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ANNEX I
SOIL DESCRIPTION
OF
GREAT VALLEY/KENILWORTH AREA
HANOVER

prepared by:
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Ministry of Agriculture

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6554

DESCRIPTIONS OF SOIL AUGERINGS

NO. 1

<u>Depth</u>	<u>Description</u>
0 - 30 cm	Dark brown (10YR 3/3) clay; many black spots of organic matter; many gravel sized limestone fragments; soil matrix react to acid; pH 8.0
30 - 40	brown (7.5YR 5/4) heavy clay; many gravel sized limestone fragments; common black spots of organic matter; common round soft black Mn nodules; matrix react slightly to acid; pH 8.0
40 - 60	strong brown (7.5YR 5/6) heavy clay, many gravel sized limestone fragment coated with Mn; common rounded soft Mn concretions, matrix reacts slightly to acid (only audible) pH 8.0
60 - 90	brownish yellow (10YR 6/8) heavy clay; common limestone fragments; few spots of Mn; pH 8.0
90 - 120	reddish yellow (7.5YR 7/8) heavy clay; with common medium distinct red (2.5YR 5/6) and many medium faint yellow (10YR 7/8); few limestone gravel sized fragments few Mn nodules; pH 8.0
<u>Soil Classification:</u>	Typic Tropudalf very fine, mixed, isohyperthermic

NO. 2

<u>Depth</u>	<u>Description</u>
0 - 10 cm	brown to dark brown (10YR 4/3) clay with common inclusions of brownish yellow (10YR 6/8); common gravel sized limestone fragments; soil matrix reacts strongly with acid; many fine charcoal fragments; few rounded Mn concretions; pH 8.0
10 - 30	yellowish brown (10YR 5/4) clay; with few inclusions of dark grayish brown (10YR 4/2); many limestone fragments; soil matrix reacts strongly with acid; few charcoal fragments; few Fe and Mn nodules; pH 8.0
30 - 40	yellowish brown (10YR 5/4) heavy clay with many inclusions of red (2.5YR 5/8) and dark brown (10YR 3/3); many fine limestone fragments; soil matrix reacts strongly to acid, many charcoal fragments; common Mn stains and nodules; pH 8.0
40 - 60	yellowish brown (10YR 5/6) clay with common inclusions of dark grayish brown; (10YR 4/2) many gravel sized limestone fragments; common red flint fragments; common charcoal fragments; pH 8.0
60 - 80	yellowish brown (10YR 5/4) clay, with common inclusions of brownish yellow (10YR 6/8), common limestone fragments; common charcoal fragments; soil matrix reacts strongly to acid; few soft Mn nodules; pH 8.0
80 -	hard limestone
<u>Soil Classification:</u>	Typic Tropudalf, very fine, mixed, isohyperthermic.

NO. 3

<u>Depth</u>	<u>Description</u>
0 - 20 cm	dark yellowish brown (10YR 4/4), clay; sticky and plastic; common fine rounded hard Mn nodules; surface structure strong fine granular and strong fine granular and strong fine subangular blocky; no reaction to acid; pH 7.0
20 - 50	mixed: dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/4) clay; many fine and few medium hard Mn nodules; no reaction to acid; pH 6.5
50 - 90	yellowish brown (10YR 5/8) with inclusions of yellowish brown (10YR 5/6) heavy clay; common fine and medium hard Mn nodules; few strongly weathered limestone fragments that do not show reaction to acid pH 6.5
90 - 110	strong brown (7.5YR 5/8) heavy clay with few fine faint yellowish red (5YR 5/8) mottles; few fine rounded hard Mn nodules; few medium and coarse soft black Mn soft black Mn stains; pH 5.0
110 - 120	reddish yellow (7.5YR 6/8) heavy clay with few fine faint yellowish red (5YR 5/8) mottles; few fine rounded hard Mn nodules; few medium and coarse soft black Mn soft black Mn stains; pH 5.0
Soil Classification:	Typic Tropohumult, clayey, mixed, isohyperthermic

NO. 4

<u>Depth</u>	<u>Description</u>
0 - 20	Dark yellowish brown (10YR 4/4) clay; sticky and plastic, strong fine granular and subangular surface structure, many fine and common medium Mn nodules (hard and rounded) pH 7.0
20 - 40	mixed: dark yellowish brown (10YR 4/4) and strong brown (7.5YR 5/6) clay common fine and medium Mn nodules; pH 7.0
40 - 80	yellowish brown (10YR 5/6) clay with common medium distinct brownish yellow (10YR 6/8); common fine and few medium hard and soft rounded Mn nodules; few weathering limestone fragments no reaction to acid; with depth colours gradually changes to yellowish brown (10YR 5/8) and Mn stains occur; pH 7.0.
80 - 90	Brownish yellow (10YR 6/8) heavy clay with few fine distinct reddish yellow (5YR 6/8) mottles; few fine rounded hard Mn nodules pH 7.0
90 - 100	brownish yellow (10YR 6/8) heavy clay with common medium distinct reddish yellow (5YR 6/8) mottles; common medium and few large hard Mn nodules; no reaction to acid: pH 6.5
100 - 120	mixed: yellow (10YR 7/8) and reddish yellow (2.5YR 7/8) heavy clay; few fine rounded hard Mn nodules; no reaction with acid, pH 6.0

