acid	0.99	Too acid	0.99
				Flooding	0.40		
3051: Ost-----	90	Somewhat limited Restricted permeability	0.30	Somewhat limited Restricted permeability	0.22	Somewhat limited Restricted permeability	0.22
		Too acid	0.00	Too acid	0.01	Too acid	0.01
		Filtering capacity	0.00	Filtering capacity	0.00	Filtering capacity	0.00
3052: Ost-----	55	Somewhat limited Restricted permeability	0.30	Somewhat limited Restricted permeability	0.22	Somewhat limited Restricted permeability	0.22
		Not limited		Not limited		Not limited	
Clark----- 3170: Penalosa-----	100	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
3171: Penalosa-----	100	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
3180: Pratt-----	85	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Low adsorption	1.00	Too acid	0.42	Low adsorption	1.00
		Leaching limitation	0.45			Too steep for surface application	0.91
3181: Pratt-----	45	Too acid	0.11			Too acid	0.42
						Too steep for sprinkler application	0.02
Turon-----	30	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Restricted permeability	0.89	Restricted permeability	0.78	Restricted permeability	0.78
		Leaching limitation	0.45	Too acid	0.21	Too acid	0.21
3445: Shellabarger, Moderately Eroded--	100	Too acid	0.11			Too steep for surface application	0.00
		Filtering capacity	0.00	Too acid Filtering capacity	0.42 0.00	Too acid Too steep for surface application	0.42 0.08
						Filtering capacity	0.00

AGRICULTURAL WASTE MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3510: Saltcreek-----	50	Very limited Restricted permeability Too acid Filtering capacity	1.00 0.73 0.00	Very limited Restricted permeability Too acid Filtering capacity	1.00 1.00 0.00	Very limited Restricted permeability Too acid Filtering capacity	1.00 1.00 0.00
Funmar-----	30	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00	Very limited Restricted permeability	1.00
Farnum-----	20	Somewhat limited Too acid	0.00	Somewhat limited Too acid	0.01	Somewhat limited Too acid	0.01
3530: Shellabarger, Eroded	45	Somewhat limited Slope	0.16	Somewhat limited Too acid	0.42	Very limited Too steep for surface application Too acid Too steep for sprinkler application Filtering capacity	1.00 0.42 0.39 0.00
Albion-----	40	Very limited Filtering capacity Slope Too acid	1.00 0.16 0.03	Very limited Filtering capacity Slope Too acid	1.00 0.16 0.14	Very limited Too steep for surface application Filtering capacity Too steep for sprinkler application Too acid	1.00 1.00 0.39 0.14
3531: Shellabarger, Moderately Eroded--	50	Somewhat limited Too acid Filtering capacity	0.11 0.00	Somewhat limited Too acid Filtering capacity	0.42 0.00	Somewhat limited Too acid Too steep for surface application Filtering capacity	0.42 0.08 0.00
Nalim-----	50	Somewhat limited Restricted permeability Too acid Filtering capacity	0.30 0.00 0.00	Somewhat limited Restricted permeability Too acid Filtering capacity	0.22 0.01 0.00	Somewhat limited Restricted permeability Too steep for surface application Too acid Filtering capacity	0.22 0.08 0.01 0.00
3532: Shellabarger-----	80	Somewhat limited Too acid Filtering capacity	0.11 0.00	Somewhat limited Too acid Filtering capacity	0.42 0.00	Somewhat limited Too acid Filtering capacity	0.42 0.00
3533: Shellabarger-----	85	Somewhat limited Too acid Filtering capacity	0.11 0.00	Somewhat limited Too acid Filtering capacity	0.42 0.00	Somewhat limited Too acid Filtering capacity	0.42 0.00
3534: Shellabarger-----	85	Somewhat limited Too acid Filtering capacity	0.11 0.00	Somewhat limited Too acid Filtering capacity	0.42 0.00	Somewhat limited Too acid Filtering capacity	0.42 0.00
3535: Shellabarger-----	55	Somewhat limited Too acid Filtering capacity	0.11 0.00	Somewhat limited Too acid Filtering capacity	0.42 0.00	Somewhat limited Too acid Filtering capacity	0.42 0.00
Nalim-----	45	Somewhat limited Restricted permeability Too acid Filtering capacity	0.30 0.00 0.00	Somewhat limited Restricted permeability Too acid Filtering capacity	0.22 0.01 0.00	Somewhat limited Restricted permeability Too acid Filtering capacity	0.22 0.01 0.00

AGRICULTURAL WASTE MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3926: Water-----	100	Not rated		Not rated		Not rated	
3966: Willowbrook-----	90	Very limited Filtering capacity Depth to dense layer Flooding Depth to saturated zone Too acid	1.00 1.00 0.60 0.43 0.01	Very limited Filtering capacity Flooding Depth to saturated zone Too acid	1.00 1.00 0.43 0.03	Very limited Filtering capacity Flooding Depth to saturated zone Too acid	1.00 0.60 0.43 0.03
4005: Yaggy-----	60	Very limited Filtering capacity Flooding Depth to saturated zone Droughty	1.00 0.60 0.43 0.07	Very limited Flooding Filtering capacity Depth to saturated zone Droughty	1.00 1.00 0.43 0.07	Very limited Filtering capacity Flooding Depth to saturated zone Droughty	1.00 0.60 0.43 0.07
Saxman-----	30	Very limited Filtering capacity Depth to saturated zone Too acid Leaching limitation Droughty	1.00 0.86 0.62 0.45 0.11	Very limited Filtering capacity Too acid Depth to saturated zone Flooding Droughty	1.00 1.00 0.86 0.40 0.11	Very limited Filtering capacity Too acid Depth to saturated zone Droughty	1.00 1.00 0.86 0.11
4110: Zellmont-----	70	Somewhat limited Restricted permeability Depth to bedrock Droughty Too acid	0.30 0.29 0.22 0.08	Somewhat limited Too acid Depth to bedrock Restricted permeability Droughty	0.31 0.29 0.22 0.22	Somewhat limited Too acid Depth to bedrock Restricted permeability Droughty	0.31 0.29 0.22 0.22
Poxmash-----	30	Very limited Filtering capacity Droughty Too acid	1.00 0.21 0.18	Very limited Filtering capacity Too acid Droughty	1.00 0.67 0.21	Very limited Filtering capacity Too acid Droughty	1.00 0.67 0.21
Aa: Albion-----	100	Very limited Filtering capacity Too acid Droughty	1.00 0.03 0.00	Very limited Filtering capacity Too acid Droughty	1.00 0.14 0.00	Very limited Filtering capacity Too acid Droughty	1.00 0.14 0.00
Ab: Albion-----	100	Very limited Filtering capacity Too acid Droughty	1.00 0.03 0.00	Very limited Filtering capacity Too acid Droughty	1.00 0.14 0.00	Very limited Filtering capacity Too acid Droughty	1.00 0.14 0.00
Ac: Albion-----	100	Very limited Filtering capacity Too acid Droughty	1.00 0.03 0.00	Very limited Filtering capacity Too acid Droughty	1.00 0.14 0.00	Very limited Filtering capacity Too steep for surface application Too acid Droughty	1.00 0.31 0.14 0.00
Ad: Albion-----	100	Very limited Filtering capacity Slope	1.00 0.37	Very limited Filtering capacity Slope	1.00 0.37	Very limited Too steep for surface application Filtering capacity	1.00 1.00

