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Hart District Replacement Local Plan
Site 1020: Totters Farm,
Hook, Hampshire
Agricultural Land Classification
ALC Map and Report
October 1996.

Resource Planning Team
Guildford Statutory Group
ADAS Reading

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AGRICULTURAL LAND CLASSIFICATION REPORT

HART DISTRICT REPLACEMENT LOCAL PLAN
SITE 1020: TOTTERS FARM, HOOK, HAMPSHIRE

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 63.2 hectares of land located between the A30, London Road, the River Whitewater, Totters Lane and a railway line to the east of Hook in Hampshire. The survey was carried out during October 1996.

2. The survey was commissioned by the Ministry of Agriculture, Fisheries and Food (MAFF) from its Land Use Planning Unit, in Reading, in connection with the Hart District Replacement Local Plan. The results of this survey supersede any previous ALC information for this land.

3. The work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.

4. At the time of survey the agricultural land on this site was in a combination of permanent grass and maize stubble. The areas shown as 'Other Land' include industrial units, woodland, dwellings and farm buildings.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement would be misleading.

6. The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1 below.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% site area	% surveyed area
2	23.2	36.7	39.3
3a	24.4	38.6	41.3
3b	11.5	18.2	19.4
Other Land	4.1	6.5	-
Total surveyed area	59.1	-	100.0
Total site area	63.2	100.0	-

7. The fieldwork was conducted at an average density of 1 boring per hectare. A total of 63 borings and five soil pits were described.

8. The agricultural land on this site has been classified as Grade 2 (very good quality) to Subgrade 3b (moderate quality) including substantial areas of Subgrade 3a (good quality), key limitations include soil wetness and soil droughtiness.

9. Very good quality (Grade 2) land extends over the east of the site in a single mapping unit. Soils in this area commonly comprise well drained sandy loams overlying loamy sands at moderate depths. The combination of soil characteristics and local climate leads to a restriction in water availability for plants such that Grade 2 is appropriate on the basis of soil droughtiness. In addition, towards the north of this mapping unit, some observations were principally limited by soil wetness due to the presence of slowly permeable clay loam and clay horizons at depth in the profile. Slowly permeable horizons cause drainage to be impeded such that land utilisation is restricted. In the local climate the depth of these slowly permeable horizons and the degree of soil wetness is sufficient to place this land in Grade 2.

10. Good quality (Subgrade 3a) land extends across the north and central areas of the site in two mapping units. Soils in this area are in two groups. Towards the north of the site soils comprise sandy silt loam and clay loam topsoils and upper subsoils which overlie slowly permeable clay loams and clay. As above (para. 9) slowly permeable horizons cause drainage to be impeded such that land utilisation is restricted. In the local climate the depth of these slowly permeable horizons and the degree of soil wetness is sufficient to place this land in Subgrade 3a. Towards the south of the site soils comprise moderately stony sandy loams and sandy clay loams. In the prevailing local climate, the combination of stones and sandy soil textures acts to restrict available water to plants. Crop growth and yields will therefore be adversely affected, to the extent that in this area Subgrade 3a is appropriate due to a soil droughtiness limitation.

11. Land of moderate quality (Subgrade 3b) is mapped in two units across the north and west of the site. The soils in these areas are limited by soil wetness due to the occurrence of slowly permeable clay horizons at shallow depths in the profile; these underlie clay loam, occasionally silty clay loam topsoils. As above (paras. 9 and 10) slowly permeable horizons cause drainage to be impeded such that land utilisation is restricted. In the local climate the depth of these slowly permeable horizons and the degree of soil wetness is sufficient to place this land in Subgrade 3b.

FACTORS INFLUENCING ALC GRADE

Climate

12. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

13. The key climatic variables used for grading this site are given in Table 2 overleaf and were obtained from the published 5km grid datasets using standard interpolation procedures (Met. Office, 1989).

14. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

Table 2: Climatic and altitude data

Factor	Units	Values		
Grid reference	N/A	SU 741 544	SU 743 547	SU 747 547
Altitude	m, AOD	65	75	84
Accumulated Temperature	day°C	1456	1445	1434
Average Annual Rainfall	mm	696	699	702
Field Capacity Days	days	148	148	149
Moisture Deficit, Wheat	mm	110	108	107
Moisture Deficit, Potatoes	mm	103	101	100

15. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.

16. The combination of rainfall and temperature at this site mean that there is no overall climatic limitation. Local climatic factors, such as exposure and frost risk, are not believed to significantly affect this area. The site is climatically Grade 1.

Site

17. The site lies at altitudes in the range 65-84m AOD. The lowest lying land on this site occurs along the western boundary which is formed by the River Whitewater. To the east the land rises to approximately 75m, gently to the north of the site, more steeply towards the south. At this point, the land levels to a plateau which extends to the eastern and southern boundaries. Within this site none of the slopes are of sufficient gradient to affect agricultural land quality.

Geology and soils

18. The published geological information for the site (BGS, 1981) shows the west of the site, bordering the River Whitewater, to be underlain by an alluvial drift deposit. Moving east the lower slopes and the north of the site are mapped as London Clay. The highest land towards the south-east, is mapped as Bagshot Beds.

19. The most detailed published soils information for the site (SSEW, 1983 and 1984) shows the site to comprise soils of the Wickham 4, Frilford, Fladbury 3 and Frome associations. Wickham 4 soils are mapped towards the north of the site and are described as, 'Slowly permeable seasonally waterlogged fine loamy over clayey and fine silty over clayey soils associated with similar clayey soils, often with brown subsoils.' (SSEW, 1983). Frilford soils are mapped towards the south and east of the site and are described as, 'Deep well drained fine and coarse loamy soils. Some ferruginous sandy and some coarse loamy soils

affected by groundwater. Risk of water erosion.' (SSEW, 1983). Soils of the Fladbury 3 association are mapped along the river course towards the west of the site and are described as, 'Deep well drained fine and coarse loamy soils. Some ferruginous sandy and some coarse loamy soils affected by groundwater. Risk of water erosion.' (SSEW, 1983). Soils of the Frome association are mapped along the river course in a small area towards the south of the site, they are described as, 'Deep well drained fine and coarse loamy soils. Some ferruginous sandy and some coarse loamy soils affected by groundwater. Risk of water erosion.' (SSEW, 1983). Soils of these four association types were found on the site in approximately the areas designated.

Agricultural Land Classification

20. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1.

21. The location of the auger borings and pits is shown on the attached sample location map and details of the soils data are presented in Appendix III.

