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Proposed Mineral Working,
Sheephouse & Spencers Farms,
Maidenhead,
Berkshire

Agricultural Land Classification & Statement of Physical Characteristics

February 1999

Resource Planning Team
Eastern Region
FRCA Reading

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AGRICULTURAL LAND CLASSIFICATION AND STATEMENT OF PHYSICAL CHARACTERISTICS

PROPOSED MINERAL WORKING (ADDITIONAL AREA) SHEEPHOUSE AND SPENCERS FARM, MAIDENHEAD, BERKSHIRE

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey and assessment of site physical characteristics of approximately 13 ha of land at Sheephouse and Spencers Farms, Maidenhead in Berkshire. The survey was carried out during February 1999.

2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)[1] on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF). The survey was carried out in order to determine the agricultural land quality and site physical characteristics of the land affected by proposals for mineral extraction (sand and gravel). This survey forms part of a larger survey area (which was carried out at the same time and extends in a northerly direction). This survey supersedes any previous ALC information for this land.

3. The work was conducted by members of the Resource Planning Team in the Eastern Region of FRCA. 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 was in either oilseed rape, cereals, or grass (rough grazing). The areas mapped as 'Other land' include trackways and part of a recreation area (footpaths and a bridge). 'Agricultural land not surveyed' includes an area which is currently being used for the preparation of a flood defence system.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map (which also includes the results of land surveyed outside the current application area). 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 overleaf.

7. The fieldwork in the application area is conducted at an average density of 1 boring per hectare of agricultural land. In total 17 borings and 3 soil pits were described.

8. The land at this site has been classified as Grade 2 (very good quality), Subgrade 3a (good quality) and Subgrade 3b (moderate quality). The better quality land occurs in the eastern leg of the site whilst the poorer quality land occurs in the southern leg. Soil wetness and soil droughtiness are the principal limitations throughout.

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[1] FRCA is an executive agency of MAFF and the Welsh Office

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	3.0	24.4	22.9
3a	3.4	27.6	26.0
3b	5.9	48.0	45.0
Agricultural land not surveyed	0.1	N/A	0.8
Other land	0.7	N/A	5.3
Total surveyed area	12.3	100	
Total site area	13.1	-	100

9. The soils mapped as Grade 2 are affected by soil droughtiness. The soils are variable but typically comprise fine loamy profiles which are relatively free-draining. The amount of water that is available for crop growth in these soils is slightly restricted due to the variable presence of stones, gravelly horizons and/or sandy textures. Soil droughtiness reduces the agricultural potential of the land by affecting the level and consistency of yields, particularly in the drier years.

10. The soils mapped as Subgrade 3a vary considerably over short distances. On the whole, soil wetness is the overriding limitation. At variable depths within the soil profiles, clayey horizons occur which impede drainage and cause waterlogging. Wetness limitations such as these will adversely affect crop growth or impose restrictions on cultivations or grazing by livestock by reducing the period in which the soils can be cultivated or grazed without causing damage to the land. Within this Subgrade 3a area, isolated borings of better, and worse, quality occur. It was considered that this variability in land quality is too complicated to be mapped separately at this scale.

11. The lower lying area of alluvium in the west of the survey area is limited to Subgrade 3b on the basis of a soil wetness limitation. Here, poorly drained clayey soils give rise to soil wetness and workability restrictions and are also prone to fluctuating groundwater problems at depth.

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 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SU 889 830	SU 896 835
Altitude	m, AOD	25	25
Accumulated Temperature	day°C (Jan-June)	1486	1486
Average Annual Rainfall	mm	674	674
Field Capacity Days	days	142	141
Moisture Deficit, Wheat	mm	114	113
Moisture Deficit, Potatoes	mm	109	109
Overall climatic grade		Grade 1	Grade 1

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.

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. Other local climatic factors such as exposure and frost risk are not believed to have a significant effect on the site. The site is climatically Grade 1.

Site

17. The site is relatively flat or slightly undulating with an altitude range of 24–25m AOD. The land in the west and south of the survey area (adjacent to the stream) is distinctively lower lying than the land in the east. Nowhere does gradient or microrelief affect agricultural land quality. The Environment Agency is in the process of moving soils as part of a flood defence system for the River Thames around Maidenhead (in the form of drainage channels) in the north-east of the larger surveyed area (mapped as agricultural land not surveyed). However, upon detailed field examination it was considered that flooding is not currently significant, or extensive, enough to further lower land quality within the area under question. In the future the presence of the flood relief scheme will further reduce flood risk.

Geology and soils

18. The most detailed published geological information (GSEW, 1948) shows two distinctive deposits across the site. The boundary between these is marked by a change in topography. Floodplain gravel (from the River Thames) underlies the higher land in the eastern section of the survey area. The lower lying land in the west and south of the site is underlain by alluvium.

19. The most detailed published soils information for this area (SSEW, 1986) shows two distinctive soil types across the site which correspond to the two geological deposits. These are the Sutton Series and the Thames Series which are part of the Sutton 2 Association and the Thames Association (SSEW, 1983) respectively. The Sutton 2 Association is described

as 'Well drained fine and coarse loamy soils usually over gravel with a calcareous matrix.' (SSEW, 1983). Soils of the Thames Association are described as 'Stoneless mainly calcareous clayey soils affected by groundwater. Flat land. Risk of flooding.' (SSEW, 1983).

20. Upon detailed field examination, soils broadly consistent with the above descriptions were found across the site. Better drained, lighter, but variably textured soils occur in the eastern leg of the site whilst poorly drained, clayey soils, occur on the lower lying land in the west and south.