AGRICULTURAL WASTE MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AED: Arents, Earthen Dam-	100	Too acid	0.03	Too acid	0.14	Too steep for sprinkler application	0.59
		Droughty	0.00	Droughty	0.00	Too acid	0.14
		Not rated		Not rated		Droughty	0.00
Ba: Blanket-----	100	Somewhat limited Restricted permeability	0.30	Somewhat limited Restricted permeability	0.22	Somewhat limited Restricted permeability	0.22
Bb: Blanket-----	100	Somewhat limited Restricted permeability	0.30	Somewhat limited Restricted permeability	0.22	Somewhat limited Restricted permeability	0.22
Bc: Blanket-----	100	Somewhat limited Restricted permeability	0.30	Somewhat limited Restricted permeability	0.22	Somewhat limited Restricted permeability Too steep for surface application	0.22 0.00
Ca: Canadian-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Flooding	0.40	Somewhat limited Filtering capacity	0.00
Cb: Carwile-----	100			Filtering capacity	0.00		
		Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
Cc: Case-----	60	Runoff limitation	0.40	Too acid	0.07	Too acid	0.07
		Too acid	0.02				
		Not limited		Not limited		Somewhat limited Too steep for surface application	0.08
Clark-----	40	Not limited		Not limited		Somewhat limited Too steep for surface application	0.08
Cd: Case-----	60	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Too steep for surface application	1.00
Clark-----	40					Too steep for sprinkler application	0.59
		Not limited		Not limited		Somewhat limited Too steep for surface application	0.91
						Too steep for sprinkler application	0.02
Ce: Clark-----	100	Not limited		Not limited		Not limited	
Cf: Clark-----	100	Not limited		Not limited		Somewhat limited Too steep for surface application	0.00
Da: Dillwyn-----	60	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching limitation	0.45	Droughty	0.21	Droughty	0.21

AGRICULTURAL WASTE MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Plevna-----	40	Droughty Very limited Flooding Depth to saturated zone Runoff limitation Filtering capacity	0.21 1.00 1.00 0.40 0.00	Very limited Flooding Depth to saturated zone Filtering capacity	1.00 1.00 0.00	Very limited Flooding Depth to saturated zone Filtering capacity	1.00 1.00 0.00
Fa: Farnum-----	100	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00	Somewhat limited Filtering capacity	0.00
Fb: Farnum-----	100	Not limited		Not limited		Not limited	
Fc: Farnum-----	100	Not limited		Not limited		Not limited	
Fd: Farnum-----	100	Not limited		Not limited		Somewhat limited Too steep for surface application	0.31
Fe: Farnum-----	100	Not limited		Not limited		Somewhat limited Too steep for surface application	0.08
Ff: Farnum-----	60	Not limited		Not limited		Not limited	
Natrustolls-----	40	Not rated		Not rated		Not rated	
Ka: Kaski-----	100	Somewhat limited Flooding	0.60	Very limited Flooding	1.00	Somewhat limited Flooding	0.60
Kb: Kingman-----	100	Very limited Depth to saturated zone Flooding Runoff limitation Restricted permeability	1.00 0.60 0.40 0.30	Very limited Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Depth to saturated zone Flooding Restricted permeability	1.00 0.60 0.22
La: Lincoln-----	100	Very limited Filtering capacity Droughty Flooding Leaching limitation	1.00 0.96 0.60 0.45	Very limited Flooding Filtering capacity Droughty	1.00 1.00 0.96	Very limited Filtering capacity Droughty Flooding	1.00 0.96 0.60
Ma: McLain-----	100	Very limited Restricted permeability	1.00	Very limited Restricted permeability Flooding	1.00 0.40	Very limited Restricted permeability	1.00
Na: Nashville-----	100	Somewhat limited Depth to bedrock	0.65	Somewhat limited Depth to bedrock	0.65	Somewhat limited Depth to bedrock	0.65
Nb: Nashville-----	60	Somewhat limited Depth to bedrock Slope	0.65 0.04	Somewhat limited Depth to bedrock Slope	0.65 0.04	Very limited Too steep for surface application Depth to bedrock Too steep for sprinkler application	1.00 0.65 0.22
Quinlan-----	40	Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.16	Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.16	Very limited Depth to bedrock Droughty Too steep for surface application	1.00 1.00 1.00

AGRICULTURAL WASTE MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Oa: Owens-----	100					Too steep for sprinkler application	0.39
		Very limited		Very limited		Very limited	
		Restricted	1.00	Droughty	1.00	Droughty	1.00
		permeability		Restricted		Restricted	
Pa: Pond Creek-----	100	Depth to bedrock	1.00	permeability	1.00	Depth to bedrock	1.00
		Droughty	1.00	Depth to bedrock	1.00	Too steep for surface application	1.00
		Runoff limitation	0.40				0.00
Pb: Pratt-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted	0.30	Restricted	0.22	Restricted	0.22
		permeability		permeability		permeability	
Pc: Pratt-----	60	Too acid	0.02	Too acid	0.07	Too acid	0.07
		Very limited		Very limited		Very limited	
		Filtering	1.00	Filtering	1.00	Filtering	1.00
		capacity		capacity		capacity	
Pd: Pratt-----	50	Leaching	0.45			Too steep for surface application	0.66
		limitation				Too steep for sprinkler application	0.00
Carwile-----	40	Very limited		Very limited		Very limited	
		Filtering	1.00	Filtering	1.00	Filtering	1.00
		capacity		capacity		capacity	
		Leaching	0.45			Too steep for surface application	0.08
Tivoli-----	50	limitation					
		Depth to		Depth to		Depth to	
		saturated zone	1.00	saturated zone	1.00	saturated zone	1.00
		Restricted	1.00	Restricted	1.00	Restricted	1.00
Qa: Quinlan-----	100	permeability		permeability		permeability	
		Runoff limitation	0.40	Too acid	0.07	Too acid	0.07
		Too acid	0.02				
Qb: Quinlan-----	100	Very limited		Very limited		Very limited	
		Filtering	1.00	Filtering	1.00	Filtering	1.00
		capacity		capacity		capacity	
		Leaching	0.45			Too steep for surface application	1.00
Ra: Renfrow-----	100	limitation	0.04	Slope	0.04	Too steep for sprinkler application	0.22
		Slope	0.04				
Qa: Quinlan-----	100	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Droughty	1.00	Droughty	1.00
Qb: Quinlan-----	100	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Droughty	1.00	Droughty	1.00	Droughty	1.00
Ra: Renfrow-----	100	Very limited		Very limited		Very limited	
		Restricted	1.00	Restricted	1.00	Restricted	1.00
		permeability		permeability		permeability	