No. 5

Depth

Description

0 - 15 cm yellowish brown (10YR 5/6) clay; common gravel sized limestone fragments; soil matrix does not react to acid; few soft and hard rounded Mn concretions; pH 6.0.

15 - 40 dark yellowish brown (10YR 3/4) clay; few limestone fragments; soil matrix does not react to acid; fragments of limestone coated with Mn; few hard black Mn nodules; pH 7.0

40 - 60 dark yellowish brown (10YR 4/4) clay; many gravel sized limestone fragments coated with black Mn; common black Mn concretions; limestone does not react to acid; pH 7.0

60 - 80 strong brown (7.5YR 5/8) heavy clay common gravel sized limestone fragments coated with Mn; common hard rounded black Mn concretions; pH 7.0

80 - 120 brownish yellow heavy clay with many inclusions of yellow (10YR 8/8) many gravel sized limestone coated with Mn; common hard rounded black Mn concretions; pH 7.0

Soil Classification:

Typic Tropudalf, very fine, mixed, isohyperthermic

NO. 6

Depth

Description

0 - 10 cm brownish yellow (10YR 6/6) clay with many rounded black Mn concretions few gravel size limestone fragments; pH 7.0

10 - 80 brownish yellow (10YR 6/8) clay many black rounded Mn concretions; common gravel sized limestone fragments; pH 7.5

80 - 120 brownish yellow (10YR 6/8) heavy clay many limestone fragment and Mn nodules pH 7.0

Soil Classification:

Typic Tropudalf, very fine, mixed, isohyperthermic

NO. 7

<u>Depth</u>	<u>Description</u>
0 - 20 cm	brownish yellow (10YR 6/6) clay; common limestone gravel sized fragments; few soft Mn concretions; pH 6.0
20 - 60	brownish yellow (10YR 6/8) clay; common fine limestone fragments; common Mn stain; few rounded soft black Mn concretions; pH 6.0
60 - 120	brownish yellow (10YR 6/8) heavy clay; with common medium inclusions of yellow (10YR 7/8); common fine limestone fragments; few Mn stains; pH 6.0
<u>Soil Classification:</u>	Typic Tropudalf, very fine, mixed, isohyperthermic

NO. 8

<u>Depth</u>	<u>Description</u>
0 - 20 cm	yellowish brown (10YR 5/6) clay; few limestone fragments that reacts to acid; soil matrix reacts slightly to acid (only audible); few flint fragments coated with Mn; few Mn stain; few weathering shale fragments; pH 7.0
20 - 50	yellowish brown (10YR 5/8) heavy clay; many gravel sized limestone fragments that reacts to acid ; soil matrix does not reacts to acid; common weathering sandstone fragments; few spots of Mn; pH 7.0
50 - 70	brownish yellow (10YR 6/6) clay; common gravel sized limestone; few spots of Mn; soil matrix does not reacts to acid; pH 7.0
70 - 90	brownish yellow (10YR 6/6) clay with inclusion of yellowish brown (10YR 5/4) no reaction to acid; common gravel sized limestone fragments; pH 7.0
90 -	hard limestone
<u>Soil Classification:</u>	Typic Eutrocept very fine mixed isohyperthermic

NO. 9a

<u>Depth</u>	<u>Description</u>
0 - 10 cm	yellowish brown (10YR 5/4) clay; common hard Mn concretions; pH 4.5
10 - 40	brownish yellow (10YR 6/5) clay; common soft and hard Fe and Mn concretions pH 4.5
40 - 80	brownish yellow (10YR 6/6) heavy clay; with many inclusions of yellowish brown (10YR 5/6); many fine soft and hard Fe and Mn concretions; pH 4.5
80 - 120	mixed: yellow (10YR 7/8), brownish yellow (10YR 6/6) clay; few gravel sized flint fragment coated with Mn; common Fe and Mn nodules; few weathering shale pH 4.5
<u>Soil Classification:</u>	Ultic tropudalf, fine, mixed isohyperthermic