Grade 2

22. Land of very good quality has been mapped in a single unit towards the east of the site. Principal limitations to agricultural land quality in this area include soil droughtiness and soil wetness.

23. The soils in this area are of two separate types. The most common occurs towards the south of this mapping unit and is characterised by the soil pit 1P (see Appendix III). They commonly comprise a very slightly stony (up to c. 10% v/v total flints by volume, including up to 2% >2cm) fine or medium sandy loam topsoil, which passes to a similarly textured though commonly more stony (up to 33% v/v flints) upper subsoil. This horizon was commonly impenetrable to the soil auger at the time of survey. In the areas where the profile could be examined to depth, the upper subsoil gave way to a similarly stony loamy fine sand horizon, passing to a stoneless well structured loamy fine sand lower subsoil horizon from around 80cm depth. Given the local climate, this combination of textures and stone contents cause this area to suffer from a slight soil droughtiness limitation, where crop growth and yield are likely to be adversely affected, especially in drier years.

24. The second less common soil type in the Grade 2 mapping unit is principally limited by soil wetness, although in a number of cases soil droughtiness was equally limiting. The soils commonly comprise a very slightly stony (up to 5% v/v total flints) fine sandy loam or more commonly fine sandy silt loam topsoil. This passes to a slightly stony (up to 10% v/v total flints), commonly gleyed fine or medium sandy silt loam or fine or medium sandy loam, occasionally loamy medium sand. This commonly passes between 45 and 65 cm to a gleyed heavy clay loam or sandy clay loam overlying clay or passes directly to the clay. The pit observations 4P and 5P indicate that these horizons are slowly permeable. In the local climate, soils of this nature are assigned to Wetness Class III, but with the easily workable nature of the topsoil, they are appropriately graded 2. This degree of wetness restricts land utilisation by reducing the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock as well as adversely affecting crop

growth and development. In addition, many of these profiles are slightly limited by soil droughtiness, such that crop growth and yield may be affected especially in drier years.

Subgrade 3a

25. Land of good quality has been mapped in two units towards the east and central area of the site. The land in this area is principally limited by soil wetness although soil droughtiness is also limiting in some areas.

26. The areas that are limited principally by soil wetness are located towards the north and west of the mapping units. The soil pits 4P, 3P and 2P (see Appendix III) are representative of these soil types at this site, although not all of these observations are in this Subgrade. The soils in this area commonly comprise a slightly stony (up to 8% v/v total flints, including up to 2% >2cm) fine sandy loam or fine sandy silt loam topsoil passing to a narrow, similarly stony, gleyed medium or sandy clay loam upper subsoil. This horizon was not always present. These horizons pass to gleyed and slowly permeable heavy clay loams and clay, occasionally silty clay, lower subsoils. The presence and depth of the slowly permeable horizons in these profiles are indicative of a drainage impedance which, in the local climate leads to Wetness Class IV being applied. The workability of the light topsoils means that these soils are appropriately placed in Subgrade 3a. Soil wetness restricts land utilisation as described above (para. 24).

27. The areas in this Subgrade which are principally limited by soil droughtiness are located towards the centre of the site. The soil pit 5P is representative of this soil type at this site. The soils commonly comprise a slightly to moderately stony (up to 21% total v/v flints, including 6%> 2cm) fine sandy loam or fine sandy silt loam topsoil. This passes to a slightly to very stony (up to 48% v/v total flints) fine sandy silt loam, fine or medium sandy silt loam upper subsoil, which was impenetrable to the soil auger. In the pit observation this was found to pass to a very slightly stony gleyed and slowly permeable sandy clay loam horizon from 59cm, which passed to a stoneless gleyed medium sandy loam from approximately 100cm. In the local climate, the stone content of these profiles cause them to be restricted by soil droughtiness to a level whereby Subgrade 3a is most appropriate. Soil droughtiness leads to a restriction on crop growth and yield, especially in drier years.

Subgrade 3b

28. Land of moderate quality has been mapped in two units towards the north and west of the site. The principal limitation in this area is soil wetness.

29. The soils in these areas are characterised by the soil pits 2P and 3P (see Appendix III). Towards the west of the site, the soils are developed in alluvial drift deposits and comprise a gleyed medium clay loam topsoil overlying a gleyed and slowly permeable clay to approximately 60cm where the lower subsoils comprise increasingly stony (up to 40% v/v total flints) poorly structured heavy clay loams to at least 80cm where they become impenetrable. The land to the north of the site mapped in this Subgrade has soils which are derived from London Clay. These comprise a gleyed medium clay loam topsoil overlying a medium or heavy clay loam upper subsoil passing to clay. The subsoils at these observations were poorly structured and slowly permeable. The presence of a slowly permeable horizon in the profile causes a drainage impedance. In the local climate, the depth of these horizons in

these profiles means that Wetness Class IV is appropriate and with the moderate workability status of a medium clay loam topsoil leads to Subgrade 3b being applied in these areas on the basis of a soil wetness limitation. Soil wetness restricts land utilisation as detailed above (para. 24).

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SOURCES OF REFERENCE

British Geological Survey (1981) *Sheet 284, Basingstoke. Solid and Drift Edition. 1:50 000. Scale.*
BGS: London.

Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land.*
MAFF: London.

Meteorological Office (1989) *Climatological Data for Agricultural Land Classification.*
Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Soils of South East England. 1:250 000 Scale.*
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils of South East England. Bulletin No. 15.*
SSEW: Harpenden.

APPENDIX I

DESCRIPTIONS OF THE GRADES AND SUBGRADES

Grade 1: Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2: Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a: Good Quality Agricultural Land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b: Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4: Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5: Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

APPENDIX II

SOIL WETNESS CLASSIFICATION

Definitions of Soil Wetness Classes

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile. Six soil wetness classes are identified and are defined in the table below.

Wetness Class	Duration of waterlogging[1]
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years.[2]
II	The soil profile is wet within 70 cm depth for 31-90 days in most years **or**, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but only wet within 40 cm depth for 30 days in most years.
III	The soil profile is wet within 70 cm depth for 91-180 days in most years **or**, if there is no slowly permeable layer present within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31-90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years **or**, if there is no slowly permeable layer present within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

Assessment of Wetness Class

Soils have been allocated to wetness classes by the interpretation of soil profile characteristics and climatic factors using the methodology described in *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988).

[1] The number of days is not necessarily a continuous period.

[2] 'In most years' is defined as more than 10 out of 20 years.