AGRICULTURAL LAND CLASSIFICATION

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

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

Grade 2

23. A small area (3.0 hectares) of very good quality land has been mapped in the centre of the eastern leg of the site. The principal limitation is minor soil droughtiness.

24. Within the Grade 2 mapping unit the topsoils consist of non-calcareous, medium clay loams, which are very slightly or slightly stony (containing up to 10% flints). Subsoils are variable but generally become heavier with depth, such that upper subsoils comprise similar textures to the topsoils, and pass to heavier textures such as heavy clay loam, or clay in the lower subsoil. Stone contents in the subsoil are similar to the topsoils in that they also range from 0-10% total flints. The majority of profiles were found to be impenetrable to the soil auger at depths between 70-80cm over stony or gravelly horizons. Some profiles show signs of slightly impeded drainage in the form of gleying at moderate depths (generally below 40cm). Overall, most of the soils are permeable, with most soil profiles being assessed as Wetness Class I. Soil pit 3 is representative of this unit (see Appendix II). Moisture balance calculations, which take account of these soil characteristics in relation to the local climatic regime, indicate that these soils have slightly restricted reserves of available water. As a result the land suffers a minor droughtiness limitation and crop growth and yield may be adversely affected.

Subgrade 3a

25. Good quality (Subgrade 3a) land has been mapped either side of the Grade 2 unit in the eastern leg of the site (totalling 3.4 hectares). Soil wetness is the main limitation. The soils reflect the characteristics of the underlying river drift parent material. As a result, they consist of inter-bedded deposits which have a variable drainage status.

26. Topsoils in the Subgrade 3a unit consist of non-calcareous, medium clay loam or silty clay loams, which are stoneless or very slightly stony (containing up to 5% flints). Subsoils are variable, but generally become heavier with depth, comprising heavy silty clay loam, silty

clay, or clay textures. Occasional profiles exhibit lighter silt loam or clay loam textured horizons at depths in excess if 80cm. These horizons are affected by groundwater in that they were saturated at the time of survey. Their presence does not however alter the overall quality of this land. The majority of the profiles in the Subgrade 3a unit show signs of impeded drainage in the form of gleying at shallow to moderate depths (30-55cm). Upper subsoils (which are typically permeable) pass into poorly structured, slowly permeable, clayey horizons at variable depths which impeded soil drainage to variable degrees. Soil pit 2 is representative of this unit (see Appendix II). Soil wetness has the effect of causing waterlogging which will restrict seed germination and growth as well as limiting the timing of cultivations. Wet soils such as these are also susceptible to structural damage through trafficking by agricultural machinery and grazing livestock.

Subgrade 3b

27. Just under half of the survey area is mapped as Subgrade 3b quality agricultural land (totalling 5.9 hectares). This occurs on the slightly lower lying, western, part of the site in the area of alluvium. The overriding limitation is soil wetness.

28. The majority of the soils comprise medium silty clay loam or heavy silty clay loam topsoils which are stoneless or very slightly stony (containing up to 2% flints). These lie directly over calcareous, silty clay, subsoils which impede soil drainage. Soil inspection pit 1P (see Appendix II) reveals these clay subsoils to be poorly structured and slowly permeable. Given such evidence of wetness these soils are placed in Wetness Class IV; when combined with the topsoil textures and the prevailing field capacity day level (141 days) this land is limited to Subgrade 3b.

SOIL RESOURCES

29. This section describes the soil resources identified on the site. It should be emphasised that this is not intended as a prescription for soil stripping, but merely as an illustration of the soil resources available for restoration on the site. Due to the natural variability of soils, the depths of topsoil and subsoil given should be treated with caution. Soils were sampled to a maximum depth of 120cm, where possible, during survey work. In some cases soil resources will extend below this depth.

Soil Units : considerations for restoration

30. Two soil units have been identified across the site, the extent and distribution of which are illustrated on the accompanying soil resources map.

Soil Unit I

31. This unit covers an area of 6.5 hectares and generally comprises deep, moderately well drained soils overlying sandy and/or gravelly horizons.

32. The topsoils in Unit I comprise an average 34cm of dark greyish brown (10YR 4/2), non-calcareous, medium clay loam or occasionally medium silty clay loam. They are stoneless to

slightly stony, containing up to 10% total flints. Topsoil structure across this unit consists of moderately developed coarse sub-angular blocky peds of friable consistence.

33. The topsoils overlie subsoils of a variable nature which comprise mainly medium and heavy clay loam, heavy silty clay loam, clay and silty clay textures (with occasional horizons of sandier textures). The subsoils are variably stony, containing up to 41% flints, making approximately one third of the soils within this unit impenetrable to the soil auger at depths between 70cm and 80cm. The subsoils also vary in colour from being brown or dark yellowish brown (10YR 4/3, 4/4) where the soils are better drained, to a combination of grey, light grey, light greyish brown or light olive brown matrix (25Y 5/1, 5/3, and 5/3, 25Y 6/1, 25Y 7/1) often with common ochreous mottles (10YR 4/6, 5/6, 5/8) where soil drainage is impeded. The subsoil porosity and drainage status varies depending on the percentage of clay, sand, and stone content. Where subsoils are lighter textured, well drained, and permeable, they are moderately structured (comprising moderately developed coarse sub-angular blocky peds of friable consistence); see Pit 3 (Appendix II). Where subsoils comprise dense, clayey, horizons they are poorly structured (comprising moderately developed coarse prismatic peds of firm consistence); see Pit 2 (Appendix II). A description of a representative soil profile in this unit is given below.