NO. 9b

<u>Depth</u>	<u>Description</u>
0 - 10cm	strong brown (7.5 YR 5/8) clay with common fine distinct red (2.5YR 5/8) mottles; common charcoal fragments; few hard rounded Fe and Mn nodules; pH 5.0
10 - 40	strong brown (7.5YR 5/8) clay with few fine faint reddish yellow (7.5YR 6/8) mottles; few charcoal spots; pH 5.0
40 - 70	strong brown (7.5 YR 5/6) clay with few fine distinct light red (2.5YR 6/8) mottles; pH 5.0
70 - 90	strong brown (7.5 YR 5/8) clay with many Mn stains; common weathering shale fragments coated with Mn; pH 5.0
90 - 120	reddish yellow (7.5YR 6/8) clay with very pale brown (10YR 8/4) mottles; many weathering shale fragments coated with Mn; many Fe and Mn fragments; pH 5.0
<u>Soil Classification:</u>	Plinthudult, clayey, mixed isohyperthermic

NO. 10

<u>Depth</u>	<u>Description</u>
0 - 40 cm	yellowish red (5YR 5/8) clay with few medium faint red (2.5YR 5/8); few black spots of charcoal and Mn; pH 4.5
40 - 50	yellowish red (5YR 5/8) clay with common medium and fine distinct brownish yellow (10YR 6/6) mottles; common spots of Mn few rounded Fe and Mn nodules; pH 4.5
50 - 70	reddish yellow (7.5YR 6/8) clay with few fine distinct very pale brown (10YR 7/3) due to weathering shale; common Mn stains; pH 4.5
70 - 120	red (2.5YR 5/8) clay with many fine distinct very pale brown (10YR 7/4) mottles; common black Mn stains; common weathering shale which increases down to 120 cm; pH 4.5
<u>Soil Classification:</u>	Plinthudult, clayey, mixed, isohyperthermic

No. 11

<u>Depth</u>	<u>Description</u>
0 - 30cm	yellowish red (5YR 5/8) clay with few fine distinct red (2.5YR 4/8); common Mn stains; common charcoal fragments; pH 5.5
30 - 70	yellowish red (5YR 5/8) heavy clay with common brownish yellow (10YR 6/6) mottles; few charcoal fragments; pH 5.5
70 - 120	strong brown (7.5YR 5/8) clay with common fine distinct brownish yellow (10YR 6/6) mottles; few medium prominent red (2.5YR 4/8) mottles few black Mn stains; few soft Mn nodules; pH 5.5
<u>Soil Classification:</u>	Plinthudult, clayey, mixed, isohyperthermic

No. 12

<u>Depth</u>	<u>Description</u>
0 - 10 cm	yellowish red (5YR 5/6) clay with common fine and medium red (2.5YR 5/8); few charcoal fragments; few pH 6.0
10 - 50	red (2.5YR 5/6) with many fine distinct yellow (10YR 7/8) heavy clay; pH 4.5
50 - 80	light red (10R 6/8) clay with common fine yellow (10YR 7/8) mottles and few fine white (10YR 8/2) mottle; pH 4.5
80 - 100	red (2.5YR 5/8) clay with few fine distinct brownish yellow (10YR 6/6) mottles; pH 4.5
100 - 120	red (2.5YR 5/8) clay with common medium faint deep red (10R 4/8) and yellow (10YR 8/8) pH 4.5
<u>Soil Classification:</u>	Plinthudult, clayey, mixed, isohyperthermic

NO. 13

<u>Depth</u>	<u>Description</u>
0 - 30 cm	strong brown (7.5YR 5/8) clay with common medium faint reddish yellow (7.5YR 6/6) mottles; common soft spots of Mn; few gravel sized Fe and Mn concretions; pH 4.5
30 - 70	yellowish red (5YR 5/8) heavy caly with common medium distinct light yellowish brown (10YR 6/4) and white (10YR 8/1) mottles; pH 4.5
70 - 80	mottled: reddish yellow (5YR 6/8); light yellowish brown (10YR 6/4) and white (10YR 8/1) clay pH 4.5
80 - 120	brownish yellow (10YR 6/8) clay with many common distinct strong brown (7.5YR 5/8) mottles and many light gray (10YR 6/1) due to weathering shale; few soft Fe and Mn concretions; pH 4.5

Soil Classification: Flinthudult, clayey, mixed, isohyperthermic

NO. 14

<u>Depth</u>	<u>Description</u>
0 - 50 cm	brownish yellow (10YR 6/6) clay, with common medium faint brownish yellow (10YR 6/8) clay with common medium faint reddish yellow (2.5YR 6/8); few charcoal fragments.
50 - 60	brownish yellow (10YR 6/8) clay with common medium faint reddish yellow (2.5YR 6/8); few charcoal fragments
60 - 70	brownish yellow (10YR 6/8) clay;
70 - 100	reddish yellow (4.5YR 6/8) clay
100 - 120	reddish yellow (7.5YR 6/8) clay; few weathering shale fragments