APPENDIX III

SOIL DATA

Contents:

Sample location map

Soil abbreviations - Explanatory Note

Soil Pit Descriptions

Soil boring descriptions (boring and horizon levels)

Database Printout - Horizon Level Information

SOIL PROFILE DESCRIPTIONS: EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a computer database. This uses notations and abbreviations as set out below.

Boring Header Information

1. **GRID REF**: national 100 km grid square and 8 figure grid reference.

2. **USE**: Land use at the time of survey. The following abbreviations are used:

ARA:	Arable	**WHT**:	Wheat	**BAR**:	Barley
CER:	Cereals	**OAT**:	Oats	**MZE**:	Maize
OSR:	Oilseed rape	**BEN**:	Field Beans	**BRA**:	Brassicae
POT:	Potatoes	**SBT**:	Sugar Beet	**FCD**:	Fodder Crops
LIN:	Linseed	**FRT**:	Soft and Top Fruit	**FLW**:	Fallow
PGR:	Permanent Pasture	**LEY**:	Ley Grass	**RGR**:	Rough Grazing
SCR:	Scrub	**CFW**:	Coniferous Woodland	**DCW**:	Deciduous Wood
HTH:	Heathland	**BOG**:	Bog or Marsh	**FLW**:	Fallow
PLO:	Ploughed	**SAS**:	Set aside	**OTH**:	Other
HRT:	Horticultural Crops				

3. **GRDNT**: Gradient as estimated or measured by a hand-held optical clinometer.

4. **GLEY/SPL**: Depth in centimetres (cm) to gleying and/or slowly permeable layers.

5. **AP (WHEAT/POTS)**: Crop-adjusted available water capacity.

6. **MB (WHEAT/POTS)**: Moisture Balance. (Crop adjusted AP - crop adjusted MD)

7. **DRT**: Best grade according to soil droughtiness.

8. If any of the following factors are considered significant, 'Y' will be entered in the relevant column.

MREL:	Microrelief limitation	**FLOOD**:	Flood risk	**EROSN**:	Soil erosion risk
EXP:	Exposure limitation	**FROST**:	Frost prone	**DIST**:	Disturbed land
CHEM:	Chemical limitation				

9. **LIMIT**: The main limitation to land quality. The following abbreviations are used:

OC:	Overall Climate	**AE**:	Aspect	**EX**:	Exposure
FR:	Frost Risk	**GR**:	Gradient	**MR**:	Microrelief
FL:	Flood Risk	**TX**:	Topsoil Texture	**DP**:	Soil Depth
CH:	Chemical	**WE**:	Wetness	**WK**:	Workability
DR:	Drought	**ER**:	Erosion Risk	**WD**:	Soil Wetness/Droughtiness
ST:	Topsoil Stoniness				

Soil Pits and Auger Borings

1. **TEXTURE**: soil texture classes are denoted by the following abbreviations:

S:	Sand	**LS**:	Loamy Sand	**SL**:	Sandy Loam
SZL:	Sandy Silt Loam	**CL**:	Clay Loam	**ZCL**:	Silty Clay Loam
ZL:	Silt Loam	**SCL**:	Sandy Clay Loam	**C**:	Clay
SC:	Sandy Clay	**ZC**:	Silty Clay	**OL**:	Organic Loam
P:	Peat	**SP**:	Sandy Peat	**LP**:	Loamy Peat
PL:	Peaty Loam	**PS**:	Peaty Sand	**MZ**:	Marine Light Silts

For the sand, loamy sand, sandy loam and sandy silt loam classes, the predominant size of sand fraction will be indicated by the use of the following prefixes:

F: Fine (more than 66% of the sand less than 0.2mm)

M: Medium (less than 66% fine sand and less than 33% coarse sand)

C: Coarse (more than 33% of the sand larger than 0.6mm)

The clay loam and silty clay loam classes will be sub-divided according to the clay content:

M: Medium (<27% clay) **H**: Heavy (27-35% clay)

2. **MOTTLE COL**: Mottle colour using Munsell notation.

3. **MOTTLE ABUN**: Mottle abundance, expressed as a percentage of the matrix or surface described.
F: few <2% **C**: common 2-20% **M**: many 20-40% **VM**: very many 40% +

4. **MOTTLE CONT**: Mottle contrast.
F: faint - indistinct mottles, evident only on close inspection
D: distinct - mottles are readily seen
P: prominent - mottling is conspicuous and one of the outstanding features of the horizon

5. **PED. COL**: Ped face colour using Munsell notation.

6. **GLEY**: If the soil horizon is gleyed a 'Y' will appear in this column. If slightly gleyed, an 'S' will appear.

7. **STONE LITH**: Stone Lithology. One of the following is used:

HR:	all hard rocks and stones	**SLST**:	soft oolitic or dolimitic limestone
CH:	chalk	**FSST**:	soft, fine grained sandstone
ZR:	soft, argillaceous, or silty rocks	**GH**:	gravel with non-porous (hard) stones
MSST:	soft, medium grained sandstone	**GS**:	gravel with porous (soft) stones
SI:	soft weathered igneous/metamorphic rock		

Stone contents (>2cm, >6cm and total) are given in percentages (by volume).

8. **STRUCT**: the degree of development, size and shape of soil peds are described using the following notation:

degree of development	**WK**: weakly developed	**MD**: moderately developed
	ST: strongly developed	
ped size	**F**: fine	**M**: medium
	C: coarse	**VC**: very coarse
ped shape	**S**: single grain	**M**: massive
	GR: granular	**AB**: angular blocky
	SAB: sub-angular blocky	**PR**: prismatic
	PL: platy	

9. **CONSIST**: Soil consistence is described using the following notation:

L: loose **VF**: very friable **FR**: friable **FM**: firm **VM**: very firm
EM: extremely firm **EH**: extremely hard

10. **SUBS STR**: Subsoil structural condition recorded for the purpose of calculating profile droughtiness:
G: good **M**: moderate **P**: poor

11. **POR**: Soil porosity. If a soil horizon has less than 0.5% biopores >0.5 mm, a 'Y' will appear in this column.

12. **IMP**: If the profile is impenetrable to rooting a 'Y' will appear in this column at the appropriate horizon.

13. **SPL**: Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.

14. **CALC**: If the soil horizon is calcareous, a 'Y' will appear in this column.

15. Other notations:

APW: available water capacity (in mm) adjusted for wheat
APP: available water capacity (in mm) adjusted for potatoes
MBW: moisture balance, wheat
MBP: moisture balance, potatoes.