Representative soil profile for Soil Unit I

Horizon	Average Depth (cm)	Description
Topsoil	0–34	medium clay loam, or occasionally medium silty clay loam; dark greyish brown (10YR 4/2); stoneless to slightly stony (0-10% flints); moderately developed coarse sub-angular blocky structure; friable.
Subsoil	34–120	variable; medium or heavy clay loam, silty clay loam, clay or silty clay; brown or dark yellowish brown (10YR 4/3, 4/4) with moderately developed coarse sub-angular blocky structures and friable; or grey to light olive brown (25Y 5/1-7/1) often with common ochreous mottles (10YR 4/6, 5/6, 5/8) with moderately developed coarse prismatic structures and firm; variably stony (0-41% flints).

Soil Unit II

34. This unit covers an area of 5.8 hectares and comprises soils which are clayey textured and poorly drained which are developed from alluvium.

35. The topsoils in Unit II comprise an average 29cm of very dark grey or very dark greyish brown (10YR 3/1, 3/2), variably calcareous, medium or heavy silty clay loam or occasionally heavy clay loam. They are stoneless to slightly stony, containing up to 2% total flints. Topsoil

structure across this unit consists of weakly developed medium sub-angular blocky peds of friable consistence.

36. The subsoils comprise mainly calcareous silty clay (with occasional lighter textures of silt loam at depths in excess of 65cm) and are usually stoneless, but occasionally very slightly stony (containing up to 2% flints or chalk fragments). The subsoils matrix colour is grey, greyish brown, light olive grey or light olive brown (25Y 5/2, 5/3, and 05Y 5/1, 6/1, 6/2) often with common or many ochreous mottles (10YR 5/6, 5/8). The silty clay subsoils have low porosity and poor drainage status and are poorly structured (comprising moderately developed coarse angular blocky peds of firm consistence); see Pit 1 (Appendix II). A description of a *representative soil profile in this unit is given below.*

Representative soil profile for Soil Unit II

Horizon	Average Depth (cm)	Description
Topsoil	0–29	variably calcareous; medium or heavy silty clay loam; very dark grey or very dark greyish brown (10YR 3/1, 3/2); stoneless or very slightly stony (0-2% flints); weakly developed medium sub-angular blocky structure; friable.
Subsoil	29–120	calcareous; silty clay; greyish brown, grey, light olive brown (25Y 5/2, 5/3 or 05Y 5/1, 6/1, 6/2) matrix with common or many mottles (10YR 5/6, 5/8); stoneless to very stony (0-2% flint or chalk); moderately developed coarse angular blocky structure; firm.

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SOURCES OF REFERENCE

Geological Survey of England and Wales (1948) *Sheet No. 255, Beaconsfield, Drift Edition, 1:63,360 scale.*

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.

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

Soil Survey of England and Wales (1983) *Soils of England and Wales, Sheet 6, Soils of South East England. 1:250,000 scale, and accompanying legend.*
SSEW: Harpenden.

Soil Survey of England and Wales (1986) *Soils in Buckinghamshire/ Berkshire I, Soils Survey Record No. 92, Sheet SU88 (Marlow). 1:25,000 scale.*
SSEW: Harpenden.

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 DATA

Contents:

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

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 appropiate 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

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
10	SU88808410	OSR			35	35	4	3B	140	27	111	3	2				WE	3B	SEE 6P
11	SU88908410	OSR			30	30	4	3B	113	0	105	-3	3A				WE	3B	I100 SEE 6P
14	SU88708400	OSR			30	30	4	3B	138	25	106	-2	2				WE	3B	WET@20 SEE 6P
15	SU88808400	OSR			40	40	3	3B	135	22	115	7	2				WE	3B	SEE 6P
16	SU88908400	OSR			36	36	4	3B	131	18	113	5	2				WE	3B	STONY@120
17	SU89008400	SAS			35	35	4	3B	103	-10	111	3	3A				WE	3B	I80 SEE 6P
20	SU88708390	OSR	W	1	35	35	4	3B	130	17	112	4	2				WE	3B	SEE 6P
21	SU88808390	OSR			36	36	4	3B	104	-9	113	5	3A				WE	3B	I75 SEE 6P
22	SU88908390	OSR			35	35	4	3B	105	-8	112	4	3A				WE	3B	I80 SEE 6P
23	SU89008390	SAS					1	1	80	-33	84	-24	3B				DR	3B	I60 SEE 6P
26	SU88808380	OSR	W	1	35	35	4	3B	128	15	110	2	2				WE	3B	WET@90 SEE 6P
27	SU88808380	OSR			36	36	4	3B	89	-24	92	-16	3B				WE	3B	I55 SEE 6P
28	SU88908380	SAS			25	25	4	3B	87	-26	91	-17	3B				WE	3B	I80
29	SU89008380	SAS					1	1	74	-39	78	-30	3B				DR	3B	I70 SEE 6P
30	SU89108380	SAS			0	34	4	3B	85	-28	88	-20	3B				WE	3B	I55 SEE 6P
33	SU88708370	OSR			30	30	4	3B	95	-18	105	-3	3A				WE	3B	SEE 1P
35	SU88908370	SAS					1	1	86	-27	90	-18	3B				DR	3B	I65 SEE 5P
36	SU89008370	SAS			28	28	4	3B	111	-2	105	-3	3A				WE	3B	I90 SEE 6P
37	SU89108370	SAS			35	35	4	3B	139	26	106	-2	2				WE	3B	SEE 6P
38	SU89208370	SAS			0	35	4	3B	137	24	112	4	2				WE	3B	SEE 6P
42	SU88608360	CER	E	2	50		1	1	99	-14	105	-3	3A				DR	2	I75 SEE 3P
44	SU88808360	OSR			25	25	4	3B	155	42	115	7	2	S			WE	3B	SEE 1P
45	SU88908360	OSR			50		1	1	113	0	113	5	3A				DR	3A	I80 SEE 5P
46	SU89008357	OSR			45		1	1	86	-27	90	-18	3B				DR	3A	I60 SEE 5P
47	SU89108360	SAS			30	30	4	3B	93	-20	101	-7	3A				WE	3B	I75 SEE 6P
53	SU88508350	CER	S	2			1	1	78	-35	78	-30	3B				DR	3A	I50 GRAVELLY
55	SU88708350	OSR			30	30	4	3B	107	-6	117	9	3A				WE	3B	SEE 1P
57	SU88908350	OSR			42		2	2	113	0	114	6	3A				WD	2	I80 SEE 5P
58	SU89008350	OSR					1	1	130	17	103	-5	2				DR	2	SEE 7P
59	SU89108350	OSR			90		1	1	130	17	109	1	2				DR	2	SEE 7P
60	SU89208350	OSR			48	60	2	2	135	22	114	6	2				WD	2	SEE 7P
61	SU89308350	OSR			27	60	3	3A	93	-20	101	-7	3A				WD	3A	SEE 7P
62	SU89408350	OSR			52		1	1	130	17	111	3	2				DR	2	I104 SEE 3P
63	SU89508350	OSR			35	35	4	3B	157	44	106	-2	2				WE	3B	SEE 2P
64	SU89608350	OSR			35	55	3	3A	154	41	117	9	2				WE	3A	SEE 2P
66	SU88608340	CER			35	35	4	3B	93	-20	105	-3	3A				WE	3B	SEE 1P
67	SU88708340	OSR			35	35	4	3B	98	-15	108	0	3A				WE	3B	SEE 1P
69	SU88908340	OSR	W	1	25	25	4	3B	144	31	105	-3	2				WE	3B	SEE 1P
70	SU89008340	OSR	E	1			1	1	137	24	109	1	2				DR	2	SEE 3P
71	SU89108340	OSR			29		2	2	168	55	127	19	1				WE	2	SEE 7P
72	SU89208340	OSR			29	55	3	3A	139	26	116	8	2				WE	3A	SEE 7P
73	SU89308340	OSR			55	55	2	2	151	38	117	9	2				WD	2	SEE 7P