Soil Classification: Ultic Trepudalf, fine mixed isohyperthermic

NO. 15

<u>Depth</u>	<u>Description</u>
0 - 60 cm	light olive brown (2.5Y 5/4) clay with few medium faint yellow (2.5YR 8/6) due to weathering shale; few hard rounded Fe and Mn concretions; few black spots of Mn; pH 6.0
60 - 70	brownish yellow (10YR 6/6) clay, with few fine distinct strong brown (7.5YR 5/8) mottles; few hard rounded Fe and Mn concretions; pH 6.0
70 - 100	brownish yellow (10YR 6/6) clay with common medium reddish yellow (7.5YR 6/8) mottles; few weathering shale fragments; few Mn stains; pH 4.0
100 - 120	mottled: brownish yellow (10YR 6/6); strong brown (7.5YR 5/8); clay pale brown (10YR 5/4) common Mn stains; pH 4.0
<u>Soil Classification:</u>	Ultic Tropudalf, fine, mixed, isohyperthermic

NO. 16

<u>Depth</u>	<u>Description</u>
0 - 10 cm	yellowish brown (10YR 5/8) clay, with common medium distinct strong brown (7.5YR 5/8) and common fine faint pale brown (10YR 6/3) mottles; common charcoal fragments; few weathering shale fragments; pH 5.5
10 - 40	light yellow brown (10YR 6/4) clay, common fine distinct strong brown (7.5YR 5/8) mottles; pH 5.5
40 - 120	yellowish brown (10YR 5/4) mainly strong weathered shale and sandstone fragments; common Fe and Mn concretions; pH 5.5
<u>Soil Classification:</u>	Ultic Tropudalf, fine, mixed, isohyperthermic

NO. 17

<u>Depth</u>	<u>Description</u>
0 - 10 cm	yellowish brown (10YRS 7/4) clay; few Mn and Fe concretions; pH 6.0
10 - 20	brownish yellow (10YR 6/6) clay; few black spots of organic matter; pH 6.0
20 - 50	brownish yellow (10YR 6/6) clay with common fine faint reddish yellow (2.6YR 6/8) mottles; few weathering shale fragments; few black Mn stains; pH 6.0
50 - 90	brownish yellow (10YR 6/6) clay; with common coarse distinct light gray (2.5Y 7/2) mottles common black Mn stains; pH 5.5
90 - 120	mottled: yellow (10YR 7/8), strong brown (7.5YR 3/8) very pale brown (10YR 8/4) clay; common manganese stains; pH 5.5

Soil Classification: Aquic Tropudalf, very fine, mixed, isohyperthermic

NO. 18

<u>Depth</u>	<u>Description</u>
0 - 20 cm	yellowish brown (10YR 5/4) clay, with common medium faint yellow (10YR 7/8) mottles few weathering shale fragments; common Mn fragments pH 5.5
20 - 40	brownish yellow (10YR 6/6) clay, common coarse faint brownish yellow (10YR 6/8) and reddish yellow (7.5YR 6/8) mottles; common weathering shale fragments
40 - 80	brownish yellow (10YR 6/6) clay common medium distinct strong brown (7.5YR 5/8) mottles; many shale fragments coated with Mn; pH 5.5
80 - 120	brownish yellow (10YR 6/6) clay common medium distinct reddish brown (7.5YR 6/8) due to weathering shale and sandstone, common Fe and Mn stains pH 5.5

Soil Classification Ultic Tropudalf, fine, mixed, isohyperthermic

NO. 19

<u>Depth</u>	<u>Description</u>
0 - 10	yellowish brown (10YR 5/4) clay pH 5.5
10 - 30	brownish yellow (10YR 6/6) clay with common medium distinct yellow (10YR 6/8) mottles; few black Mn stains few flint and shale fragments pH 5.5
30 - 50	brownish yellow (10YR 6/6) clay common fine distinct reddish yellow (7.5YR 6/8) mottles; few black Mn stains; few flint and shale fragments pH 5.5
50 - 60	brownish yellow (10YR 6/6) clay common fine faint light yellowish brown (10YR 6/4) common fine distinct reddish yellow (7.5YR 6/8) mottles, common weathering shale fragments; few hard Fe and Mn nodules; common soft black spots of Mn pH 5.5
60 - 70	brownish yellow (10YR 6/6) ^{clay} with common medium distinct pale yellow (2.5Y 7/4) and common medium distinct strong brown (7.5YR 5/8) mottles few Fe and Mn nodules pH 5.5
70 - 80	light yellowish brown (2.5Y 6/4) clay with common medium distinct brownish yellow (10YR 6/6) mottles; common Fe and Mn concretions common weathering shale pH 5.5
80 - 120	dark greenish grey (5BG 4/1) with common greenish grey (5GY 5/1) sandy loam pH 5.5