SOIL PIT DESCRIPTION

Site Name : HART LP S1020 TOTTERS FM Pit Number : 1P

Grid Reference: SU74515440 Average Annual Rainfall : 696 mm
Accumulated Temperature : 1456 degree days
Field Capacity Level : 148 days
Land Use :
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 24	FSL	10YR32 42	2	6	HR					
24- 62	FSL	10YR44 54	5	33	HR	F	WKCSAB	VF	G	
62- 79	LFS	10YR53 00	13	35	HR	F			M	
79-120	LFS	75YR56 00	0	0			MDCAB	FR	G	

Wetness Grade : 1 Wetness Class : I
Gleying : cm
SPL : cm

Drought Grade : 2 APW : 162mm MBW : 54 mm
APP : 106mm MBP : 6 mm

FINAL ALC GRADE : 2
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : HART LP S1020 TOTTERS FM Pit Number : 2P

Grid Reference: SU74405490 Average Annual Rainfall : 696 mm
Accumulated Temperature : 1456 degree days
Field Capacity Level : 148 days
Land Use : Permanent Grass
Slope and Aspect : 1 degrees N

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	MCL	10YR53 00	1	3	HR	C				
28- 43	HCL	10YR52 00	0	5	HR	C	MDCPR	VM	P	
43- 70	C	10YR62 72	0	1	HR	M	STCPR	VM	P	

Wetness Grade : 3B Wetness Class : IV
Gleying : 0 cm
SPL : 28 cm

Drought Grade : 3B APW : 89 mm MBW : -20 mm
APP : 101mm MBP : -1 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : HART LP S1020 TOTTERS FM Pit Number : 3P

Grid Reference: SU73905470
Average Annual Rainfall : 696 mm
Accumulated Temperature : 1456 degree days
Field Capacity Level : 148 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	MCL	10YR42 00	0	2	HR	C				
25- 58	C	25Y 31 00	0	2	HR	C	MDCAB	FM	P	
58- 65	HCL	05Y 41 00	0	15	HR	C	WKCAB	FM	P	
65- 80	HCL	25Y 61 62	0	40	HR	M	MASSVE	FM	P	Y

Wetness Grade : 3B
Wetness Class : IV
Gleying : 0 cm
SPL : 25 cm

Drought Grade : 3A
APW : 92 mm MBW : -17 mm
APP : 97 mm MBP : -6 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : HART LP S1020 TOTTERS FM Pit Number : 4P

Grid Reference: SU74105480
Average Annual Rainfall : 696 mm
Accumulated Temperature : 1456 degree days
Field Capacity Level : 148 days
Land Use : Permanent Grass
Slope and Aspect : 04 degrees W

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 23	FSL	10YR33 43	2	6	HR					
23- 30	SCL	10YR53 00	0	5	HR	M	MDCSAB	FR	M	
30- 43	ZC	25 Y52 00	0	5	HR	M	MDCAB	FM	P	
43- 75	C	10YR53 00	0	8	HR	M	MDCAB	FM	P	
75-120	C	10YR53 00	0	0		M	MDCAB	FM	P	

Wetness Grade : 3A
Wetness Class : IV
Gleying : 23 cm
SPL : 30 cm

Drought Grade : 2
APW : 120mm MBW : 10 mm
APP : 96 mm MBP : -7 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : HART LP S1020 TOTTERS FM Pit Number : SP

Grid Reference: SU74235462
Average Annual Rainfall : 696 mm
Accumulated Temperature : 1456 degree days
Field Capacity Level : 148 days
Land Use : Permanent Grass
Slope and Aspect : 02 degrees N

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 23	FSL	10YR33 00	6	21	HR					
23- 59	MSL	10YR43 00	25	48	HR			FR	M	
59-100	SCL	05YR63 00	0	3	HR	M	WKCAB	FR	M	
100-120	MSL	25 Y62 00	0	0		M			M	

Wetness Grade : 1
Wetness Class : II
Gleying : 59 cm
SPL : 59 cm

Drought Grade : 3A
APW : 123mm MBW : 15 mm
APP : 79 mm MBP : -22 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Droughtiness

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	DRT	M.REL FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SU74405510	PGR			0	35	4	3B		0		0					WE	3B	2P
1P	SU74515440	STB					1	1	162	54	106	6	2				DR	2	AT B56 BDR 3A
2	SU74505510	PGR			0	25	4	3B		0		0					WE	3B	2P
2P	SU74405490	PGR	N	1	0	28	4	3B	89	-20	101	-1	3B				WE	3B	AT B12 PIT 70
3	SU74005488	PGR			20	33	4	3B		0		0	_				WE	3B	IMP 50 3P
3P	SU73905470	PGR			0	25	4	3B	92	-17	97	-6	3A				WE	3B	AT B26
4	SU74295496	PGR			0	38	4	3B		0		0					WE	3B	2P
4P	SU74105480	PGR	W	04	23	30	4	3A	120	10	96	-7	2				WE	3A	AT B19
5	SU74405500	PGR			25	50	3	2	110	0	122	19	3A				WD	2	IMP 70
5P	SU74235462	PGR	N	02	59	59	2	1	123	15	79	-22	3A				DR	3A	PIT 85 AUG 120
6	SU74505500	PGR			25	25	4	3A		0		0					WE	3A	2P
7	SU74605500	PGR			25	35	4	3A	139	30	116	14	2				WE	3A	2P
8	SU74705500	PGR	N	1	38	38	4	3A	128	19	105	3	2				WE	3A	2P
9	SU74105490	PGR	N	2	28	45	3	2		0		0					WE	2	
10	SU74205490	PGR	N	1	35	35	4	3A	78	-32	78	-25	3B				WE	3A	IMP 40 SEE 4P
11	SU74305490	PGR			0	30	4	3B	115	5	113	10					WE	3B	SEE 2P
12	SU74405490	PGR	N	1	0	25	4	3B	124	14	101	-2	2				WE	3B	2P LOCATION
13	SU74515490	PGR	N	1	28	55	3	2	143	34	120	18	1				WE	2	
14	SU74605491	PGR	N	1	0	45	3	2	141	33	116	15	1				WE	2	
15	SU74705490	PGR	N	1	28	60	3	2	141	33	113	11	1				WE	2	
16	SU73805480	PGR			25	25	4	3B		0		0					WE	3B	
17	SU73905480	PGR			28	28	4	3B		0		0					WE	3B	IMP 65
18	SU74005480	PGR			28		2	1	110	0	113	10	3A				WE	3A	IMP 55 4P
19	SU74105480	PGR	W	3	0		2	1	60	-50	60	-43	3B				WE	3A	IMP 30 4P
20	SU74205480	PGR	N	2	0	38	4	3A		0		0					WE	3A	
21	SU74305480	PGR	N	1	0	40	4	3A		0		0					WE	3A	
22	SU74405480	PGR	N	1	0	30	4	3B		0		0					WE	3B	
23	SU74505378	PGR	N	2	30		2	1	194	86	139	38	1					1	
24	SU74605480	PGR	N	1	60	78	2	1	145	33	114	9	2				DR	2	
25	SU74705480	PGR	N	1			1	1	56	-54	56	-47	4				DR	2	IMP 35 1P
26	SU73905470	PGR			25	25	4	3B		0		0					WE	3B	IMP 80 3P
27	SU74005470	PGR			38	38	4	3A		0		0					WE	3A	IMP 50 2P/4P
28	SU74105470	PGR	W	3			1	1	50	-60	50	-53	4				WE	3A	IMP 30 4P
29	SU74205470	PGR	W	2	0		2	1	49	-61	49	-54	4				WE	3A	IMP 30 4P
30	SU74305470	PGR			0	45	3	2	138	30	114	13	3A				WE	2	2P
31	SU74405470	PGR	NW	1			1	1	42	-68	42	-61	4				DR	2	IMP 25 1PBDR3A
32	SU74505470	PGR	NE	2	30		2	1	60	-50	60	-43	3B				DR	2	IMP 35 1PBDR3A
33	SU74605470	PGR	NW	3	30	50	3	2	116	8	97	-4	2				WD	2	
34	SU74705471	PGR			30	55	3	2	150	43	124	24	1				WE	2	
35	SU73905460	PGR			20	20	4	3B		0		0					WE	3B	
36	SU74005460	PGR			25	25	4	3B		0		0					WE	3B	IMP 75 SEE 2P
37	SU74105459	PGR	W	4	40		2	1	110	0	114	11	3A				DR	3A	IMP 60