AGRICULTURAL WASTE MANAGEMENT--Continued
Kingman County, Kansas

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Map symbol and soil name	Pct of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rb: Ruella-----	100	Runoff limitation Very limited Depth to bedrock Droughty	0.40 1.00 1.00	Very limited Droughty Depth to bedrock	1.00 1.00	Very limited Droughty Depth to bedrock Too steep for surface application	1.00 1.00 0.00
Rc: Ruella-----	60	Very limited Depth to bedrock Droughty	1.00 1.00	Very limited Droughty Depth to bedrock	1.00 1.00	Very limited Droughty Depth to bedrock Too steep for surface application	1.00 1.00 0.31
Rock Outcrop-----	40	Not rated		Not rated		Not rated	
Sa: Shellabarger-----	100	Very limited Filtering capacity Too acid	1.00 0.11	Very limited Filtering capacity Too acid	1.00 0.42	Very limited Filtering capacity Too acid	1.00 0.42
Sb: Shellabarger-----	100	Somewhat limited Too acid	0.11	Somewhat limited Too acid	0.42	Somewhat limited Too acid	0.42
Sc: Shellabarger-----	100	Somewhat limited Too acid	0.11	Somewhat limited Too acid	0.42	Somewhat limited Too acid Too steep for surface application	0.42 0.31
Sd: Shellabarger-----	100	Somewhat limited Too acid	0.11	Somewhat limited Too acid	0.42	Somewhat limited Too acid Too steep for surface application	0.42 0.31
Ta: Tivoli-----	100	Very limited Slope Filtering capacity Droughty Leaching limitation	1.00 1.00 1.00 0.45	Very limited Slope Filtering capacity Droughty	1.00 1.00 1.00	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity Droughty	1.00 1.00 1.00 1.00
W: Water-----	100	Not rated		Not rated		Not rated	
Wa: Waldeck-----	100	Very limited Filtering capacity Flooding Depth to saturated zone	1.00 0.60 0.43	Very limited Flooding Filtering capacity Depth to saturated zone	1.00 1.00 0.43	Very limited Filtering capacity Flooding Depth to saturated zone	1.00 0.60 0.43
Za: Zenda-----	100	Somewhat limited Flooding Depth to saturated zone	0.60 0.43	Very limited Flooding Depth to saturated zone	1.00 0.43	Somewhat limited Flooding Depth to saturated zone	0.60 0.43

WIN-PST SPISP II
SOIL SENSITIVITY TO PESTICIDE LOSS RATING REPORT

Soils Data Table: SOIL_KS Sort Order: MUSYM

Kingman County, Kansas: KS095

							SPISP II Ratings		
							Leaching	Solution	Adsorbed
MUSYM/SEQ#	COMPONENT/TEXTURE/MU%	HYD	KFACT	SURFACE DEPTH	% OM	(SLP)	Runoff (SSRP)	Runoff (SARP)	
007AE 1	ALBION SL 55%	B	0.20	8"	1.5%	H	I	I	
007AE 2	SHELLABARGER SL 45%	B	0.20	14"	1.5%	I	I	I	
007FA 1	FARNUM FSL 100%	B	0.20	9"	1.5%	H	I	I	
077KA 1	KANZA LFS 100%	D	0.17	8"	2.0%	H (w)	H	H	
077KR 1	KIRKLAND CL 70%	D	0.43	12"	2.0%	V	H	H	
077KR 2	RENFROW CL 30%	D	0.43	9"	2.0%	V	H	H	
077NN 1	NASHVILLE SIL 100%	B	0.32	7"	3.0%	I	I	I	
077PC 1	POND CREEK SIL 100%	B	0.37	13"	2.0%	I	I	I	
077RC 1	RENFROW CL 65%	D	0.43	9"	2.0%	V	H	H	
077RC 2	VERNON CL 35%	D	0.37	7"	1.3%	V	H	H	
077SB 1	SHELLABARGER FSL 100%	B	0.20	13"	1.5%	I	I	I	
077SE 1	SHELLABARGER FSL 100%	B	0.20	13"	1.5%	I	I	I	
077SF 1	SHELLABARGER FSL 100%	B	0.20	13"	1.5%	I	I	I	
077SG 1	SHELLABARGER FSL 100%	B	0.20	13"	1.5%	I	I	I	
077SH 1	SHELLABARGER FSL 100%	B	0.24	13"	2.0%	I	I	I	
1004 1	ALBION SL 90%	B	0.20	9"	1.5%	H	I	I	
1005 1	ALBION SL 75%	B	0.20	9"	1.5%	H	I	I	
1006 1	ALBION SL 100%	B	0.20	9"	1.5%	H	I	I	
1017 1	ALBION SL 45%	B	0.20	9"	1.5%	H	I	I	
1017 2	SHELLABARGER SL 40%	B	0.20	5"	0.8%	H	I	I	
1359 1	CLARK L 70%	B	0.28	11"	1.5%	I	I	I	
1359 2	OST L 30%	B	0.28	8"	2.0%	I	I	I	
151AO 1	ALBION SL 100%	B	0.20	8"	1.5%	H	I	I	
151CN 1	CLARK FSL 100%	B	0.20	8"	1.5%	H	I	I	
151CO 1	CLARK CL 70%	B	0.28	8"	1.5%	I	I	I	
151CO 2	OST CL 30%	B	0.32	9"	2.0%	I	I	I	
151KP 1	KANZA LFS 50%	D	0.17	11"	2.0%	H (w)	H	H	
151KP 2	PLEVNA FSL 50%	D	0.20	10"	2.5%	H (w)	H	H	

