CHARACTERISTICS OF MAPPING UNITS DOMINANT SOIL PROFILE CLASS CHARACTERISTICS

Mapping Major Characteristics of Dominant Soil

SOILS OF THE RECENT ALLUVIAL PLAINS CRACKING CLAYS WITH ALKALINE SUBSOILS Dark grey cracking clay with alkaline brown clay subsoil.

Dark cracking clay with alkaline yellow-grey clay subsoil.

Dark cracking clay with alkaline dark brown clay subsoil.

Dark and grey cracking clay with alkaline brown clay sub-

soil and with alkaline brown clay-loam to medium-clay D horizon below 70-100 cm.

Grey cracking clay with alkaline grey clay subsoil and with alkaline brown clay D horizon below 80-90 cm.

Dark cracking clay with alkaline grey clay subsoil and with alkaline brown clay-loam D horizon below 135-150 cm.

NEUTRAL DUPLEX SOIL WITH D HORIZON 1AUC-Db Deep sandy neutral brown bleached duplex soil with 70-80

> cm sandy-loam surface soil, brown clay subsoil, and alkal -ine brown sandy-clay-loam D horizon below 110-130 cm.

ALKALINE DUPLEX SOILS WITH D HORIZON Hard neutral and alkaline brown bleached duplex soil with

45 cm sandy-loam and light-sandy-clay-loam surface soil, brown clay subsoil, and alkaline D horizon below 85-95 cm.

Hard alkaline brown bleached duplex soil with 25-35 cm light-sandy-clay-loam surface soil, brown clay subsoil, and alkaline brown sandy-clay-loam D horizon below 115-140 cm.

Hard alkaline and neutral brown bleached duplex soil with 25-50 cm sandy-loam to sandy-clay-loam surface soil, brown clay subsoil, and D horizon below 60-80 cm.

30 cm fine-sandy-clay-loam surface soil, brown clay subsoil , and alkaline brown clay-loam D horizon below 80-115 cm.

Hard alkaline brown and dark bleached duplex soil with 8-

-clay-loam to clay-loam surface soil, dark clay subsoil, and alkaline brown clay-loam D horizon below 110-130 cm.

Hard alkaline dark bleached duplex soil with 15-25 cm silty -clay-loam surface soil, dark clay subsoil, and alkaline brown clay-loam D horizon below 130-140 cm.

Hard alkaline dark bleached duplex soil with 5-8 cm clayloam surface soil, dark clay subsoil, and alkaline brown clay D horizon below 70-110 cm.

Hard alkaline dark bleached duplex soil with 8-15 cm silty -clay-loam surface soil, dark clay subsoil, and alkaline brown sandy-clay-loam to clay D horizon below 60-80 cm.

1ADd-Db A compound map unit consisting of a complex association

1. Hard alkaline dark bleached duplex soil with 5-10 cm fine-sandy-clay-loam surface soil, dark clay subsoil, and alkaline brown clay D horizon below 60-120 cm. 2. Hard alkaline brown bleached duplex soil with 15-35 cm sandy-clay-loam surface soil, brown clay subsoil, and brown clay-loam D horizon at 90-150 cm.

Mapping Major Characteristics of Dominant Soil

SOILS OF THE OLDER ALLUVIAL PLAINS SLIGHTLY GILGAIED CLAYS WITH ACID SUBSOILS PREDOMINANT 2AUf-Ug-1 Slightly gilgaied clay.

> Mound is grey non-cracking clay with acid to alkaline grey clay subsoil. Depression is dark cracking clay with acid grey clay subsoil. Mounds and depressions each occupy approximately 50% of the land surface. Vertical interval usually less than 25 cm. Gypsum usually present, mound and depression.

2AUf-Ug-2 Very slightly gilgaied dark non-cracking and cracking clay with acid to neutral brown clay subsoil and acid brown clay D horizon below 100-140 cm. Vertical interval usually less than 15 cm. Gypsum usually absent.

2AUf-Ug-3 Brown non-cracking clay with acid to neutral brown clay subsoil and some dark and grey cracking clay depressions with acid brown clay subsoils. Depressions occupy 20-50% of the land surface. Vertical interval usually less than 25 cm. Gypsum usually absent.