SAMPLE NO.	GRID REF	ASPECT USE		GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	DRT	M.REL FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
38	SU74205460	PGR	W	1	25		2	1	66	-44	66	-37	3B				DR	3A	IMP 40 5P
39	SU74305460	PGR					1	1	46	-64	46	-57	4				DR	3A	IMP 30 5P
40	SU74405460	PGR	W	1	50	65	2	1	167	59	127	27	1					1	
41	SU74505460	PGR	W	2	80	80	2	1	160	52	115	14	1					1	
42	SU74605460	STB			–		1	1	50	-60	50	-53	4			–	DR	2	IMP 30 1PBDR3A
44	SU74005450	PGR			0	28	2	3A	108	-1	92	-11	3A				WD	3A	
45	SU74105450	PGR	W	3			1	1	124	15	134	32	2				DR	2	IMP 70
46	SU74205450	PGR	W	4			1	1	53	-57	53	-50	4				DR	2	IMP 30 1PBDR3A
47	SU74305450	PGR					1	1	49	-61	49	-54	4				DR	2	IMP 28 1PBDR3A
48	SU74405450	PGR	W	1	60		1	1	140	32	111	11	1					1	
49	SU74505450	STB					1	1	69	-41	69	-34	3B				DR	2	IMP 40 1PBDR3A
50	SU74605450	STB					1	1	56	-54	56	-47	4				DR	2	IMP 32 1PBDR3A
51	SU74005440	PGR			25		2	2	112	2	118	15	3A				WD	2	IMP 85
52	SU74105440	PGR	W	2	0		2	1	66	-44	66	-37	3B				DR	3B	IMP 35
53	SU74205440	PGR	W	3	27	27	4	3B		0		0					WE	3B	SEE 2P
54	SU74305440	PGR	W	2			1	1	52	-58	52	-51	4				DR	2	IMP 30 1PBDR3A
55	SU74405440	PGR	SE	1			1	1	51	-59	51	-52	4				DR	2	IMP 30 1PBDR3A
56	SU74515440	STB					1	1	54	-56	54	-49	4				DR	2	IMP 30 1PBDR3A
57	SU74605440	STB	S	1			1	1	62	-48	62	-41	3B				DR	2	IMP 35 1PBDR3A
58	SU74705440	STB					1	1	51	-59	51	-52	4				DR	2	IMP 30 1PBDR3A
59	SU74105430	PGR			0	45	3	3A	87	-23	89	-14	3B				WE	3A	IMP 55 3P
60	SU74205430	PGR	SW	7	25		2	1	183	73	128	25	1					1	
61	SU74305430	PGR	SW	5	25	85	2	1	130	21	103	1	2				DR	2	
62	SU74405430	PGR	SW	5	50		1	1	86	-24	88	-15	3B				DR	2	IMP 55 1PBDR3A
63	SU74505430	STB	W	1	28	38	4	3A		0		0					WE	3A	IMP 85
64	SU74605430	STB	W	1			1	1	52	-58	52	-51	4				DR	2	IMP 30 1PBDR3A