Soil Classification: Ultic Tropudalf, fine, mixed, isohyperthermic

NO. 20

<u>Depth</u>	<u>Description</u>
0 - 15	yellowish brown (10YR 5/4) clay, pH 5.0
15 - 30	yellowish brown (10YR 5/4) clay few hard rounded Mn concretions, few gravel sized, shale fragments, pH 5.0
30 - 40	yellow (10YR 7/6) clay, pH 5.0
40 - 60	yellow (10YR 7/6) clay with common inclusions of yellowish brown (10YR 6/4); pH 4.5
60 - 70	brownish yellow (10YR 6/6) clay; few gravel sized shale fragments pH 4.5
70 - 90	mottled: brownish yellow (10YR 6/8); pale brown (10YR 8/4); yellow 10YR 7/6) clay
90 - 100	yellow (10YR 7/6) clay with few fine distinct light yellowish brown (10YR 6/4) mottles
100 - 110	yellow (10YR 7/6) clay common coarse distinct very pale brown (10YR 8/4) mottles
110 - 120	brownish yellow (10YR 6/8) clay common fine distinct pinkish white (7.5YR 8/2) mottles

Soil Classification: Plinthudult, clayey, mixed, isohyperthermic

NO. 21

<u>Depth</u>	<u>Description</u>
0 - 20cm	mottled: brownish yellow (10YR 6/8), light brownish gray (10YR 6/2) and red (2.5YR 5/8) clay; no reaction to acid; pH 5.5
20 - 50	mottled: brownish yellow (10YR 6/8), light gray (10YR 7/1), pinkish white (10YR 8/2) heavy clay, pH 4.5
50 - 70	brownish yellow (10YR 6/6) heavy clay; with common fine distinct reddish yellow (.7.5YR 6/8); pH 4.5
70 - 90	brownish yellow (10YR 6/6); heavy clay; few hard rounded Fe and Mn concretions pH 4.5
90 - 120	light yellowish (10YR 6/4) heavy clay; common medium distinct strong brown (7.5YR 5/8) mottles; pH 4.5

Soil Classification: Typic Tropudalf, very fine, mixed, isohyperthermic

NO. 22

<u>Depth</u>	<u>Description</u>
0 - 20 cm	yellowish brown (10YR 5/4) clay with common medium distinct yellow (10YR 8/5) mottles ; few fine Mn concretions pH 5.5
20 - 50	mottled: very pale brown (10YR 8/4), yellow (10YR 7/8) and reddish yellow (7.5YR 6/8) clay; common flint fragment coated with Mn; pH 5.5
50 - 70	brownish yellow (10YR 6/6) clay with common medium faint pale yellow (2.5 Y 7/4) due to weathering shale and sandstone; few fine distinct strong brown (7.5YR 5/8) mottles; few black Mn spots; pH 5.5
70 - 100	brownish yellow (10YR 6/6) heavy clay, with common medium distinct strong brown (7.5YR 5/6) and common medium faint pale brown (2.5Y 7/4); few black and stains; pH 5.5
100 - 120	brownish yellow (10YR 6/6) heavy clay, with common medium distinct strong brown (7.5YR 5/8) and pale yellow (2.5 Y 7/4); few Fe and Mn nodules and some black mN spots

Soil Classification: Ultic Tropudalf, fine, mixed, isohyperthermic

NO. 23

<u>Depth</u>	<u>Description</u>
0 - 30 cm	brownish yellow (10YR 6/6) clay; common fine distinct reddish yellow (10YR 5/8) mottles few gravel sized shale and flint fragment coated with Mn few charcoal fragments; pH 5.0
30 - 50	reddish yellow (7.5YR 6/8) clay few fine charcoal fragments; pH 4.5
50 - 60	brownish yellow (10YR 6/8) clay; common distinct strong brown (7.5YR 5/8) mottles; many fine weathering shale fragments; pH 4.5
60 - 90	reddish yellow (7.5YR 6/8) clay; common weathering shale fragments; common Mn stains; pH 4.5
90 - 100	reddish yellow (7.5YR 7/8) clay; common weathering shale and Mn stains pH 4.5
100 - 120	mottled 7.5YR 5/8 strong brown; reddish yellow (7.5YR 7/8) yellow (10YR 5/6) heavy clay; many fine black Mn stains; common shale fragments; pH 4.5
<u>Soil Classification</u>	Ultic Tropudalf, fine, mixed, isohyperthermic

NO. 24

<u>Depth</u>	<u>Description</u>
0 - 10 cm	very pale brown (10YR 7/3) (dry); brownish yellow (10YR 6/6) (moist) clay with common fine inclusions of yellow (10YR 7/8); few spots of charcoal; pH 5.0
10 - 20	brownish yellow (10YR 6/6) clay with common yellowish brown (10YR 5/6) due to weathering sandstone and red (2.5YR 5/8) due to weathering shale; pH 5.0
20 - 40	brownish yellow (10YR 6/6) clay with many medium and fine light gray (7.5YR 6/1) due to weathering sandstone fragments; pH 4.5
40 - 70	brownish yellow (10YR 6/6) clay (decrease in clay) with inclusions of strong brown (7.5YR 5/8) pH 4.5
70 - 120	brownish yellow (10YR 6/6) clay with many light gray (10YR 6/1) due to weathering shale and strong brown (7.5YR 5/8) due to sandstone, pH 4.5
<u>Soil Classification:</u>	Ultic Tropudalf, fine, mixed, isohyperthermic