Dark cracking clay with acid brown subsoil.

Slightly gilgaied cracking clay. Mound is dark cracking clay with alkaline dark and brown Depression is dark cracking clay with acid to neutral grey and brown clay subsoil. Mounds and depressions each occupy approximately 50% of Vertical interval usually less than 25 cm.

Slightly gilgaied clay. Mound is dark non-cracking and grey cracking clay with neutral to alkaline brown, grey and yellow clay subsoil. Depression is grey and dark cracking clay with acid grey and yellow clay subsoil. Mounds and depressions each occupy approximately 50% of Vertical interal usually less than 25 cm, may be up to 50 cm. Gypsum present in few profiles.

Dark cracking clay with acid to neutral brown clay subsoil and acid brown clay D horizon below 110-130 cm.

Slightly gilgaied grey cracking clay with alkaline grey clay Depressions occupy 40% of the land surface. Vertical interval usually less than 20 cm.

Grey cracking clay with acid to neutral yellow clay subsoil.

Very slightly gilgaied grey cracking clay with acid to alkaline grey and brown clay subsoil. Mounds occupy 20-40% of the land surface. Vertical interval usually less than 15 cm.

Slightly gilgaied cracking clay. Mound is grey and brown cracking clay with acid brown and yellow clay subsoil. Depression is grey cracking clay with acid grey and brown clay subsoil. Depressions occupy 30-40% of the land surface. Vertical interval usually less than 25 cm, sometimes up to Manganese usually present, mound and depression, below 80-130 cm.

Slightly gilgaied cracking clay. Mound is grey and brown cracking clay with acid grey and brown clay subsoil. Depression is grey cracking clay with acid grey and yellow clay subsoil. Depressions occupy 20-40% of the land surface. Vertical interval usually less than 25 cm, sometimes up to 50 cm. Manganese usually absent, mound and depression.

2AUg-10 Slightly gilgaied cracking clay with brown clay mound with acid to alkaline brown clay subsoil and grey clay depression with alkaline grey clay subsoil. Depressions occupy 30-40% of the land surface. Vertical interval usually less than 25 cm, occasionally up to 45 cm.

2AUg-11 Brown cracking silty clay with alkaline brown silty clay subsoil.

2AUg-Dd Dark cracking clay with acid brown clay subsoil.

Mapping Major Characteristics of Dominant Soil

SOILS OF THE OLDER ALLUVIAL PLAINS (cont'd) STRONGLY GILGAIED CLAYS WITH ACID SUBSOILS PREDOMINANT

2AUgg-1 Strongly gilgaied grey cracking clay. Mound has acid to neutral grey and brown clay subsoil. Depression has acid grey clay subsoil. Depressions occupy 30-40% of the land surface. Vertical interval 40 cm, wavelength 18 m. Carbonate and gypsum usually present in the mound profile, usually absent in depression profile.

Carbonate and gypsum usually absent in depression profile.

Carbonate and gypsum present in mound profile in small

quantities, usually absent in depression profile.

Strongly gilgaied grey cracking clay with acid grey clay Depressions occupy 30% of the land surface. Vertical interval 50-55 cm, wavelength 15-16 m. Carbonate and gypsum present in some mound profiles but less frequently and in lesser quantities than in 2AUgg-1

Strongly gilgaied dark and grey cracking clay. Mound has acid to neutral grey clay subsoil. Depression has acid to alkaline grey clay subsoil. Depressions occupy 10-25% of the land surface. Vertical interval 45-60 cm, wavelength 13-24 m.

mound profiles.

2AUgg-4 Strongly gilgaled grey cracking clay. Mound has neutral grey clay subsoil. Depression has alkaline grey clay subsoil. Depressions occupy 60-70% of the land surface. Vertical interval 30-75 cm.

D horizon below 110-120 cm.