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
1	0-25	mcl	10YR42 52	10YR58 00	C			Y	0	0		0							
	25-35	hcl	25Y 53 00	10YR58 00	M			Y	0	0		0		M					
	35-70	c	25Y 52 51	10YR58 68	M			Y	0	0		0		P			Y		
1P	0-24	fsl	10YR32 42						2	0	HR	6							PSD HAND TEX MSL
	24-62	fsl	10YR44 54	10YR58 00	F				5	0	HR	33	WKCSAB	VF G					SIEVED PSD
	62-79	lfs	10YR53 00	10YR58 00	F				13	0	HR	35		M					SIEVED PSD
	79-120	lfs	75YR56 00						0	0		0	MDCAB	FR G					PSD BORDER FSL
2	0-25	mcl	10YR42 00	10YR46 00	C			Y	0	0		0							
	25-35	hcl	25Y 52 00	10YR58 00	M			Y	0	0		0		P			Y		
	35-60	c	25Y 52 53	10YR58 00	M			Y	0	0		0		P			Y		
2P	0-28	mcl	10YR53 00	75YR58 00	C			Y	1	0	HR	3							PSD 2% FROM MSZL
	28-43	mcl	10YR52 00	05Y 58 00	C	00MN00 00		Y	0	0	HR	5	MDCPR	VM P	Y		Y		PSD HAND TEX HCL
	43-70	c	10YR62 72	75YR58 00	M	10YR61 00		Y	0	0	HR	1	STCPR	VM P	Y		Y		
3	0-20	mzcl	10YR31 41	10YR46 00	F				0	0	HR	5							
	20-33	mcl	10YR52 00	10YR66 00	C			Y	0	0	HR	15		M					
	33-45	c	25Y 31 00	10YR46 00	C			Y	0	0	HR	10		P			Y		
	45-50	c	25Y 41 00	10YR46 00	C			Y	0	0	HR	30		P			Y		IMP FLINTS 50
3P	0-25	mcl	10YR42 00	10YR46 00	C			Y	0	0	HR	2							
	25-58	c	25Y 31 00	10YR46 58	C			Y	0	0	HR	2	MDCAB	FM P	Y		Y		
	58-65	hcl	05Y 41 00	10YR46 00	C			Y	0	0	HR	15	WKCAB	FM P	Y		Y		
	65-80	hcl	25Y 61 62	10YR46 00	M			Y	0	0	HR	40	MASSVE	FM P	Y		Y	Y	
4	0-24	mcl	10YR42 00	10YR58 61	C			Y	0	0	HR	2							
	24-38	mcl	10YR52 00	10YR58 61	C			Y	0	0		0		M					
	38-60	c	10YR62 00	10YR68 61	M			Y	0	0		0		P			Y		
4P	0-23	fsl	10YR33 43						2	0	HR	6							
	23-30	scl	10YR53 00	10YR46 00	M			Y	0	0	HR	5	MDCSAB	FR M					
	30-43	zc	25 Y52 00	75YR56 00	M			Y	0	0	HR	5	MDCAB	FM P	Y		Y		PSD HAND TEX SCL
	43-75	c	10YR53 00	75YR56 00	M			Y	0	0	HR	8	MDCAB	FM P	Y		Y		
	75-120	c	10YR53 00	75YR56 00	M			Y	0	0		0	MDCAB	FM P	Y		Y		
5	0-25	fszl	10YR42 00						0	0	HR	3							
	25-40	fszl	10YR52 00	10YR66 00	C			Y	0	0	HR	10		M					
	40-50	msl	10YR61 00	10YR68 00	M			Y	0	0	HR	5		M					
	50-70	c	25Y 53 00	10YR58 00	M			Y	0	0		0		P			Y		IMP FLINTS 70
5P	0-23	fsl	10YR33 00						6	0	HR	21							SIEVED
	23-59	msl	10YR43 00						25	0	HR	48		FR M					SIEVED
	59-100	scl	05YR63 00	75YR68 00	M	00MN00 00		Y	0	0	HR	3	WKCAB	FR M	Y		Y		
	100-120	msl	25 Y62 00	75YR68 00	M			Y	0	0		0		M	Y		Y		
6	0-25	fszl	10YR42 52	10YR56 00	F				0	0		0							
	25-45	hcl	10YR53 63	10YR58 00	C			Y	0	0		0		P			Y		
	45-80	c	25Y 53 52	10YR58 00	M			Y	0	0		0		P			Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
7	0-25	fszl	10YR42 52	10YR46 00	F				0	0	HR	3							
	25-35	fszl	10YR53 00	10YR56 00	C			Y	0	0	HR	10		M					
	35-45	hcl	25Y 53 00	10YR56 00	C			Y	0	0	HR	5		P		Y			
	45-120	c	05Y 62 00	10YR58 00	M			Y	0	0		0		P		Y			
8	0-28	fsl	10YR42 00	10YR46 00	F				0	0		0							
	28-38	mcl	10YR43 00	10YR46 56	F				0	0		0		M					
	38-50	hcl	10YR52 00	10YR66 00	C			Y	0	0	HR	10		P		Y			
	50-120	c	25Y 52 00	10YR68 00	M			Y	0	0		0		P		Y			
9	0-28	fszl	10YR42 00	10YR46 00	F				0	0	HR	2							
	28-45	fszl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M					
	45-80	c	25Y 53 00	10YR58 00	M			Y	0	0		0		P		Y			
10	0-23	fszl	10YR42 00	10YR46 00	F				0	0	HR	3							
	23-35	fszl	10YR44 54	10YR56 00	F				0	0	HR	10		M					
	35-40	scl	25Y 53 00	10YR68 00	M			Y	0	0	HR	25		M		Y			IMPFLINTS40 SPL4P
11	0-30	mcl	10YR42 00	10YR58 00	C			Y	0	0	HR	2							
	30-48	mcl	10YR63 00	75YR58 00	C			Y	0	0	HR	1		P		Y			SPL - 2P
	48-60	mcl	25Y 72 00	75YR58 00	M	00MN00	00	Y	0	0	HR	1		P		Y			SPL - 2P
	60-90	c	25Y 71 00	75YR58 00	M	00MN00	00	Y	0	0	HR	1		P		Y			
12	0-25	mcl	10YR42 00	10YR46 00	C			Y	0	0	HR	2							2P LOCATION
	25-45	hcl	10YR51 52	10YR58 00	C			Y	0	0		0		P		Y			
	45-120	c	25Y 53 52	10YR58 00	M			Y	0	0		0		P		Y			
13	0-28	fszl	10YR42 00	10YR46 00	F				0	0	HR	5							
	28-55	mszl	10YR53 00	10YR46 56	C			Y	0	0	HR	10		M					
	55-120	c	25Y 51 52	10YR58 00	M			Y	0	0		0		P		Y			
14	0-25	fsl	10YR42 00	10YR46 00	C			Y	0	0		0							
	25-45	msl	10YR51 00	10YR56 00	C	00MN00	00	Y	0	0	HR	3		G					
	45-70	scl	25Y 52 00	10YR58 00	C			Y	0	0		0		M		Y			SPL - 4P
	70-120	c	25Y 52 00	10YR58 00	M			Y	0	0		0		P		Y			
15	0-28	fsl	10YR41 42	10YR46 00	F				0	0	HR	3							
	28-60	msl	25Y 52 00	10YR56 00	C			Y	0	0	HR	10		G					
	60-75	scl	25Y 51 00	10YR58 00	C			Y	0	0		0		M		Y			SPL - 4P
	75-120	hcl	25Y 61 00	10YR68 00	M			Y	0	0		0		P		Y			
16	0-25	mcl	10YR41 42	10YR46 00	F				0	0	HR	2							
	25-60	c	25Y 52 00	10YR58 00	M			Y	0	0	HR	2		P		Y			
17	0-28	mcl	10YR41 00						0	0	HR	2							
	28-55	zc	25Y 31 41	10YR58 00	C			Y	0	0		0		P		Y			
	55-65	hzcl	10YR72 00	10YR68 00	C			Y	0	0	HR	30		P		Y			IMP FLINTS 65