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151ND 1	NARON FSL 100%	B	0.20	8"	2.0% I	I	I
151NF 1	NARON FSL 100%	B	0.20	8"	2.0% I	I	I
151OC 1	OST CL 100%	B	0.32	9"	2.0% I	I	I
151OS 1	OST CL 100%	B	0.32	9"	2.0% I	I	I
151PN 1	PRATT LFS 100%	A	0.17	10"	0.8% H	L	L
151SE 1	SHELLABARGER FSL 100%	B	0.20	11"	1.5% I	I	I
151ZS 1	DRUMMOND CL 50%	D	0.49	8"	0.8% H (w)	H	H
151ZS 2	ZENDA CL 50%	C	0.28	14"	2.0% H (w)	H	H
1555 1	DILLHUT FS 35%	B	0.15	4"	0.5% H	I	I
1555 2	PLEV LFS 35%	B	0.17	4"	0.5% H (w)	I	I
1728 1	FARNUM L 40%	B	0.28	5"	2.0% I	I	I
1728 2	FUNMAR L 40%	C	0.28	6"	2.0% L	H	H
173MA 1	MILAN L 100%	B	0.28	11"	2.0% I	I	I
173PB 1	PLEVNA FSL 100%	D	0.20	9"	2.5% H (w)	H	H
173RA 1	RENFROW SICL 100%	D	0.43	9"	2.0% V	H	H
173RC 1	RENFROW CL 65%	D	0.43	9"	2.0% V	H	H
173RC 2	WELLSFORD CL 35%	D	0.32	7"	1.3% V	H	H
173TA 1	TABLER SICL 100%	D	0.43	9"	2.0% V	H	H
191RA 1	RENFROW CL 70%	D	0.43	9"	2.0% V	H	H
191RA 2	GRAINOLA SIL 30%	D	0.43	8"	0.8% V	H	H
2205 1	JAMASH CL 60%	D	0.37	4"	2.0% V	H	H
2205 2	PIEDMONT CL 40%	D	0.37	4"	2.0% V	H	H
2390 1	KASKAN L 85%	B	0.28	7"	3.0% I	I	I
2556 1	LANGDON FS 50%	A	0.15	8"	0.5% H	L	L
2812 1	MAHONE LFS 95%	C	0.17	8"	0.4% I	H	I
2948 1	NALIM L 80%	B	0.28	6"	2.0% I	I	I
3051 1	OST L 90%	B	0.28	8"	2.0% I	I	I
3052 1	OST L 55%	B	0.28	8"	2.0% I	I	I
3052 2	CLARK L 45%	B	0.28	11"	1.5% I	I	I
3181 1	PRATT FS 45%	A	0.15	8"	0.8% H	L	L

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3181 2	TURON FS 30%	A	0.15	8"	0.5% H	L	L
3445 1	SHELLABARGER SL 100%	B	0.20	6"	0.7% H	I	I
3534 1	SHELLABARGER SL 85%	B	0.20	7"	1.5% H	I	I
3535 1	SHELLABARGER SL 55%	B	0.20	7"	1.5% H	I	I
3535 2	NALIM L 45%	B	0.28	6"	2.0% I	I	I
3966 1	WILLOWBROOK FSL 90%	B	0.20	4"	1.5% H (w)	I	I
4005 1	YAGGY FSL 60%	C	0.20	5"	0.8% H (w)	H	I
4005 2	SAXMAN LS 30%	A	0.20	4"	0.7% H (w)	L	L
990 1	ABBYVILLE L 95%	C	0.43	8"	2.0% H (w)	H	H
Aa 1	ALBION SL 100%	B	0.20	8"	1.5% H	I	I
Ab 1	ALBION SL 100%	B	0.20	8"	1.5% H	I	I
Ac 1	ALBION SL 100%	B	0.20	8"	1.5% H	I	I
Ad 1	ALBION SL 100%	B	0.20	8"	1.5% H	I	I
AED 1	ARENTS, EARTHEN DAM 100%		0.00	0"	0.0% ?	?	?
Ba 1	BLANKET SIL 100%	C	0.37	18"	2.0% L	H	H
Bb 1	BLANKET SIL 100%	C	0.37	18"	2.0% L	H	H
Bc 1	BLANKET SICL 100%	C	0.37	5"	2.0% L	H	H
Ca 1	CANADIAN FSL 100%	B	0.20	16"	2.0% I	I	I
Cb 1	CARWILE FSL 100%	D	0.24	10"	2.0% H (w)	H	H
Cc 1	CASE CL 60%	B	0.32	8"	1.3% I	I	I
Cc 2	CLARK CL 40%	B	0.28	11"	1.5% I	I	I
Cd 1	CASE CL 60%	B	0.32	8"	1.3% I	I	I
Cd 2	CLARK CL 40%	B	0.28	11"	1.5% I	I	I
Ce 1	CLARK CL 100%	B	0.28	11"	1.5% I	I	I
Cf 1	CLARK CL 100%	B	0.28	11"	1.5% I	I	I
Da 1	DILLWYN LFS 60%	A	0.17	8"	1.0% H (w)	L	L
Da 2	PLEVNA FSL 40%	D	0.20	11"	2.5% H (w)	H	H
Fa 1	FARNUM SL 100%	B	0.20	16"	1.5% I	I	I
Fb 1	FARNUM L 100%	B	0.28	13"	2.0% I	I	I
Fc 1	FARNUM L 100%	B	0.28	13"	2.0% I	I	I

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Fd 1	FARNUM L 100%	B	0.28	13"	2.0% I	I	I
Fe 1	FARNUM CL 100%	B	0.28	8"	2.0% I	I	I
Ff 1	FARNUM L 60%	B	0.28	13"	2.0% I	I	I
Ff 2	NATRUSTOLLS 40%		0.00	0"	0.0% ?	?	?
Ka 1	KASKI L 100%	B	0.28	28"	2.0% L	I	I
Kb 1	KINGMAN SICL 100%	D	0.32	18"	3.0% H (w)	H	H
La 1	LINCOLN LFS 100%	A	0.17	10"	0.5% H	L	L
Ma 1	MCLAIN SIL 100%	C	0.43	14"	2.0% L	H	H
Na 1	NASHVILLE SIL 100%	B	0.32	28"	3.0% L	I	I
Nb 1	NASHVILLE SIL 60%	B	0.32	28"	3.0% L	I	I
Nb 2	QUINLAN L 40%	C	0.37	13"	0.5% L	H	H
Oa 1	OWENS CL 100%	D	0.32	6"	1.3% V	H	H
Pa 1	POND CREEK SIL 100%	B	0.37	10"	2.0% I	I	I
Pb 1	PRATT LFS 100%	A	0.17	12"	0.8% H	L	L
Pc 1	PRATT LFS 60%	A	0.17	12"	0.8% H	L	L
Pc 2	CARWILE FSL 40%	D	0.24	10"	2.0% H (w)	H	H
Pd 1	PRATT LFS 50%	A	0.17	12"	0.8% H	L	L
Pd 2	TIVOLI LFS 50%	A	0.17	8"	0.5% H	L	L
Qa 1	QUINLAN L 100%	C	0.37	13"	0.5% L	H	H
Qb 1	QUINLAN L 100%	C	0.37	13"	0.5% L	H	H
Ra 1	RENFROW CL 100%	D	0.43	8"	2.0% V	H	H
Rb 1	RUELLA CL 100%	B	0.32	10"	1.5% I	I	I
Rc 1	RUELLA CL 60%	B	0.32	10"	1.5% I	I	I
Rc 2	ROCK OUTCROP 40%	D	0.00	0"	0.0% V	H	I (s)
Sa 1	SHELLABARGER LS 100%	B	0.20	12"	1.5% I	I	I
Sb 1	SHELLABARGER SL 100%	B	0.20	10"	1.5% H	I	I
Sc 1	SHELLABARGER SL 100%	B	0.20	10"	1.5% H	I	I
Sd 1	SHELLABARGER SL 100%	B	0.20	10"	1.5% H	I	I
Ta 1	TIVOLI FS 100%	A	0.17	7"	0.5% H	L	I (s)
W 1	WATER 100%		0.00	0"	0.0% ?	?	?