NO. 25

<u>Depth</u>	<u>Description</u>
0 - 10 cm	yellowish brown (10YR 5/8) clay with many fine distinct brown to dark brown (10YR 4/3) inclusions; few hard rounded Fe and Mn concretions; pH 4.5
10 - 20	brownish yellow (10YR 6/8) heavy clay with common fine faint yellowish brown (10YR 5/4) mottles; pH 4.5
20 - 50	brownish yellow (10YR 6/8) heavy clay with common medium and fine distinct very pale brown (10YR 8/4) mottles pH 4.5
50 - 70	mottled: very pale brown (10YR 7/4); brownish yellow (10YR 6/6) and strong brown (7.5YR 5/8) heavy clay; common gravel sized weathering shale and flint fragments; pH 4.5
70 - 110	brownish yellow (10YR 6/6) clay with common medium distinct very pale brown (10YR 7/4) pH 4.5
110 - 120	brown to dark brown (7.5YR 4/4) clay with many weathering shale; pH 4.5
<u>Soil Classification</u>	Ultic Tropudalf, fine, mixed, isohyperthermic

NO. 26

<u>Depth</u>	<u>Description</u>
0 - 40 cm	red (2.5YR 4/8) clay; pH 4.5
40 - 80	red (2.5YR 5/8) heavy clay; pH 4.5
80 - 100	red (2.5YR 5/8) heavy clay; with common medium distinct reddish yellow (7.5YR 6/8) and few fine distinct pink (7.5YR 8/4) mottles; pH 4.5
100 - 120	mixed: reddish yellow (7.5YR 7/8) and strong brown (7.5YR 5/6); pH 4.5
<u>Soil Classification:</u>	Plinthudult, clayey, mixed, isohyperthermic

NO. 27

<u>Depth</u>	<u>Description</u>
0 - 30 cm	brown to dark brown (7.5YR 4/4) clay; pH 4.5
30 - 40	brownish yellowish (10YR 6/6) heavy clay; pH 4.5
40 - 100	yellowish red (5YR 5/8) heavy clay with common medium faint reddish; brown (5YR 8/3) and common fine distinct reddish yellow (7.5YR 6/8); pH 4.5
100 - 120	yellowish red (5YR 5/8) heavy clay with common medium faint yellowish red (5YR 5/6) mottles; pH 4.5

Soil Classification: Plinthudult clayey, mixed, isohyperthermic

NO. 28

<u>Depth</u>	<u>Description</u>
0 - 20 cm	red (2.5YR 4/6) clay with few spots of charcoal; pH 4.5
20 - 30	yellowish red (5YR 5/8) heavy clay pH 4.5
30 - 120	red (2.5YR 4/8) heavy clay; few charcoal fragments; pH 4.5

Soil Classification: Plinthudult, clayey, mixed, isohyperthermic

NO. 29

<u>Depth</u>	<u>Description</u>
0 - 10 cm	mixed: red (2.5YR 5/8) and yellowish brown (10YR 5/8) clay pH 5.0
10 - 50	red (2.5YR 4/8) clay with many fine faint light reddish brown (2.5YR 6/4) pH 4.5
50 - 60	red (2.5YR 5/6) clay with common medium distinct inclusions of yellowish red (5YR 5/8) pH 4.5
60 - 120	red (2.5YR 4/8) clay with many fine distinct reddish yellow (7.5YR 7/8) mottles pH 4.5

Soil Classification: Plinthudult, clayey, mixed, isohyperthermic

NO. 30

<u>Depth</u>	<u>Description</u>
0 - 15	yellowish brown (10YR 5/4) clay; few gravel sized flint fragments; pH 5.3
15 - 40	reddish yellow (7.5YR 7/8) clay with common fine faint strong brown (7.5YR 5/8) mottles; many Fe and Mn concretions (hard and soft); common black spots of Mn pH 5.0
40 - 60	Brownish yellow (10YR 6/8) clay with common fine distinct strong brown (7.5YR 5/8) mottles; many hard and soft Fe and Mn concretions pH 5.0
60 - 90	yellow (10YR 7/8) clay with many medium distinct reddish yellow (5YR 5/8) due to weathering shale; many Fe and Mn concretions; many black Mn stains pH 5.0
90 - 120	yellow (10YR 7/8) clay with many medium distinct reddish yellow (5YR 5/8) due to weathering shale; many gravel sized weathering shale fragments; pH 5.0
<u>Soil Classification:</u>	Ultic Tropudalf, fine, mixed, isohyperthermic