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	--WETNESS-- GLEY	SPL	CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
74	SU89408340	OSR			80		1	1	142	29	115	7	2				DR	2	
75	SU89508340	OSR			35		2	2	116	3	117	9	4				WD	2	I80 SEE 3P
75A	SU89538336	OSR					1	1	39	-74	39	-69	3A				DR	3B	I32 SEE 4P
76	SU89608340	OSR					1	1	48	-65	48	-60	4				DR	3B	SEE 4P
80	SU88808330	OSR			30	30	4	3B	90	-23	98	-10	3B				WE	3B	SEE 1P
82	SU89008330	OSR					1	1	141	28	117	9	2				DR	2	
83	SU89108330	OSR			29	60	3	3A	140	27	117	9	2				WE	3A	
84	SU89218321	OSR			30	30	4	3B	141	28	108	0	2				WE	3B	SEE 7P
85	SU89308330	OSR					1	1	105	-8	114	6	3A				DR	2	I73 SEE 3P
86	SU89408330	OSR			50		1	1	98	-15	109	1	3A				DR	2	I70 SEE 3P
87	SU89508330	OSR					1	1	48	-65	48	-60	4				DR	3B	I35 SEE 4P
88	SU89608330	OSR	E	1			1	1	36	-77	36	-72	4				DR	3B	SEE 4P
91	SU88708320	CER			30	30	4	3B	91	-22	98	-10	3B				WE	3B	SEE 1P
93	SU88908320	OSR			28	28	4	3B	96	-17	103	-5	3A				WE	3B	SEE 1P
94	SU88988319	OSR			28	28	4	3B	114	1	113	5	3A				WE	3B	SEE 1P
95	SU89108320	OSR			80	100	1	1	142	29	110	2	2				DR	2	SEE 3P
100	SU88808310	CER			25	25	4	3B	91	-22	101	-7	3B				WE	3B	SEE 1P
101	SU88908310	OSR			27	27	4	3B	128	15	103	-5	3A	S			WE	3B	SEE 1P
102	SU89008310	OSR			35	35	4	3B	130	17	114	6	2				WE	3B	SEE 1P
107	SU88808300	CER			20	20	4	3B	88	-25	98	-10	3B				WE	3B	SEE 1P
108	SU88908300	OSR			35	35	4	3B	166	53	109	1	2				WE	3B	SEE 1P
109	SU89008300	OSR			27	27	4	3B	136	23	103	-5	2	S			WE	3B	SEE 1P
114	SU89008290	RGR			25		2	3A	185	72	122	14	1				WE	3A	HCL N/C T/S
115	SU89008280	RGR			22	28	4	3B	125	12	100	-8	2	S			WE	3B	SEE 1P
116	SU89018273	RGR			0	32	4	3B	169	56	106	-2	2				WE	3B	SEE 7P
1P	SU88908300	OSR			23	23	4	3B	152	39	100	-8	2				WE	3B	PIT TO 90
2P	SU89608350	OSR			35	58	3	3A	158	45	115	7	2				WE	3A	PIT TO 100
3P	SU89308330	OSR					1	1	121	8	104	-4	2				DR	2	PIT 95 AUG120
4P	SU89508330	OSR					1	1	65	-48	56	-52	3B				DR	3B	PIT 90 AUG120
5P	SU88958358	OSR					1	1	109	-4	96	-12	3A				DR	3A	PIT 105 AUG120
6P	SU88908400	OSR			35	35	4	3B	134	21	111	3	2				WE	3B	PIT 100 AUG120
7P	SU89208350	OSR			48	48	2	2	140	27	110	2	2				WD	2	PIT 100 AUG120