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Wa 1	WALDECK FSL 100%	C	0.20	12"	1.5% H (w)	H	I
Za 1	ZENDA CL 100%	C	0.28	13"	2.0% H (w)	H	H

(.\REPORTS\SOILS.TXT generated on 12/12/01 at 12:11:15)

H -- High
I -- Intermediate
L -- Low
V -- Very Low

Conditions that affect ratings:

m -- There are macropores in the surface horizon deeper than 24"
w -- The high water table comes within 24" of the surface during the growing season
s -- The field slope is greater than 15%

SPISP II S-Ratings:

SLP -- Soil Leaching Potential
SSRP -- Soil Solution Runoff Potential
SARP -- Soil Adsorbed Runoff Potential

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed. The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (USDA, 1999) and "Keys to Soil Taxonomy" (USDA, 1998) and in the "Soil Survey Manual" (USDA, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 1996).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units in the Hydric Soil Interpretations table meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1996).

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

These map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

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HYDRIC SOILS LIST
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All mapunits are displayed regardless of hydric status and are listed in alpha-numeric order by mapunit symbol. The "Hydric Soils Criteria" columns indicate the conditions that caused the mapunit component to be classified as "Hydric" or "Non-Hydric". These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, June, 1991). See the "Criteria for Hydric Soils" endnote to determine the meaning of these columns. Spot symbols are footnoted at the end of the table.

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
007AE: ALBION AND SHELLABARGER SOILS, 4 TO 15 PERCENT SLOPES	ALBION	No	paleoterrace	---	---	---	---
	SHELLABARGER Unnamed wet soils	No Yes	paleoterrace drainageway	2A, 2B3	YES	NO	NO
007FA: FARNUM FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES	FARNUM	No	paleoterrace	---	---	---	---
	Unnamed wet soils	Yes	depression	2B3, 3, 2A	YES	NO	YES
077KA: KANZA LOAMY FINE SAND, FREQUENTLY FLOODED	KANZA	Yes	flood plain	2B3	YES	NO	NO
	Unnamed wet soils	Yes	drainageway	2B3, 2A	YES	NO	NO
077KR: KIRKLAND-RENFROW CLAY LOAMS, 1 TO 3 PERCENT SLOPES	KIRKLAND	No	hillslope	---	---	---	---
	RENFROW	No	hillslope	---	---	---	---
077NN: NASHVILLE SILT LOAM, 3 TO 6 PERCENT SLOPES, ERODED	NASHVILLE	No	hillslope	---	---	---	---
077PC: POND CREEK SILT LOAM, 0 TO 1 PERCENT SLOPES	POND CREEK	No	terrace	---	---	---	---
077RC: RENFROW-VERNON CLAY LOAMS, 1 TO 3 PERCENT SLOPES	RENFROW	No	hillslope	---	---	---	---
	VERNON	No	hillslope	---	---	---	---
077SB: SHELLABARGER FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
077SE: SHELLABARGER FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
077SF: SHELLABARGER FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
	Unnamed wet soils	Yes	drainageway	2A, 2B3, 2B2	YES	NO	NO
077SG: SHELLABARGER FINE SANDY LOAM, 3 TO 6 PERCENT SLOPES, ERODED	SHELLABARGER	No	paleoterrace	---	---	---	---
	Unnamed wet soils	Yes	drainageway	2B3, 2A, 2B2	YES	NO	NO
077SH: STONEBURG FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
151AO: ALBION SANDY LOAM, 3 TO 7 PERCENT SLOPES, ERODED	ALBION	No	paleoterrace	---	---	---	---
151CN: CLARK FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	CLARK	No	paleoterrace	---	---	---	---
151CO: CLARK-OST CLAY LOAMS, 0 TO 1 PERCENT SLOPES	CLARK	No	paleoterrace	---	---	---	---
	OST	No	paleoterrace	---	---	---	---
151KP: KANZA-PLEVNA COMPLEX, FREQUENTLY FLOODED	KANZA	Yes	flood plain	2B3	YES	NO	NO
	PLEVNA	Yes	flood plain	2B3, 4	YES	YES	NO
151ND: NARON FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES	NARON	No	dune, paleoterrace	---	---	---	---

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
151NF: NARON FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES	NARON	No	dune,	---	---	---	---
	CARWILE	Yes	paleoterrace depression,	2A	YES	NO	NO
	Unnamed wet soils	Yes	paleoterrace depression	2B3,3	YES	NO	YES
151OC: OST CLAY LOAM, 0 TO 1 PERCENT SLOPES	OST	No	paleoterrace	---	---	---	---
151OS: OST CLAY LOAM, 1 TO 4 PERCENT SLOPES	OST	No	paleoterrace	---	---	---	---
	Unnamed wet soils	Yes	depression	3,2A,2B3,4	YES	YES	YES
151PN: PRATT LOAMY FINE SAND, 5 TO 10 PERCENT SLOPES	PRATT	No	dune, paleoterrace	---	---	---	---
151SE: SHELLABARGER FINE SANDY LOAM, 1 TO 4 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
	Unnamed wet soils	Yes	drainageway	2B3,2A	YES	NO	NO
151ZS: ZENDA-DRUMMOND COMPLEX, OCCASIONALLY FLOODED	DRUMMOND	No	terrace	---	---	---	---
	ZENDA	No	dune, paleoterrace	---	---	---	---
	Unnamed wet soils	Yes	depression	3,2A,2B3	YES	NO	YES
173MA: MILAN LOAM, 1 TO 3 PERCENT SLOPES	MILAN	No	paleoterrace	---	---	---	---
173PB: PLEVNA FINE SANDY LOAM, FREQUENTLY FLOODED	PLEVNA	Yes	flood plain	2B3,4	YES	YES	NO
	Unnamed wet soils	Yes	depression	2B3,3,2A	YES	NO	YES
173RA: RENFROW SILTY CLAY LOAM, 1 TO 3 PERCENT SLOPES	RENFROW	No	hillslope	---	---	---	---
173RC: RENFROW-WELLSFORD CLAY LOAMS, 1 TO 4 PERCENT SLOPES	RENFROW	No	hillslope	---	---	---	---
	WELLSFORD	No	pediment	---	---	---	---
173TA: TABLER SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES	TABLER	No	paleoterrace	---	---	---	---
	Unnamed wet soils	Yes	drainageway	4,2B3,2A,3	YES	YES	YES
191RA: RENFROW-GRAINOLA COMPLEX, 1 TO 3 PERCENT SLOPES	RENFROW	No	hillslope	---	---	---	---
	GRAINOLA	No	hillslope	---	---	---	---
990: ABBYVILLE LOAM, 0 TO 1 PERCENT SLOPE	ABBYVILLE	No	terrace	---	---	---	---
	KISIWA	Yes	terrace, flood plain	2B3,3	YES	NO	YES
991: ABBYVILLE-KISIWA COMPLEX, 0 TO 2 PERCENT SLOPES, FLOODED	ABBYVILLE	No	terrace	---	---	---	---
	KISIWA	Yes	terrace, flood plain	2B3	YES	NO	NO
	SAXMAN	No	flood plain	---	---	---	---
	DARLOW	No	terrace	---	---	---	---
1004: ALBION SANDY LOAM, 0 TO 1 PERCENT SLOPES	ALBION	No	paleoterrace	---	---	---	---
	SHELLABARGER	No	paleoterrace	---	---	---	---