NO. 31

<u>Depth</u>	<u>Description</u>
0 - 20	yellowish brown (10YR 5/6) clay with inclusions of red (2.5YR 5/8) pH 4.5
20 - 70	red (2.5YR 5/8) heavy clay with common inclusions of yellowish brown (10YR 5/6); few hard rounded and Fe concretions; few black spots of Mn pH 4.5.
70 - 110	red (2.5YR 5/8) clay with many fine distinct reddish yellow (7.5YR 7/8); common weathering shale coated with Mn; pH 4.5
110 - 120	yellowish red (5YR 5/8) clay with common fine distinct pink (5YR 8/3) mottles; pH 4.5
<u>Soil Classification:</u>	Plinthudult, clayey, mixed, isohyperthermic

NO. 32

<u>Depth</u>	<u>Description</u>
0 - 10 cm	red (2.5YR 4/8) clay
10 - 30	red (2.5YR 5/8) heavy clay with common medium distinct yellowish red (5YR 4/6) inclusions; few black Mn stains; pH 4.5
30 - 60	red (2.5YR 5/8) heavy clay with few fine distinct reddish yellow (2.5YR 7/8) mottles; few fine shale fragments few flint fragments; pH 4.5
60 - 90	red (2.5YR 5/8) heavy clay; pH 4.5
90 - 100	red (2.5YR 5/8) red heavy clay with few medium faint reddish brown 2.5YR 4/4 and common fine distinct yellow (10YR 7/8) mottles; pH 4.5
100 - 120	red (2.5YR 5/8) clay with few fine faint red (2.5YR 4/6) few fine distinct yellow (10YR 7/1) mottles. pH 4.5

Soil Classification: Plinthudult clayey, mixed, isohyperthermic.

NO. 33

<u>Depth</u>	<u>Description</u>
0 - 20	yellowish brown (10YR 5/4) clay pH 5.3
20 - 30	brownish yellow (10YR 6/6) clay with few fine faint inclusions of yellowish brown (10YR 5/4) pH 5.0
30 - 60	brownish yellow (10YR 6/6) clay with few fine faint light grayish brown (10YR 6/4) and few fine distinct strong brown (7.5YR 5/8); pH 5.0
60 - 80	pale yellow (2.5Y 7/4) clay with common medium distinct strong brown (7.5YR 5/8) mottles; common black Mn stains; pH 4.5

Soil Classification: Ultic Tropudalf, fine mixed, isohyperthermic

NO. 34

<u>Depth</u>	<u>Description</u>
0 - 30 cm	strong brown (7.5YR 5/8) clay with few brick fragments; pH 5.0
30 - 90	red 2.5YR heavy clay with few fine distinct reddish yellow (7.5YR 7/8) mottles inclusion increase to 90 cm; pH 4.5
90 - 120	red (2.5YR 5/8) heavy clay with common fine distinct very pale brown (10YR 7/4) banded with brownish yellow (10YR 6/6) pH 4.5
<u>Soil Classification:</u>	Plinthudult clayey, mixed, isohyperthermic

NO. 35

<u>Depth</u>	<u>Description</u>
0 - 20 cm	light red (2.5YR 6/8) clay with common fine red (2.5YR 5/8) and yellowish brown (10YR 5/4) mottles; few black Mn stains; pH 4.5
20 - 40	yellowish brown (10YR 5/4) heavy clay with common fine and medium brown (7.5YR 5/2) and reddish yellow (7.5YR 7/8) mottles; common charcoal fragments; pH 4.5
40 - 60	reddish yellow (5YR 6/8) heavy clay with common inclusions of yellowish brown (10YR 5/4); few gravel sized flint fragment; few Fe and Mn soft rounded concretions pH 4.0
60 - 80	yellowish red (5YR 5/8) clay with many inclusions of yellowish brown (10YR 5/4); few Fe and Mn nodules; pH 4.0
80 - 120	red (2.5YR 5/8) clay, with many medium faint reddish yellow (5YR 6/8); mottles and many fine distinct (2.5YR 7/2), light gray and white (10YR 8/1) mottles; common weathering shale fragments; few flint fragment
<u>Soil Classification:</u>	Ultic Tropudalf clayey, mixed, isohyperthermic