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	STONES GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
10	0-35	HZCL	10YR42	10YR56	C	D		Y	0	0	HR	2							
	35-70	C	25Y 52	10YR56	68 C	D		Y	0	0		0		P		Y			PLASTIC
	70-100	C	25Y 52	10YR52	C	D		Y	0	0		0		P		Y	Y		PLASTIC
	100-120	OZL	10YR32	10YR56	C			Y	0	0		0		M			Y		
11	0-30	HZCL	10YR32						0	0		0					Y		
	30-80	HZCL	25Y 52	10YR56	C	D		Y	0	0		0		P		Y	Y		PLASTIC
	80-100	C	25Y 52	10YR56	58 C	D		Y	0	0		0		P		Y	Y		IMP 100
14	0-30	HZCL	10YR42	10YR56	C	D		Y	0	0		0							
	30-60	HZCL	10YR32	10YR56	58 C	D		Y	0	0		0		P		Y			PLASTIC
	60-90	C	25Y 62	10YR56	58 C	D		Y	0	0		0		P		Y	Y		PLASTIC
	90-120	OZL	10YR32	10YR56	C	D		Y	0	0		0		M			Y		WET
15	0-40	HZCL	10YR32	10YR56	C	D		Y	0	0		0							
	40-90	C	25Y 62	10YR58	C	D		Y	0	0		0		P		Y	Y		PLASTIC
	90-120	MZCL	25Y 62	10YR56	58 M	D		Y	0	0		0		P		Y	Y		
16	0-36	HZCL	10YR42	10YR56	C	D		Y	0	0		0					Y		
	36-70	C	25Y 62	10YR56	58 M	D		Y	0	0		0		P		Y	Y		PLASTIC
	70-120	HZCL	25Y 52	10YR58	C	D		Y	0	0		0		P		Y	Y		WET
17	0-35	HZCL	10YR32						0	0	HR	2							
	35-70	C	25Y 52	10YR58	C	D		Y	0	0		0		P		Y	Y		PLASTIC
	70-80	C	25Y 52	10YR58	C	D		Y	0	0	HR	40		P		Y	Y		GRAVELLY I80
20	0-35	HZCL	10YR42	10YR56	C	D		Y	0	0		0					Y		
	35-70	C	25Y 62	10YR58	C	D		Y	0	0		0		P		Y	Y		PLASTIC
	70-120	HZCL	25Y 52	10YR56	58 C	D		Y	0	0		0		P		Y	Y		WET
21	0-36	HZCL	10YR32	10YR56	C	D		Y	0	0		0							
	36-75	C	25Y 52 61	10YR58	68 C	D		Y	0	0		0		P		Y	Y		PLASTIC I75
22	0-35	HZCL	10YR32						0	0		0							
	35-55	C	25Y 52	10YR56	C	D		Y	0	0		0		P		Y			PLASTIC
	55-70	C	25Y 61	10YR58	M	D		Y	0	0		0		P		Y			PLASTIC
	70-80	C	10YR42	10YR58	C	D		Y	0	0	HR	30		P		Y			GRAVELLY
23	0-30	HCL	10YR32	10YR56	F	F			0	0	HR	5							
	30-60	HCL	10YR43	10YR56	F	F			0	0	HR	35		M					I60 GRAVELLY
26	0-35	HZCL	10YR42	10YR56	C	D		Y	0	0		0							
	35-50	C	25Y 51 61	10YR56	58 M	D		Y	0	0		0		P		Y	Y		PLASTIC
	50-120	HZCL	25Y 62	10YR56	58 M	D		Y	0	0		0		P		Y	Y		DENSE I90
27	0-36	HZCL	10YR42	10YR56	C	D		Y	0	0		0							
	36-48	C	25Y 51	10YR56	58 M	D		Y	0	0		0		P		Y			PLASTIC
	48-55	C	25Y 51	10YR56	58 M	D		Y	0	0	HR	12		P		Y			PLASTIC I55