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All mapunits are displayed regardless of hydric status and are listed in alpha-numeric order by mapunit symbol. The "Hydric Soils Criteria" columns indicate the conditions that caused the mapunit component to be classified as "Hydric" or "Non-Hydric". These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, June, 1991). See the "Criteria for Hydric Soils" endnote to determine the meaning of these columns. Spot symbols are footnoted at the end of the table.

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
1005: ALBION SANDY LOAM, 1 TO 3 PERCENT SLOPES	ALBION	No	paleoterrace	---	---	---	---
	SHELLABARGER Unnamed Wet Soils	No Yes	paleoterrace drainageway	2A, 2B1, 2B2, 2B3	YES	NO	NO
1006: ALBION SANDY LOAM, 3 TO 7 PERCENT SLOPES, ERODED	ALBION	No	paleoterrace	---	---	---	---
1011: ALBION-SHELLABARGER SANDY LOAMS, 1 TO 3 PERCENT SLOPES	ALBION	No	paleoterrace	---	---	---	---
	SHELLABARGER Unnamed Wet Soils	No Yes	paleoterrace drainageway	2A, 2B1, 2B2, 2B3	YES	NO	NO
1017: ALBION AND SHELLABARGER SANDY LOAMS, 7 TO 15 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
	ALBION CLARK Unnamed Wet Soils	No No Yes	paleoterrace paleoterrace drainageway	2A, 2B1, 2B3, 2B2	YES	NO	NO
1061: ARENTS, EARTHEN DAM	ARENTS, EARTHEN DAM	Unranked	---	---	---	---	---
1359: CLARK-OST LOAMS, 3 TO 7 PERCENT SLOPES	CLARK	No	paleoterrace	---	---	---	---
	OST Unnamed Wet Soils	No Yes	paleoterrace drainageway	2A, 2B1, 2B3, 2B2	YES	NO	NO
1555: DILLHUT-PLEV COMPLEX, 0 TO 2 PERCENT SLOPES	DILLHUT	No	dune, paleoterrace	---	---	---	---
	PLEV	Yes	depression, interdune, paleoterrace	2B2	YES	NO	NO
	DILLWYN	No	interdune, dune, paleoterrace	---	---	---	---
	WARNUT	Yes	interdune, depression, paleoterrace	3, 2B3	YES	NO	YES
1728: FUNMAR AND FARNUM LOAMS, 3 TO 6 PERCENT SLOPES	FARNUM	No	paleoterrace	---	---	---	---
	FUNMAR	No	paleoterrace	---	---	---	---
	NARON	No	dune, paleoterrace	---	---	---	---
	CARBIKA	Yes	depression, interdune, paleoterrace	2B3, 3	YES	NO	YES
	CARWAY	Yes	depression, interdune, paleoterrace	3, 2B3	YES	NO	YES
2205: JAMASH-PIEDMONT CLAY LOAMS, 1 TO 3 PERCENT SLOPES	JAMASH	No	pediment	---	---	---	---
	PIEDMONT Unnamed Wet Soils	No Yes	pediment drainageway	2B3, 4	YES	YES	NO
2381: KANZA-NINNESCAH SANDY LOAMS, 0 TO 2 PERCENT SLOPES, COMMONLY FLOODED	KANZA	Yes	flood plain	2B3	YES	NO	NO
	NINNESCAH	Yes	flood plain	2B3	YES	NO	NO
2390: KASKAN LOAM, 0 TO 1 PERCENT, RARELY FLOODED	KASKAN	No	flood plain	---	---	---	---
	TOBIN	No	flood plain	---	---	---	---

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
2556: LANGDON FINE SAND, 0 TO 15 PERCENT SLOPES	LANGDON	No	dune,	---	---	---	---
	TIVIN	No	paleoterrace dune,	---	---	---	---
	TURON	No	paleoterrace dune,	---	---	---	---
	CARWAY	Yes	paleoterrace depression, interdune,	2B3,3	YES	NO	YES
	WARNUT	Yes	paleoterrace interdune, depression, paleoterrace	2B3,3	YES	NO	YES
2812: MAHONE LOAMY FINE SAND, 0 TO 2 PERCENT SLOPES, RARELY FLOODED	MAHONE	No	flood plain	---	---	---	---
	YAGGY	No	flood plain	---	---	---	---
2948: NALIM LOAM, 0 TO 1 PERCENT SLOPES	NALIM	No	paleoterrace	---	---	---	---
	FARNUM Unnamed Wet Soils	No	paleoterrace depression	---	---	---	---
		Yes		2B3,3	YES	NO	YES
3051: OST LOAM, 0 TO 1 PERCENT SLOPES	OST	No	paleoterrace	---	---	---	---
	CLARK Unnamed Wet Soils	No	paleoterrace depression	---	---	---	---
		Yes		2A,2B3,3	YES	NO	YES
3052: OST-CLARK LOAMS, 1 TO 3 PERCENT SLOPES	OST	No	paleoterrace	---	---	---	---
	CLARK Unnamed Wet Soils	No	paleoterrace drainageway	---	---	---	---
		Yes		2A,2B1,2B2	YES	NO	NO
3170: PENALOSA SILT LOAM, 0 TO 1 PERCENT SLOPES	PENALOSA	No	paleoterrace	---	---	---	---
	CARBIKA	Yes	depression, interdune, paleoterrace	2B3,3	YES	NO	YES
3171: PENALOSA SILT LOAM, 1 TO 3 PERCENT SLOPES	PENALOSA	No	paleoterrace	---	---	---	---
	Unnamed Wet Soils	Yes	drainageway	2B3,3	YES	NO	YES
3180: PRATT FINE SAND, 5 TO 10 PERCENT SLOPES	PRATT	No	dune,	---	---	---	---
	ATTICA	No	paleoterrace dune,	---	---	---	---
3181: PRATT-TURON FINE SAND, 1 TO 5 PERCENT SLOPES	PRATT	No	paleoterrace dune,	---	---	---	---
	TURON	No	paleoterrace dune,	---	---	---	---
	HAYES	No	paleoterrace dune,	---	---	---	---
	CARWAY	Yes	paleoterrace depression, interdune,	3,2B3	YES	NO	YES
	WARNUT	Yes	paleoterrace interdune, depression, paleoterrace	3,2B3	YES	NO	YES
3445: SHELLABARGER SANDY LOAM, 3 TO 7 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
3510: SALT-CREEK-FUNMAR-FARNUM COMPLEX, 1 TO 3 PERCENT SLOPES	SALT-CREEK	No	dune,	---	---	---	---
	FUNMAR	No	paleoterrace	---	---	---	---
	FARNUM	No	paleoterrace	---	---	---	---
	CARBIKA	Yes	depression, interdune, paleoterrace	2B3,3	YES	NO	YES
	CARWAY	Yes	depression, interdune, paleoterrace	3,2B3	YES	NO	YES