ALKALINE DUPLEX SOILS 2ADb-1 Hard alkaline brown bleached duplex soil with 10 cm light -sandy-clay-loam to clay-loam surface soil, brown clay subsoil, and strongly alkaline grey and brown sand to clay

2ADb-2 Hard alkaline brown bleached duplex soil with 5-8 cm clay to moderately alkaline brown clayey coarse sand to clay D horizon below 85-125 cm.

Hard alkaline yellowish-brown bleached duplex soil with 40 cm coarse sand surface soil, yellowish-brown clay subsoil, and quartz gravel at 130 cm.

2ADy-Ug A compound map unit consisting of slightly to strongly gilgaied soil (vertical interval 25-70 cm). Mound is a complex of grey and brown non-cracking clay and hard alkaline grey bleached duplex soil with 5-15 cm sandy-clay-loam to clay-loam surface soil and grey clay subsoil. The deeper subsoil of both duplex and non-cracking clay mound is acid grey clay. Depression is grey cracking clay with acid grey clay subsoil.

SOILS OF THE RELATIVELY HIGH LYING OLD ALLUVIA OVER BASALT CLAYS WITH QUARTZ GRAVEL BEDS IN PROFILE

3AUf Moderately shallow neutral red non-cracking clay overlying quartz gravel bed at 20-90 cm.

3AUf-Ug-1 Linear gilgaied clay. Mound is moderately shallow gravelly neutral brown, red and dark non-cracking clay overlying quartz gravel, basaltic clay or weathered basalt at 30-50 cm. Depression is moderately deep dark cracking clay overlying quartz gravel or weathered basalt at 75-150 cm. Depressions occupy 30-50% of the land surface. Vertical interval usually less than 15 cm.

3AUf-Ug-4 Slightly gilgaied clay. Mound is gravelly brown non-cracking clay with 15-60 cm thick quartz gravel bed at 20-30 cm overlying alkaline brown clay subsoil. Depression is dark and grey cracking clay with acid brown and yellow clay subsoil. Depressions occupy 30-40% of the land surface. Vertical interval usually less than 30 cm, sometimes up to 60 cm.

3AUf-Ug-5 Slightly gilgaiec clay. Mound is gravely brown non-cracking clay with 15-50 cm thick quartz gravel bed at 15-50 cm, overlying alkaline reddish brown and olive clay subsoil. Depression is brown cracking clay with acid to alkaline brown clay subsoil. Depressions occupy 30-40% of the land surface. Vertical interval usually less than 25 cm.

Mapping Major Characteristics of Dominant Soil

SOILS OF THE RELATIVELY HIGH LYING OLD ALLUVIA OVER BASALT (cont'd) SOILS OF THE MINOR ALLUVIAL PLAIN CLAYS WITHOUT QUARTZ GRAVEL BEDS IN PROFILE

3AUf-Ug-2 Slightly gilgaied clay. Mound is gravelly dark non-cracking clay with alkaline brown and grey clay subsoil overlying quartz gravel, weathered basalt or alkaline brown clay at 90-130 cm. Depression is dark cracking clay with acid to alkaline grey clay subsoil, or underlain by weathered basalt at 70-120 cm. Depressions occupy 20-50% of the land surface. Vertical interval usually less than 25 cm.

3AUf-Ug-3 Slightly gilgaied clay. Mound is gravelly dark cracking clay with acid to alkaline grey and olive clay subsoil. Depression is dark cracking clay with acid grey and olive Depressions occupy 50-60% of the land surface.

Vertical interval usually less than 25 cm.

3AUf-Ug-6 Gilgaied clay. Mound is gravelly brown non-cracking clay with alkaline brown and grey clay subsoil. Depression is brown cracking clay with acid brown clay subsoil. Depressions occupy 30-40% of the land surface. Vertical interval 25-40 cm.

3AUf-Ug-7 Gilgaied clay. Mound is dark and brown non-cracking clay with acid to alkaline brown clay subsoil. Depression is dark and grey cracking clay with acid brown clay Depressions occupy 30-50% of the land surface.

Vertical interval 25-40 cm.