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	
28	0-25	HCL	10YR42						4	0	HR	10							
	25-80	C	10YR42	10YR56	C	D		Y	0	0	HR	15		P		Y			PLASTIC I80
29	0-35	MSL	10YR43						3	0	HR	8							STONY
	35-70	MSL	10YR43						0	0	HR	60		M					GRAVELLY
30	0-34	HCL	10YR42	10YR56	C	D		Y	0	0		0							
	34-55	C	25Y 61 62	10YR56 58	M	D		Y	0	0	HR	2		P		Y			PLASTIC I55
33	0-30	HZCL	10YR32 21	10YR46	F	D			0	0		0						Y	
	30-70	ZC	10YR51 52	10YR56 58	M	D		Y	0	0		0		P		Y		Y	PLASTIC
35	0-30	MCL	10YR32						0	0	HR	3							
	30-50	HCL	10YR42						0	0	HR	20		M					
	50-65	HCL	10YR53						0	0	HR	55		M					GRAVELLY I65
36	0-28	MCL	10YR43						0	0		0							
	28-70	C	25Y 62	10YR56 58	M	D		Y	0	0		0		P		Y			PLASTIC
	70-90	SCL	25Y 62	10YR56	C	D		Y	0	0	HR	10		M				Y	I90
37	0-35	HCL	10YR42	10YR56	C	D		Y	0	0	HR	2						Y	
	35-68	C	10YR52	10YR56	C	D		Y	0	0	HR	2		P		Y		Y	PLASTIC
	68-120	SCL	25Y 52	10YR56	C	D		Y	0	0	HR	12		M				Y	
38	0-35	HZCL	10YR42	10YR56	C	D		Y	0	0		0							
	35-95	C	25Y 52	10YR56 58	M	D		Y	0	0		0		P		Y		Y	PLASTIC
	95-120	SCL	25Y 52	10YR56	C	D		Y	0	0	HR	5		P		Y			
42	0-30	MCL	10YR32						2	0	HR	10							
	30-50	MCL	10YR43						0	0	HR	15		M					
	50-75	MCL	10YR51 52	10YR46 56	M	D		Y	0	0	HR	10		M					IMP GRAVELLY
44	0-25	MZCL	10YR32						0	0		0							
	25-55	ZC	25Y 42	75YR46	C	D		Y	0	0		0		P		Y			DENSE
	55-90	FSZL	25Y 62	10YR46	C	D		Y	0	0		0		M				Y	WET
	90-120	ZC	25Y 53	10YR56	C	F		Y	0	0		0		P		Y		Y	PLASTIC/WET
45	0-25	MCL	10YR33						0	0	HR	1							
	25-50	HCL	10YR43	10YR56	C	F		S	0	0		0		M				Y	
	50-65	HCL	25Y 53	75YR56	C	D		Y	0	0	HR	8		M				Y	
	65-80	SCL	25Y 53	75YR44	M	D		Y	0	0	HR	25		M				Y	
	80-85	SCL	25Y 53	75YR58	M	D		Y	0	0	HR	30		M				Y	IMP GRAVELLY
46	0-29	MCL	10YR33						0	0	HR	2							
	29-45	SCL	10YR44	75YR46	C	D		S	0	0	HR	10		M					
	45-60	HCL	10YR53	75YR46	C	D		Y	0	0	HR	30		M					IMP GRAVELLY
47	0-30	C	10YR42	10YR56	C	D		Y	0	0	HR	2							
	30-55	C	25Y 52	10YR56 58	M	D		Y	0	0		0		P		Y			PLASTIC
	55-75	C	25Y 52	10YR56 58	M	D		Y	0	0	HR	8		P		Y			PLASTIC

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	
53	0-35	MCL	10YR32 42						0	0	HR	10							
	35-50	MCL	10YR43						0	0	HR	15		M					IMP GRAVELLY
55	0-30	HZCL	10YR31 32						0	0		0							
	30-75	ZC	05Y 51 52	10YR56 58	M	D		Y	0	0		0		P			Y	Y	
57	0-29	MCL	10YR33						0	0	HR	1							
	29-42	SCL	10YR43						0	0	HR	1		M					
	42-60	SCL	10YR53 54	75YR56	C	F		Y	0	0		0		M					
	60-80	HCL	10YR64	75YR34	C	D		Y	0	0		0		M					IMP GRAVELLY
58	0-27	MCL	10YR32						0	0	HR	5							
	27-45	HCL	10YR43	75YR46	C	F		S	0	0	HR	10		M					
	45-85	HCL	10YR32	75YR46	M	D		S	0	0	HR	25		M					
	85-120	SCL	10YR43	75YR46	M	D		S	0	0	HR	30		M					
59	0-28	MCL	10YR32						0	0	HR	1							
	28-75	SCL	10YR44	75YR46	C	F		S	0	0	HR	6		M					
	75-90	LCS	10YR44	75YR46	C	F		S	0	0	HR	8		M					
	90-120	LCS	10YR53	75YR46	C			Y	0	0	HR	8		M					
60	0-26	MCL	10YR43						0	0	HR	1							
	26-48	HCL	10YR44						0	0		0		M					
	48-60	C	10YR53	75YR46	C	D		Y	0	0		0		M					
	60-120	C	25Y 53	75YR58	M	D		Y	0	0		0		P			Y		
61	0-27	MCL	10YR33						0	0	HR	3							
	27-60	HCL	10YR53	75YR46	M	D		Y	0	0		0		M					
	60-120	C	10YR53	75YR46	M	D		Y	0	0		0		P			Y		
62	0-30	MCL	10YR32						0	0	HR	5							
	30-52	HCL	10YR43	75YR58	M	D		S	0	0		0		M					
	52-95	SCL	10YR53	75YR46	M	D		Y	0	0	HR	10		M					LOOSE
	95-104	C	10YR42	75YR46	M	D		Y	0	0	HR	25		M					LOOSE
63	0-35	MZCL	10YR42						0	0	HR	4							
	35-80	ZC	05Y 61 62	10YR56 58	M	D		Y	0	0		0		P			Y		PLASTIC
	80-120	ZL	05Y 71 72	10YR56 58	M	D		Y	0	0	HR	4		M				Y	LOOSE/WET
64	0-35	MZCL	10YR42						0	0	HR	3							
	35-55	HZCL	25Y 52 53	10YR46	C	D		Y	0	0		0		M					
	55-100	ZC	25Y 51 52	10YR58	C	D		Y	0	0		0		P			Y		PLASTIC
	100-120	ZL	25Y 71 61	10YR58	M	D		Y	0	0	HR	2		M				Y	LOOSE/WET
66	0-35	MCL	10YR42 32						0	0	HR	3							
	35-70	C	05Y 51 52	10YR56 58	M	D		Y	0	0	HR	5		P			Y	Y	PLASTIC
67	0-35	MZCL	10YR32 42	10YR46	C	D		Y	0	0		0						Y	
	35-70	ZC	05Y 51 52	10YR58	M	D		Y	0	0	HR	2		P			Y	Y	PLASTIC