NO. 36

<u>Depth</u>	<u>Description</u>
0 - 40 cm	brown to dark brown (10YR 4/3) clay with common fine distinct reddish yellow (5YR 6/8) mottles; common soft Fe and Mn nodules; common charcoal fragments; few gravel sized flint fragments; pH 6.0
40 - 60	strong brown (7.5YR 5/6) heavy clay with common fine distinct grayish brown (10YR 5/2) and light gray (10YR 7/1) mottles; few gravel sized flint fragments; pH 6.0
60 - 80	brownish yellow (10YR 6/6) heavy clay with few fine distinct very pale brown (10YR 7/3) mottles; common gravel sized flint fragments; pH 5.5
80 - 100	brownish yellow (10YR 6/6) clay with few fine distinct light gray (10YR 7/2) mottles; many weathering sandstone fragments; pH 5.5
100 - 120	brownish yellow (10YR 6/6) clay with common weathering shale fragments;
<u>Soil Classification:</u>	Ultic Tropudalf, fine, mixed, isohyperthermic

NO. 37

<u>Depth</u>	<u>Description</u>
0 - 10	brownish yellow (10YR 6/6) clay with common fine distinct light gray (10YR 7/2) and strong brown (7.5YR 5/8) mottles; few fine soft and hard Fe and Mn concretions pH 5.5
10 - 50	brownish yellow (10YR 6/6) clay with common faint grayish brown (10YR 5/4) and yellow (10YR 7/8); common fine distinct strong brown (7.5YR 5/8) mottles; few Fe and Mn nodules; pH 5.0
50 - 90	brownish yellow (10YR 6/6) clay with common fine distinct dark reddish brown (5YR 3/3) gray (10YR 5/1) and common medium distinct brown (10YR 5/3) mottles; common Fe and Mn concretions pH 4.5
90 - 120	brownish yellow (10YR 6/6) clay many medium and fine distinct gray (10YR 5/1) and strong brown (7.5YR 5/8) due to weathering shales; pH 4.5
<u>Soil Classification:</u>	Ultic Tropudalf, fine, mixed, isohyperthermic

NO. 38

<u>Depth</u>	<u>Description</u>
0 - 30 cm	yellowish brown (10YR 5/4) clay with many medium distinct brownish yellow (10YR 6/6) mottles; few spots of charcoal; few gravel sized weathering sandstone fragments; pH 5.5
30 - 50	brownish yellow (10YR 6/6) clay with common fine faint brownish yellow (10YR 6/8) mottles; few weathering sandstone and flint fragments; few spots of charcoal few gravel sized Fe and Mn concretions pH 5.5
50 - 90	brownish yellow (10YR 6/6) heavy clay with few medium faint light brownish gray (10YR 6/2) and few medium distinct strong brown (7.5YR 5/6); few hard Fe and Mn concretions; few weathering sandstone fragments; pH 5.5
90 - 120	brownish yellow (10YR 6/6) clay with common medium faint light brownish gray (10YR 6/2); many fine Fe and Mn concretions; many gravel sized weathering sandstone with Mn band inside; pH 5.5
<u>Soil Classification:</u>	Aquic Tropudalf fine, mixed isohyperthermic

NO. 39

<u>Depth</u>	<u>Description</u>
0 - 30	brown to dark brown (10YR 4/3) clay; few gravel sized Fe and Mn concretions and flint fragment; pH 6.5
30 - 50	reddish brown (5YR 8/4) heavy clay clay with few fine distinct gray (10YR 5/1) and yellow (10YR 7/8) mottles; common medium distinct grayish brown (10YR 5/2) mottles; pH 6.5
50 - 70	strong brown (7.5YR 5/8) heavy clay with common fine distinct light grayish brown (10YR 6/4); and dark grayish brown (10YR 4/2) few hard Fe and Mn concretions. pH 6.5
70 - 90	mottled: light gray (7.5YR 7/1) and brownish yellow (10YR 6/6) clay; many weathering shale and shale fragments; pH 6.5
90 - 120	brownish yellow (10YR 6/6) clay with many medium distinct light gray (7.5YR 7/1) mottles; pH 6.5
<u>Soil Classification:</u>	Aquic Tropudalf, very fine, mixed, isohyperthermic

NO. 40

<u>Depth</u>	<u>Description</u>
0 - 20	yellowish brown (10YR 5/4) clay with common fine distinct yellow (10YR 7/8) and few fine faint (10YR 5/2) grayish brown; pH 6.5
20 - 30	yellowish red (5YR 5/6) heavy clay with few fine distinct grayish brown (10YR 5/2) and common fine distinct brownish yellow (10YR 6/6) mottles; pH 6.5
30 - 120	yellowish brown (10YR 5/4) loamy sand pH 6.5
<u>Soil Classification:</u>	Typic Tropudalf fine, mixed, isohyperthermic

NO. 41

<u>Depth</u>	<u>Description</u>
0 - 40	yellowish brown (10YR 5/4) clay; few flint fragments, few charcoal spots, common Fe and Mn concretions pH 6.5
40 -	hard sandstone parent material pH 6.5
<u>Soil Classification:</u>	Lithic Tropudalf, clayey mixed, isohyperthermic