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
18	0-28	fsz1	10YR42 00	10YR46 00	F				0	0		0						
	28-55	fsz1	10YR53 00	10YR56 00	C		00MN00 00	Y	0	0	HR	10		M				IMP FLINTS 55
19	0-23	fsz1	10YR43 53	10YR56 00	C			Y	0	0	HR	5						4P LOCATION
	23-30	fsz1	10YR53 52	10YR56 00	C			Y	0	0	HR	20		M				IMP FLINTS-30
20	0-25	fsz1	10YR42 43	10YR46 00	C			Y	0	0	HR	2						
	25-38	mc1	10YR52 53	10YR56 00	C			Y	0	0	HR	10		M				
	38-90	c	25Y 51 53	10YR58 00	M			Y	0	0		0		P		Y		
21	0-30	fs1	10YR42 00	10YR58 00	C			Y	0	0	HR	5						
	30-40	mc1	10YR53 00	10YR58 00	C			Y	0	0	HR	5		P		Y		SPL - 2P
	40-70	hc1	10YR62 00	75YR58 00	M			Y	0	0	HR	1		P		Y		
	70-90	c	10YR63 00	75YR58 00	M			Y	0	0	HR	1		P		Y		
22	0-30	hc1	10YR42 00	75YR58 00	C			Y	0	0	HR	1						
	30-55	hc1	10YR52 00	75YR58 00	M			Y	0	0	HR	1		P		Y		
	55-90	hc1	10YR62 72	75YR58 00	M			Y	0	0	HR	1		P		Y		
23	0-30	fs1	10YR42 00	10YR58 00	F				0	0	HR	5						
	30-45	fs1	10YR63 62	75YR58 00	C			Y	0	0	HR	2		G				
	45-70	fs1	10YR72 00	75YR56 00	C			Y	0	0		0		G				
	70-120	lfs	10YR71 00	75YR46 00	M			Y	0	0		0		G				
24	0-30	fs1	10YR42 00	10YR58 00	F				0	0	HR	5						
	30-60	ms1	10YR54 00	10YR58 00	F				0	0	HR	10		G				
	60-78	ms1	10YR64 00	75YR58 00	C			Y	0	0	HR	5		G				
	78-120	c	10YR64 00	75YR68 00	M			Y	0	0	HR	2		P		Y		
25	0-20	fs1	10YR42 00						0	0	HR	8						
	20-35	fs1	10YR53 00						0	0	HR	15		M				IMP FLINTS 35
26	0-25	mzc1	10YR42 00	10YR46 00	F				0	0		0						3P LOCATION
	25-38	hzc1	10YR53 00	10YR56 00	C			Y	0	0		0		P		Y		
	38-65	c	25Y 31 00	10YR58 00	C			Y	0	0		0		P		Y		
	65-80	hzc1	10YR61 62	10YR66 00	M			Y	0	0	HR	30		P		Y		IMP FLINTS 80
27	0-20	fsz1	10YR42 00	10YR58 00	F				0	0	HR	5						PSD BOUNDARY MCL
	20-38	hc1	10YR53 00	10YR58 00	F				0	0	HR	8		M				
	38-50	hc1	25Y 62 00	75YR58 00	M			Y	0	0	HR	10		P		Y		IMP FLINTS 50
28	0-30	fs1	10YR53 00						0	0	HR	8						IMP FLINTS 30
29	0-30	fs1	10YR53 00	10YR58 46	C			Y	0	0	HR	10						IMP FLINTS 30
30	0-30	fs1	10YR42 00	10YR56 00	C			Y	0	0	HR	5						
	30-45	fs1	10YR53 00	10YR58 00	C			Y	0	0	HR	2		G				
	45-65	hc1	25Y 72 00	75YR58 00	M			Y	0	0	HR	2		P		Y		
	65-90	c	25Y 72 00	75YR68 00	M		00MN00 00	Y	0	0	HR	2		P		Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
31	0-25	fsl	10YR43 00						1	0	HR	8							IMP FLINTS 25
32	0-25	fsl	10YR43 00						0	0	HR	5							
	25-30	fsl	10YR64 00						0	0	HR	5		G					
	30-35	msl	10YR64 00	10YR56 00	C			Y	0	0	HR	10	_	M					IMP FLINTS 35
33	0-30	msl	10YR43 00						0	0	HR	5							
	30-50	lms	10YR53 00	10YR56 00	C			Y	0	0	HR	5		G					
	50-80	scl	10YR64 63	75YR56 00	C			Y	0	0		0		M		Y			
	80-90	c	25Y 72 00	75YR58 00	M			Y	0	0		0		P		Y			
	90-120	ms	75YR58 00					Y	0	0		0		M					
34	0-30	fsl	10YR43 00						0	0	HR	4							
	30-55	fsl	10YR54 00	10YR56 00	C			S	0	0	HR	4		G					
	55-75	scl	10YR53 63	75YR56 00	M			Y	0	0		0		P		Y			
	75-120	c	10YR62 00	75YR58 68	M			Y	0	0		0		P		Y			
35	0-20	mcl	10YR42 00						0	0		0							
	20-30	hzcl	10YR41 00	10YR58 00	C			Y	0	0		0		P		Y			
	30-65	c	25Y 41 00	10YR58 00	C			Y	0	0		0		P		Y			
	65-75	hzcl	10YR62 72	10YR68 00	C			Y	0	0	HR	20		P		Y			
36	0-25	mcl	10YR43 00						0	0	HR	2							
	25-45	mcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		P		Y			SPL - 2P
	45-60	c	25Y 52 00	10YR58 00	M			Y	0	0	HR	5		P		Y			
	60-75	c	25Y 52 00	10YR58 00	M			Y	0	0	HR	15		P		Y			IMP FLINTS 75
37	0-25	fsl	10YR43 00						0	0	HR	5							
	25-40	fsl	10YR44 54	10YR56 00	F				0	0	HR	5		G					
	40-60	fsl	10YR62 63	10YR66 00	C			Y	0	0	HR	10		G					IMP FLINTS 60
38	0-25	fsl	10YR42 00	10YR58 00	F				0	0	HR	5							NEAR 5P
	25-40	fsl	10YR53 00	75YR58 00	C			Y	0	0	HR	15		M					IMP FLINTS 40
39	0-30	fsl	10YR42 00						0	0	HR	15							IMP FLINTS 30
40	0-38	fsl	10YR43 00	10YR58 00	F				0	0	HR	5							
	38-50	fsl	10YR54 00	10YR58 00	F				0	0	HR	15		G					
	50-65	fsl	10YR64 00	75YR58 00	C			Y	0	0	HR	5		G					
	65-75	scl	25Y 64 00	75YR58 00	C	00MN00 00		Y	0	0	HR	2		M		Y			SPL - 5P
	75-120	scl	25Y 72 00	75YR58 00	M	00MN00 00		Y	0	0		0		M		Y			SPL - 5P
41	0-24	msl	10YR42 43						0	0		0							PREV REC SURVEY
	24-45	msl	10YR44 00						0	0	HR	5		G					
	45-80	msl	10YR54 00						0	0	HR	5		G					
	80-120	scl	10YR62 63	10YR68 00	C	25YR46 00		Y	0	0		0		M		Y			SPL - 5P
42	0-25	fsl	10YR42 00						1	0	HR	8							
	25-30	fsl	10YR43 00						0	0	HR	10		M					IMP FLINTS 30