3AUf-Ug-8 A compound map unit consisting of linear and nuram gilgai. Mound is a complex of -1. Dark and brown non-cracking clay with acid to alkaline brown, grey and dark clay subsoil. 2. Hard alkaline dark bleached duplex soil with 5-15 cm clay loam surface soil, and dark clay subsoil. Depression is dark cracking clay with acid to alkaline brown subsoil, or overlying weathered basalt. Depressions occupy 30-50% of the land surface. Vertical interval usually less than 25 cm.

Dark, grey and brown cracking clay overlying quartz gravel bed, weathered country rock or acid to alkaline dark, grey and brown clay subsoil at 40-120 cm.

Brown and red cracking clay with alkaline brown and red clay subsoil, or overlying weathered rock.

SOILS OTHER THAN UNIFORM CLAY SOILS Shallow neutral brown uniform light-sandy-clay-loam overlying quartz gravel bed at 30-40 cm.

3AUc-2 Shallow neutral brown uniform coarse-sandy-loam or light-

coarse-sandy-clay-loam overlying quartz gravel bed at 10-25 cm. 3AGn-1 Shallow hard neutral and alkaline brown gradational soil with 15-20 cm clay-loam surface soil, red-brown clay subsoil,

and quartz gravel bed 10-80 cm thick, at 30-60 cm.

3AGn-2 Hard alkaline brown gradational soil with 45-75 cm lightsandy-clay-loam to clay-loam surface soil and brown clay subsoil.

3AGn-Dr Moderately shallow hard acid and neutral red gradational to duplex soil with 15-20 cm light-sandy-clay-loam surface soil and red-sandy-clay subsoil overlying quartz gravel beds at 15-75 cm.

3ADr-Db A compound map unit consisting of a complex of -1. Shallow hard neutral red duplex soil with 10-25 cm sandyclay-loam surface soil and red clay subsoil overlying quartz gravel bed at 45-50 cm. 2. Hard alkaline brown duplex soil with 15-25 cm sandy- clay -loam or clay-loam surface soil and brown clay subsoil overlying quartz gravel bed at 40-150+ cm.

3ADb-Dr Hard alkaline brown and red duplex soil with 10-30 cm sandyclay-loam or clay-loam surface soil and brown and red clay subsoil.

> Hard alkaline yellowish-brown bleached duplex soil with 20-35 cm coarse-sandy-loam to sandy-clay-loam surface soil and yellowish-brown clay subsoil.

Mapping Major Characteristics of Dominant Soil

CLAYS WITH MINIMAL CRACKING PREDOMINANT Dark brown non-cracking clay with alkaline brown clay subsoil and dark minimal cracking clay with acid to neutral brown

ALKALINE DUPLEX SOIL WITH D HORIZON

clay subsoil and acid to neutral brown light clay D horizon below 80-120 cm.

Hard alkaline brown bleached duplex soil with 5-15 cm clayloam surface soil, brown clay subsoil, and neutral to alkaline brown light-clay D horizon below 85-100 cm.

SOILS OF THE RELATIVELY LOW LYING OLD ALLUVIA OVER BASALT 5AUf-Ug-1 Dark and brown non-cracking clay mound with alkaline brown clay subsoil and dark cracking clay depression with alkaline yellow clay subsoil. Linear and nuram gilgai present.

5AUf-Ug-2 Brown non-cracking clay overlying weathered basalt at 120-150 cm.

5AUf-Ug-3 Shallow dark cracking clay overlying weathered basalt and weathered rock at 30-45 cm.

5AUgg Linear gilgaied clay. Mound is brown non-cracking clay with alkaline brown clay subsoil overlying weathered basalt, quartz gravel bed or alkaline dark clay D horizon at 75-120 cm. Depression is dark cracking clay with alkaline brown clay subsoil overlying gravel bed and gravelly clay loam D horizon Depressions occupy 30-50% of the land surface. Vertical interval 15-25 cm.

SOILS OF THE MODERATELY UNDULATING PLAINS ON RELATIVELY LITTLE WEATHERED BASALT

SHALLOW AND MODERATELY SHALLOW SOILS PREDOMINANT Shallow dark cracking clay, 25-45 cm deep.