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
3530: SHELLABARGER, ERODED AND ALBION SOILS, 7 TO 15 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
	ALBION	No	paleoterrace	---	---	---	---
	CLARK	No	paleoterrace	---	---	---	---
	Unnamed Wet Soils	Yes	drainageway	2A, 2B1, 2B3, 2B2	YES	NO	NO
3531: SHELLABARGER AND NALIM SOILS, 3 TO 7 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
	NALIM	No	paleoterrace	---	---	---	---
3532: SHELLABARGER LOAMY SAND, 0 TO 3 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
	ALBION	No	paleoterrace	---	---	---	---
3533: SHELLABARGER SANDY LOAM, 0 TO 1 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
	NALIM	No	paleoterrace	---	---	---	---
	Unnamed Wet Soils	Yes	depression	2A, 2B3, 3	YES	NO	YES
3534: SHELLABARGER SANDY LOAM, 1 TO 3 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
	ALBION	No	paleoterrace	---	---	---	---
	Unnamed Wet Soils	Yes	drainageway	2A, 2B3	YES	NO	NO
3535: SHELLABARGER-NALIM COMPLEX, 1 TO 3 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
	NALIM	No	paleoterrace	---	---	---	---
	Unnamed Wet Soils	Yes	depression, drainageway	2A, 3, 2B3, 4	YES	YES	YES
3926: WATER	WATER	Yes	---	4, 3	NO	YES	YES
3966: WILLOWBROOK FINE SANDY LOAM, 0 TO 1 PERCENT SLOPE, OCCASIONALLY FLOODED	WILLOWBROOK	No	flood plain	---	---	---	---
	NICKERSON	No	terrace	---	---	---	---
	KANZA	Yes	flood plain	2B3	YES	NO	NO
	NINNESCAH	Yes	flood plain	2B3	YES	NO	NO
4005: YAGGY-SAXMAN COMPLEX, 0 TO 2 PERCENT SLOPES, OCCASIONALLY FLOODED	YAGGY	No	flood plain	---	---	---	---
	SAXMAN	No	flood plain	---	---	---	---
	SOLVAY	No	interdune, paleoterrace	---	---	---	---
	KANZA	Yes	flood plain	2B3	YES	NO	NO
	NINNESCAH	Yes	flood plain	2B3	YES	NO	NO
4110: ZELLMONT AND POXMASH SANDY LOAMS, 0 TO 3 PERCENT SLOPES	ZELLMONT	No	strath terrace	---	---	---	---
	POXMASH	No	strath terrace	---	---	---	---
	Unnamed Wet Soils	Yes	drainageway	2A, 2B1, 2B2, 2B3	YES	NO	NO
Aa: ALBION SANDY LOAM, 0 TO 1 PERCENT SLOPES	ALBION	No	paleoterrace	---	---	---	---
Ab: ALBION SANDY LOAM, 1 TO 3 PERCENT SLOPES	ALBION	No	paleoterrace	---	---	---	---
Ac: ALBION SANDY LOAM, 3 TO 6 PERCENT SLOPES	ALBION	No	paleoterrace	---	---	---	---
Ad: ALBION SANDY LOAM, 6 TO 15 PERCENT SLOPES	ALBION	No	paleoterrace	---	---	---	---
	Unnamed wet soils	Yes	depression	2B3, 2B2, 2A, 4	YES	YES	NO
AED: ARENTS, EARTHEN DAM	ARENTS, EARTHEN DAM	---	---	---	---	---	---

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
Ba: BLANKET SILT LOAM, 0 TO 1 PERCENT SLOPES	BLANKET	No	paleoterrace	---	---	---	---
	Unnamed wet soils	Yes	depression	2A,3,2B3	YES	NO	YES
Bb: BLANKET SILT LOAM, 1 TO 3 PERCENT SLOPES	BLANKET	No	paleoterrace	---	---	---	---
Bc: BLANKET SILTY CLAY LOAM, 1 TO 4 PERCENT SLOPES, ERODED	BLANKET	No	paleoterrace	---	---	---	---
Ca: CANADIAN FINE SANDY LOAM, RARELY FLOODED	CANADIAN	No	flood plain	---	---	---	---
Cb: CARWILE FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES	CARWILE	Yes	depression, paleoterrace	2A	YES	NO	NO
	Unnamed wet soils	Yes	depression	2B3,2A,3	YES	NO	YES
Cc: CASE-CLARK CLAY LOAMS, 2 TO 6 PERCENT SLOPES	CASE	No	paleoterrace	---	---	---	---
	CLARK	No	paleoterrace	---	---	---	---
Cd: CASE-CLARK CLAY LOAMS, 6 TO 15 PERCENT SLOPES	CASE	No	paleoterrace	---	---	---	---
	CLARK	No	paleoterrace	---	---	---	---
Ce: CLARK CLAY LOAM, 0 TO 1 PERCENT SLOPES	CLARK	No	paleoterrace	---	---	---	---
Cf: CLARK CLAY LOAM, 1 TO 4 PERCENT SLOPES	CLARK	No	paleoterrace	---	---	---	---
Da: DILLWYN-PLEVNA COMPLEX, OCCASIONALLY FLOODED	DILLWYN	No	interdune, dune, paleoterrace	---	---	---	---
	PLEVNA Unnamed wet soils	Yes Yes	flood plain depression	2B3,4 3,2A,2B3	YES YES	YES NO	NO YES
Fa: FARNUM SANDY LOAM, 0 TO 2 PERCENT SLOPES	FARNUM	No	paleoterrace	---	---	---	---
	CARWILE	Yes	depression, paleoterrace	2A	YES	NO	NO
	Unnamed wet soils	Yes	depression	2B3,2A,3	YES	NO	YES
Fb: FARNUM LOAM, 0 TO 1 PERCENT SLOPES	FARNUM	No	paleoterrace	---	---	---	---
	CARWILE	Yes	depression, paleoterrace	2A	YES	NO	NO
	Unnamed wet soils	Yes	depression	2A,3,2B3	YES	NO	YES
Fc: FARNUM LOAM, 1 TO 3 PERCENT SLOPES	FARNUM	No	paleoterrace	---	---	---	---
Fd: FARNUM LOAM, 3 TO 6 PERCENT SLOPES	FARNUM	No	paleoterrace	---	---	---	---
Fe: FARNUM CLAY LOAM, 2 TO 6 PERCENT SLOPES, ERODED	FARNUM	No	paleoterrace	---	---	---	---
Ff: FARNUM-NATRUSTOLLS COMPLEX, 0 TO 1 PERCENT SLOPES	FARNUM	No	paleoterrace	---	---	---	---
	NATRUSTOLLS Unnamed wet soils	No Yes	--- depression	--- 2A,3,2B3	--- YES	--- NO	--- YES
Ka: KASKI LOAM, OCCASIONALLY FLOODED	KASKI	No	flood plain	---	---	---	---
	Unnamed wet soils	Yes	depression	2A,2B3	YES	NO	NO
Kb: KINGMAN SILTY CLAY LOAM, OCCASIONALLY FLOODED	KINGMAN	Yes	flood plain	2B3	YES	NO	NO