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
44	0-28	hzcl	10YR41 00	10YR46 00	C			Y	0	0		0							
	28-50	c	25Y 31 41	10YR58 00	C			Y	0	0		0		P			Y		
	50-90	lms	25Y 71 00	10YR78 00	C			Y	0	0	HR	10		M				Y	WET - GROUNDWATER
	90-120	lms	25Y 71 72	10YR78 00	C			Y	0	0	HR	20		M				Y	SATURATED
45	0-30	fsl	10YR42 00	10YR58 00	F				0	0	HR	3							
	30-70	fsl	10YR54 00						0	0	HR	8		G					IMP FLINTS 70
46	0-20	fsl	10YR42 00						0	0	HR	5							
	20-30	fsl	10YR53 00						0	0	HR	15		G					IMP FLINTS 30
47	0-20	fsl	10YR42 00						0	0	HR	5							
	20-28	fsl	10YR53 00						0	0	HR	15		G					IMP FLINTS 28
48	0-27	msl	10YR42 00						0	0	HR	2							PREV REC SURVEY
	27-60	msl	10YR53 00						0	0		0		G					
	60-120	lms	10YR54 00	10YR68 00	C			S	0	0		0		G					
49	0-28	fsl	10YR33 00						1	0	HR	8							
	28-40	fsl	10YR54 00						0	0	HR	15		G					IMP FLINTS 40
50	0-28	fsl	10YR33 00						1	0	HR	5							
	28-32	fsl	10YR42 00						0	0	HR	10		G					IMP FLINTS 32
51	0-25	mzcl	10YR42 00						0	0	HR	2							
	25-40	mzcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M					
	40-70	mszl	10YR71 61	10YR68 00	C			Y	0	0	HR	10		M				Y	
	70-85	lms	10YR62 00	10YR68 00	C			Y	0	0	HR	30		M				Y	IMP FLINTS 85
52	0-25	fszl	10YR52 00	75YR58 00	C			Y	0	0	HR	5							
	25-35	mcl	10YR62 63	75YR58 00	C			Y	0	0	HR	15		M					IMP FLINTS 35
53	0-27	mcl	10YR42 00						0	0		0							PREV REC SURVEY
	27-45	mcl	10YR52 53	10YR56 00	C			Y	0	0		0		P			Y		SPL - 2P
	45-70	c	10YR62 00	10YR68 61	C			Y	0	0		0		P			Y		
54	0-20	fsl	10YR42 00						0	0	HR	5							
	20-30	fsl	10YR43 53						0	0	HR	20		G					IMP FLINTS 30
55	0-20	fsl	10YR42 00	75YR58 00	F				0	0	HR	7							
	20-30	fsl	10YR53 00						0	0	HR	20		G					IMP FLINTS 30
56	0-20	fsl	10YR43 00						1	0	HR	3							1P LOCATION
	20-30	fsl	10YR53 00						0	0	HR	15		G					IMP FLINTS 30
57	0-25	fsl	10YR42 00						1	0	HR	5							
	25-35	fsl	10YR54 00						0	0	HR	15		G					IMP FLINTS 35

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
58	0-25	fsl	10YR43 00						2	0	HR	7							
	25-30	fsl	10YR43 00						0	0	HR	15		G					IMP FLINTS 30
59	0-25	mzcl	10YR42 00	10YR46 00	C			Y	0	0	HR	2							
—	25-45	mzcl	10YR53 00	10YR58 00	C			Y	0	0	HR	5		M					
	45-55	zc	25Y 53 00	10YR58 00	M			Y	0	0	HR	15		P		Y			IMP FLINTS 55
60	0-25	fsl	10YR43 00						0	0	HR	5							
	25-55	fsl	10YR64 00	10YR56 00	C			Y	0	0	HR	5		G					
	55-75	lfs	10YR63 00	10YR56 00	C			Y	0	0		0		G					
	75-120	fs	25Y 64 00	10YR58 00	M			Y	0	0		0		G					
61	0-25	msl	10YR42 00						0	0	HR	4							
	25-60	msl	25Y 73 00	10YR58 00	M			Y	0	0	HR	4		M					
	60-85	hcl	25Y 63 00	75YR56 00	M			Y	0	0		0		P		Y			
	85-120	c	25Y 63 00	75YR56 00	M			Y	0	0		0		P		Y			
62	0-30	fsl	10YR43 00						1	0	HR	5							
	30-50	msl	10YR53 00						0	0	HR	15		G					
	50-55	msl	10YR52 00	10YR56 00	C			Y	0	0	HR	20		G					IMP FLINTS 55
63	0-28	fsl	10YR42 00						1	0	HR	10							
	28-38	msl	10YR54 00	75YR56 00	C			S	0	0	HR	10		M					
	38-50	hcl	25Y 64 00	75YR58 00	M			Y	0	0	HR	5		P		Y			
	50-75	scl	25Y 63 00	75YR58 00	M			Y	0	0		0		M		Y			
	75-85	c	05Y 73 00	75YR58 00	M			Y	0	0	HR	2		P		Y			IMP FLINTS 85
64	0-25	fsl	10YR32 00						0	0	HR	5							
	25-30	fsl	10YR42 00						0	0	HR	20		G					IMP FLINTS 30