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	
69	0-25	HZCL	10YR32						0	0		0							
	25-58	C	10YR52	10YR56	C	D		Y	0	0		0		P			Y		DENSE
	58-100	C	10YR52	10YR58	M	D		Y	0	0	HR	5		P			Y		PLASTIC
	100-120	FSZL	10YR73	10YR46	C	F		Y	0	0		0		M				Y	WET
70	0-27	MCL	10YR42						0	0	HR	3							
	27-45	MCL	10YR44						0	0		0		M					
	45-50	HCL	10YR44						0	0	HR	10		M					
	50-62	HCL	10YR44						0	0	HR	20		M					
	62-98	C	10YR44	75YR46	C	D		S	0	0	HR	25		M					LOOSE
	98-120	CSL	10YR43						0	0	HR	10		M					
71	0-29	FSZL	10YR33						0	0	HR	1							
	29-50	HCL	10YR53	10YR58	M	D		Y	0	0		0		M					LOOSE
	50-100	MSL	10YR53	75YR46	M	D		Y	0	0		0		M					
	100-120	C	10YR52	10YR58	M	D		Y	0	0		0		M					
72	0-29	MZCL	10YR33	10YR58	F	F			0	0	HR	1							
	29-55	HCL	10YR42	75YR58	M	D		Y	0	0		0		M					
	55-95	C	10YR53	10YR58	M	D		Y	0	0		0		P			Y		DENSE
	95-120	ZC	25Y 53	10YR58	M	D		Y	0	0		0		P			Y		
73	0-35	MZCL	10YR33	10YR56	C	F		S	0	0	HR	1							
	35-55	HCL	10YR43	75YR56	M	D		S	0	0		0		M					
	55-105	C	10YR53	10YR58	M	D		Y	0	0		0		P			Y		DENSE
	105-120	ZL	25Y 82	10YR56	C	D		Y	0	0		0		M				Y	
74	0-35	MCL	10YR42						0	0	HR	5							
	35-65	MCL	10YR44						0	0		0		M					
	65-80	MCL	10YR44						0	0	HR	10		M					
	80-120	C	25Y 52	10YR46 56	C	D		Y	0	0	HR	10		P			Y		DENSE
75	0-35	MCL	10YR42						0	0	HR	2							
	35-60	HCL	25Y 53 52	10YR56 58	M	D		Y	0	0		0		M					
	60-80	SCL	25Y 52 53	10YR56 58	M	D		Y	0	0		0		M					IMP GRAVELLY
75A	0-32	MCL	10YR42 32						20	5	HR	35							IMP GRAVELLY
76	0-35	MCL	10YR42 32						15	4	HR	25							IMP GRAVELLY
80	0-30	HZCL	10YR42 32						0	0	HR	2						Y	
	30-65	ZC	05Y 61 52	10YR58	M	D		Y	0	0		0		P			Y	Y	PLASTIC
82	0-27	MCL	10YR32						0	0	HR	1							
	27-50	HCL	75YR46						0	0		0		M					
	50-70	C	10YR44						0	0		0		M					
	70-95	C	10YR43	75YR46	M	D		S	0	0		0		M					
	95-120	C	10YR54	10YR58	C	D		S	0	0	HR	2		M					

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	
83	0-29	MZCL	10YR33						0	0	HR	1							
	29-60	HCL	10YR53	75YR56	M	D		Y	0	0		0		M					
	60-120	C	25Y 62	10YR58	M	D		Y	0	0		0		P		Y			DENSE
84	0-30	MCL	10YR42 32	10YR46 56	C	D		Y	0	0	HR	5							
	30-45	C	10YR53	10YR46 56	C	D		Y	0	0		0		P					DENSE, SEE 7P
	45-80	C	10YR53	10YR46 56	M	D		Y	0	0		0		P		Y			DENSE
	80-120	MCL	25Y 61 71	10YR46 56	M	D		Y	0	0	HR	5		M				Y	LOOSE
85	0-35	MCL	10YR42						0	0	HR	5							
	35-60	HCL	10YR43 44						0	0	HR	2		M					
	60-73	HCL	10YR44						0	0	HR	10		M					IMP STONY
86	0-35	MCL	10YR32						3	0	HR	10							
	35-50	MCL	10YR44						0	0	HR	5		M					
	50-70	HCL	10YR53	10YR56	C	D		Y	0	0	HR	10		M					IMP STONY
87	0-35	MCL	10YR42 32						18	2	HR	25							IMP GRAVELLY
88	0-30	MCL	10YR42 32						20	2	HR	35							IMP GRAVELLY
91	0-30	HZCL	10YR42						0	0		0							
	30-65	ZC	05Y 52 62	10YR58	M	D		Y	0	0	HR	2		P		Y			PLASTIC
93	0-28	HZCL	10YR41 32	10YR46	F	C			0	0		0							
	28-75	ZC	05Y 52 53	10YR56 58	M	D		Y	0	0	HR	2		P		Y	Y		PLASTIC
94	0-28	MZCL	10YR42 32						0	0	HR	1						Y	PONDING
	28-60	ZC	25Y 51 52	10YR46	C	D		Y	0	0	CH	2		P		Y	Y		PLASTIC
	60-80	ZL	05Y 62						0	0		0		M				Y	LOOSE, WET
95	0-28	MCL	10YR42						2	0	HR	10							
	28-80	HCL	10YR42 43						0	0	HR	5		M					LOOSE
	80-100	HCL	25Y 52 53	10YR46	C	D		Y	0	0		0		M					LOOSE
	100-120	C	25Y 52 53	10YR58	M	D		Y	0	0		0		P		Y			DENSE
100	0-25	HZCL	10YR32						0	0	HR	2							
	25-70	ZC	05Y 61 62	10YR56 58	M	D		Y	0	0		0		P		Y	Y		PLASTIC
101	0-27	MZCL	10YR32						0	0		0						Y	
	27-90	ZC	10YR62	10YR46	C	D		Y	0	0		0		P		Y	Y		PLASTIC
	90-120	ZC	25Y 73	10YR58	C	F		Y	0	0		0		P		Y	Y		PLASTIC
102	0-35	MZCL	10YR42 43						0	0		0						Y	
	35-65	ZC	25Y 52 62	10YR58	M	D		Y	0	0		0		P		Y	Y		PLASTIC
	65-90	ZL	25Y 71 72	10YR46 56	M	D		Y	0	0		0		M				Y	LOOSE, WET
107	0-20	HZCL	10YR42 32						0	0	HR	1							
	20-70	ZC	05Y 61 62	10YR58	M	D		Y	0	0		0		P		Y			PLASTIC