Moderately shallow dark cracking clay, averaging 85 cm deep.

Moderately shallow dark cracking clay, averaging 75 cm deep. BUg-10 Moderately shallow dark cracking clay, 70-100 cm deep.

BUg-8 A compound map unit consisting of a complex of -1. Moderately deep brown cracking clay 90-150 cm deep. 2. Deep dark cracking clay with alkaline brown and yellow clay subsoil, or overlying weathered basalt.

Shallow brown and dark cracking clay, 30-60 cm deep.

BUg-12 A compound map unit consisting of a complex association of -1. Moderately shallow to deep brown and red cracking clay,

> 60-150+cm deep. 2. Moderately shallow to moderately deep dark cracking clay, 60-150 cm deep.

A compound map unit consisting of a complex association 1. Deep dark cracking clay with alkaline dark clay subsoil. 2. Moderately deep to deep brown cracking clay, 90-150+ cm deep. Linear gilgai in majority of unit. Vertical interval usually less than 15 cm.

MODERATELY DEEP AND DEEP SOILS Compound map unit. Complex association of -1. Moderately deep dark cracking clay overlying thin layer of weathered vesicular basalt at 60-140 cm. 2. Deep dark cracking clay with alkaline brown clay subsoil.

Moderately deep dark cracking clay with alkaline brown

Deep dark cracking clay with alkaline brown (10YR) clay

Bug-7 Deep dark cracking clay with alkaline olive brown (2.5Y) clay subsoil.

clay subsoil, profiles 120-145 cm deep.

BUg-11 Deep dark cracking clay with alkaline dark olive clay subsoil.

Linear gilgaied cracking clay. Mound is moderately deep to deep dark cracking clay, 110-150+cm deep. Depression is moderately deep to deep dark cracking clay, 90-150+cm deep. Depressions occupy 40-50% of the land surface. Vertical interval usually less than 15 cm. Lime concretions frequent on mound surface, few or absent on depression surface.

Linear gilgaied cracking clay. Mound is gravelly deep dark non-cracking clay. Depression is deep dark cracking clay. Depressions occupy 50% of the land surface. Vertical interval less than 15 cm.

Mapping Major Characteristics of Dominant Soil

SOILS OF THE GENTLY UNDULATING PLAINS ON DEEPLY WEATHERED

SOILS WITH ALKALINE SUBSOILS

TbUg-1 Moderately deep dark cracking clay with alkaline dark olive clay subsoil.

TsUg-2 Deep dark cracking clay with alkaline olive brown (2.5Y) Incipient or very slight gilgai common.

Vertical interval less than 15 cm.

Thug-3 Slightly gilgaied deep dark cracking clay with alkaline dark clay subsoil. Vertical interval usually less than 25 cm, limited areas

TbUg-4 Deep dark cracking clay with alkaline brown (10YR) and olive brown (2.5Y) clay subsoil.

Tallo-5 Deep dark cracking clay with alkaline brown (10YR) clay

Table-6 Deep dark cracking clay with alkaline brown (7.5YR-10YR)

Table-11 A compound map unit consisting of a complex association

1. Moderately deep brown cracking clay, 60-130 cm deep. 2. Moderately deep dark cracking clay, 60-100 cm deep. Subsoil and weathered basalt are alkaline.

SOILS WITH ACID SUBSOILS PREDOMINANT ThUg-7 Deep dark cracking clay with acid to neutral olive and grey clay subsoil.

Deep dark cracking clay with acid grey and yellow clay

TbUg-9 A compound map unit consisting of -1. Deep dark cracking clay with alkaline olive clay subsoil. 2. Deep dark cracking clay with acid grey clay subsoil.

TbUg-10 Deep grey cracking clay with acid yellow clay subsoil.

TbUg-12 A compound map unit consisting of a complex association of -1. Moderately deep brown cracking clay, 90-140 cm deep. 2. Moderately deep dark cracking clay, 90-140 cm deep. Subsoil and weathered basalt are usually acid.

TbUg-13 Deep dark grey and brown cracking clay with acid brown and yellow clay subsoil.

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