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
La: LINCOLN LOAMY SAND, OCCASIONALLY FLOODED	LINCOLN	No	flood plain	---	---	---	---
	Unnamed wet soils	Yes	drainageway	2A,2B3,2B2	YES	NO	NO
Ma: MCLAIN SILT LOAM, RARELY FLOODED	MCLAIN	No	flood plain	---	---	---	---
	Unnamed wet soils	Yes	depression	2B3,3,2A	YES	NO	YES
Na: NASHVILLE SILT LOAM, 1 TO 3 PERCENT SLOPES	NASHVILLE	No	hillslope	---	---	---	---
Nb: NASHVILLE-QUINLAN COMPLEX, 5 TO 15 PERCENT SLOPES	NASHVILLE	No	hillslope	---	---	---	---
	QUINLAN Unnamed wet soils	No Yes	hillslope depression	---	---	---	---
Oa: WELLSFORD CLAY LOAM, 1 TO 4 PERCENT SLOPES	OWENS	No	hillslope	---	---	---	---
Pa: POND CREEK SILT LOAM, 1 TO 3 PERCENT SLOPES	POND CREEK	No	terrace	---	---	---	---
Pb: PRATT LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES	PRATT	No	dune, paleoterrace	---	---	---	---
	CARWILE	Yes	depression, paleoterrace	2A	YES	NO	NO
	Unnamed wet soils	Yes	depression	3,2A,2B3	YES	NO	YES
Pc: PRATT-CARWILE COMPLEX, 0 TO 5 PERCENT SLOPES	PRATT	No	dune, paleoterrace	---	---	---	---
	CARWILE	Yes	depression, paleoterrace	2A	YES	NO	NO
	Unnamed wet soils	Yes	depression	2A,2B3,3	YES	NO	YES
Pd: PRATT-TIVOLI LOAMY FINE SANDS, 5 TO 15 PERCENT SLOPES	PRATT	No	dune, paleoterrace	---	---	---	---
	TIVOLI	No	dune, paleoterrace	---	---	---	---
	CARWILE	Yes	depression, paleoterrace	3,2A	YES	NO	YES
	Unnamed wet soils	Yes	depression	2A,2B3,3	YES	NO	YES
Qa: QUINLAN LOAM, 1 TO 3 PERCENT SLOPES	QUINLAN	No	hillslope	---	---	---	---
Qb: QUINLAN LOAM, 3 TO 5 PERCENT SLOPES	QUINLAN	No	hillslope	---	---	---	---
	Unnamed wet soils	Yes	drainageway	2B3,2A	YES	NO	NO
Ra: RENFROW CLAY LOAM, 1 TO 3 PERCENT SLOPES	RENFROW	No	hillslope	---	---	---	---
Rb: RUELLA CLAY LOAM, 1 TO 4 PERCENT SLOPES	RUELLA	No	hillslope	---	---	---	---
Rc: RUELLA-ROCK OUTCROP COMPLEX, 3 TO 40 PERCENT SLOPES	RUELLA	No	hillslope	---	---	---	---
	ROCK OUTCROP	Unranked	---	---	---	---	---
Sa: SHELLABARGER LOAMY SAND, 0 TO 3 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
Sb: SHELLABARGER SANDY LOAM, 1 TO 3 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---
	Unnamed wet soils	Yes	depression	2B3,2A	YES	NO	NO
Sc: SHELLABARGER SANDY LOAM, 3 TO 6 PERCENT SLOPES	SHELLABARGER	No	paleoterrace	---	---	---	---

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				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
Sd: SHELLABARGER SANDY LOAM, 3 TO 6 PERCENT SLOPES, ERODED	SHELLABARGER	No	paleoterrace	---	---	---	---
	Unnamed wet soils	Yes	drainageway	2B3,2A	YES	NO	NO
Ta: TIVOLI FINE SAND, 15 TO 30 PERCENT SLOPES	TIVOLI	No	dune, paleoterrace	---	---	---	---
	PLEVNA	Yes	flood plain	2B3	YES	NO	NO
	Unnamed wet soils	Yes	depression	2B3,2B2,3,2A	YES	NO	YES
W: WATER	WATER	Unranked	---	---	---	---	---
Wa: WALDECK FINE SANDY LOAM, OCCASIONALLY FLOODED	WALDECK	No	flood plain	---	---	---	---
	PLEVNA	Yes	flood plain	2B3	YES	NO	NO
	Unnamed wet soils	Yes	depression	2A,3,4,2B3	YES	YES	YES
Za: ZENDA CLAY LOAM, OCCASIONALLY FLOODED	ZENDA	No	dune, paleoterrace	---	---	---	---
	Unnamed wet soils	Yes	depression	2A,3,2B3	YES	NO	YES

FOOTNOTE: There may be small areas of included soils or miscellaneous areas that are significant to use and management of the soil; yet are too small to delineate on the soil map at the map's original scale. These may be designated as spot symbols and are defined in the published Soil Survey Report or the USDA-NRCS Technical Guide, Part II. Areas mapped as water or any map unit that contains one of the following conventional symbols is considered a hydric soil map unit: marshes or swamps; wet spots; depressions; streams, lakes and ponds.

1. All Histosols except Folists, or
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Aquisalids, Pachic subgroups, or Cumulic subgroups that are:
 - a. Somewhat poorly drained with a water table equal to 0.0 foot (ft) from the surface during the growing season, or
 - b. poorly drained or very poorly drained and have either:
 - (1) water table equal to 0.0 ft during the growing season if textures are coarse sand, sand, or fine sand in all layers within 20 inches (in), or for other soils
 - (2) water table at less than or equal to 0.5 ft from the surface during the growing season if permeability is equal to or greater than 6.0 in/hour (h) in all layers within 20 in, or
 - (3) water table at less than or equal to 1.0 ft from the surface during the growing season if permeability is less than 6.0 in/h in any layer within 20 in, or
3. Soils that are frequently ponded for long duration or very long duration during the growing season, or
4. Soils that are frequently flooded for long duration or very long duration during the growing season.