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	
108	0-35	MZCL	10YR31 32						0	0		0							
	35-73	ZC	05Y 61 62	10YR46	56 C	D		Y	0	0		0		P			Y	Y	PLASTIC
	73-120	ZL	25Y 72	10YR58	M	D		Y	0	0		0		M				Y	LOOSE,WET
109	0-27	HZCL	10YR32						0	0		0						Y	
	27-80	ZC	25Y 53	10YR56	C	F		Y	0	0		0		P			Y	Y	PLASTIC
	80-120	ZL	25Y 73	10YR66	M	D		Y	0	0		0		M				Y	LOOSE, WET
114	0-25	HCL	10YR31						0	0		0							
	25-45	ZC	05Y 51 52	10YR58	M	D		Y	0	0		0		P					PLASTIC
	45-120	ZL	25Y 72 73	10YR58	M	D		Y	0	0		0		M				Y	LOOSE, WET
115	0-22	HCL	10YR32						0	0		0							
	22-28	HZCL	10YR52	75YR46	M	D		Y	0	0		0		M					
	28-80	ZC	25Y 52	10YR56	C	D		Y	0	0		0		P			Y		PLASTIC
	80-120	ZC	25Y 73	10YR68	C	F		Y	0	0		0		P			Y		PLASTIC
116	0-32	HZCL	10YR31	10YR46	C	D		Y	0	0		0							
	32-70	ZC	05Y 51 61	10YR58	C	D		Y	0	0		0		P			Y		PLASTIC
	70-90	ZL	05Y 72 82	10YR56 58	C	D		Y	0	0		0		M				Y	LOOSE
	90-120	FSZL	25Y 71	10YR58	M	D		Y	0	0		0		M				Y	LOOSE, WET
1P	0-23	HZCL	10YR32						0	0		0	WKMSAB	FR	M				
	23-77	ZC	05Y 51	10YR56	M	D		Y	0	0		0	MDCAB	FM	P	Y		Y	Y	PLASTIC
	77-120	ZL	25Y 72	10YR58	M	D		Y	0	0	HR	5	MDCSAB	FR	M				Y	LOOSE, WET
2P	0-35	MCL	10YR42						0	0	HR	3	MDCSAB	FR	M				
	35-58	HZCL	25Y 52	10YR46 56	C	D		Y	0	0		0	MDCAB	FR	M					LOOSE
	58-90	ZC	25Y 52	10YR56 46	M	D		Y	0	0		0	MDCPR	FM	P	Y		Y		PLASTIC
	90-120	ZL	25Y 71	10YR46 56	C	D		Y	0	0	HR	2			M				Y	LOOSE, WET 90
3P	0-30	MCL	10YR32						3	0	HR	5	MDCSAB	FR	M				
	30-58	HCL	10YR44						0	0	HR	12	MDCSAB	FR	M					POROUS
	58-73	HCL	75YR44						0	0	HR	38	MDCSAB	FR	M				
	73-97	SCL	75YR44						0	0	HR	41			M				
	97-120	LMS	75YR44						0	0	HR	10			M				
4P	0-29	MCL	10YR42						6	1	HR	24	WKCSAB	FR	M				
	29-85	LMS	75YR46						0	0	HR	53			M					LOOSE GRAIN
	85-120	LMS	75YR46						0	0	HR	59			M					LOOSE GRAIN
5P	0-27	MCL	10YR32						2	0	HR	7	MDCSAB	FR	M				
	27-35	HCL	75YR46						0	0	HR	7	MDCAB	FR	M				
	35-65	HCL	10YR46						0	0	HR	31	WKCSAB	FR	M					POROUS
	65-72	LMS	75YR46						0	0	HR	46		FR	M					STONY
	72-105	SCL	75YR46						0	0	HR	61		FR	M					STONY
	105-120	MSL	75YR46						0	0	HR	20			M				

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
6P	0-35	HZCL	10YR42	10YR56	C	D		Y	0	0		0						Y	
	35-65	C	25Y 62 52	10YR56 58	C	D		Y	0	0		0	MDCAB	FM	P	Y	Y	Y	DENSE PLASTIC
	65-120	HCL	25Y 52	10YR56 46	M	D		Y	0	0	HR	2	MDCAB	FM	P	Y	Y	Y	DENSE
7P	0-27	MCL	10YR43						0	0	HR	2	MDCSAB	FR					
	27-49	HCL	10YR44						0	0		0	MDCSAB	FR	M				
	49-110	C	10YR53	75YR56	M	D		Y	0	0		0	MDCPR	FM	P	Y	Y		DENSE
	110-120	ZL	25Y 81	10YR58	M	D		Y	0	0		0			M			Y	LOOSE, WET