BERKSHIRE MINERALS PLAN
OMISSION SITE 4
VILLAGE FARM, ALDERMASTON
AGRICULTURAL LAND CLASSIFICATION
ALC MAP & SUMMARY REPORT
AUGUST, 1993

BERKSHIRE MINERALS PLAN : OMISSION SITE 4
LAND AT VILLAGE FARM, ALDERMASTON
AGRICULTURAL LAND CLASSIFICATION, SUMMARY REPORT

1.0 Summary

1.1 In August, 1993, an Agricultural Land Classification (ALC) was made on approximately 106 hectares of land north-east of the village of Aldermaston and south of the River Kennet in Berkshire.

1.2 The classification has been made using MAFF's revised guidelines and criteria for grading the quality of agricultural land. These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on its use for agriculture.

1.3 The work was coordinated by members of the Resource Planning Team in the Guildford Statutory Group of ADAS in response to a commission by MAFF's Land Use Planning Unit to provide information on the quality of agricultural land affected by an objection to the non-inclusion of this land in the Berkshire Minerals Plan.

1.4 A classification of the site by the developer's consultants was available before the ADAS survey commenced. This showed a mixture of 3A and 3B land with Grade 4 adjacent to the River Kennet.

1.5 ADAS initially sub-contracted the ALC survey to Nick Duncan Associates and a survey commenced in the east and south of the site at a density of one observation per two hectares. This was one of a number of sites that were sub-contracted and, in the time available, only part of the site was assessed. the findings of this initial work confirmed the gradings of the developer's consultants.

1.6 Members of ADAS completed the survey in the form of a validation exercise using the ALC grading of the previous survey and describing soil profiles in the main map units.

1.7 A total of 47 borings and 6 soil pits was examined giving an observation density of approximately 1 per 2 hectares.

1.8 Table 1 provides the details of the grades and sub-grades found across the site. The majority of the land adjacent ot the Kennet is classified as Sub-grade 3B with better quality Sub-grade 3A land on the slightly higher land to the south. Soil wetness is the key limiting factor on the 3B land caused by a variable mixture of slowly permeable subsoil layers and seasonally high groundwater tables. Soil wetness and soil droughtiness are both active factors on the 3A land.

Table 1 : Distribution of Grades and Sub-grades

Grade	Area (ha)	%of Site	% of Agricultural Area
3A	29.7	28.0	30.9
3B	66.3	62.5	69.1
Urban	1.1	1.0	100% (96.0ha)
Non-agric.	3.1	2.9	
Not Surveyed	6.0	5.6	
TOTAL	106.2 ha	100%	

1.9 The ALC information is presented at a scale of 1:10,000; it is accurate at this

ALC information for this site.

1.10 A general description of the grades and sub-grades is provided as an appendix. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

2.0 Climate

2.1 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 conditiions.

2.2 The main parameters used in the assessment of the overall climatic limitation are annual average rainfall, as a measure of overall wetness, and accumulated temperature, as a measure of the relative warmth of a locality.

2.3 A detailed assessment of the prevailing climate was made by interpolation from a 5km gridpoint dataset. The details are given in the table below and these show that there is no overall climatic limitation affecting the site.

2.4 No local climatic factors such as exposure or frost risk affect the site.

Table 2 : Climatic Interpolations

Grid Reference :	SU599658
Altitude (m) :	55
Accumulated Temperature (days) :	1466
Average Annual Rainfall (mm) :	694
Field Capacity (days) :	148
Moisture Deficit, Wheat (mm) :	110
Moisture Deficit, Potatoes (mm) :	104
Overall Climatic Grade :	1

3.0 Relief

3.1 The site occupies the southern margin of the River Kennet floodplain at approximately 55 metres.

4.0 Geology and Soil

4.1 The relevant geological sheet for the site shows the underlying geology to be Alluvium on the land adjacent to the River Kennet with Valley Gravel on the higher land to the south and a pocket in the north-east on either side of Fisherman's Lane.

4.2 Soils on the floodplain are variable and complicated with subsoil horizons of algal marl interspersed with poorly structured clay layers and other organic or peaty horizons. Soils on the higher land are normally a lighter mix of clay loams and sandy loams with stony subsoils.

5.0 Agricultural Land Classification

5.1 Table 1 provides the details of the area measuements for each grade and the distribution of each grade is shown on the attached ALC map.

5.2 The location of the soil observation points is shown on the attached sample point map.

5.3 Sub-grade 3A

5.3.1 Pits 2,3 and 4 represent the range of soils that occur in this grade. Pits 2 and 3 experience a droughtiness limitation; Pit 4 experiences a wetness limitation and it is clear that even within this grade there is a degree of variation both in terms of the physical characteristics and the active limitation.

5.3.2 Sols with a droughtiness limitation are downgraded due to the presence of very stony subsoils with approximately 50% hard stone present in the lower subsoil from approximately 55 cm. These horizons overlie Gravel layers. The amount of water available in the profile for crops is significantly reduced and hence the range of crops that will tolerate such conditiond is limited.

5.3.3 Soils with a wetness limitation have been placed in Wetness Class III as a result of clear evidence of shallow gleying with slowly permeable clay layers from approximately 60 cm. The upper subsoil consists of a stony algal marl layer. The degree of wetness in this layer is not fully known. A degree of waterlogging will occur as a direct result of the presence of poorly structured clay layers but this duration of wetness may be increased locally by seasonal fluctuations in the groundwater and by impeded outfalls in local ditches. Without more detailed information, these soils have been left in Wetness Class III and Sub-grade 3A.

5.4 Sub-grade 3B

5.4.1 The majority of the site has been placed in this grade. Pits 1,5 and 6 illustrate the range of soils that occur in this map unit. Pit 1 identifies an area of significant droughtiness; Pits 5 and 6 relate to wet soils but, again, there is an important degree of local variation throughout this map unit.

5.4.2 Very droughty soils occur adjacent to Pit 2. Total stone content in the topsoil is approximately 30% increasing to 50% in the subsoil with Gravel deposits encountered at approximately 60cm. Even assuming root penetration into the Gravel layer to depth, these soils can be graded no higher than 3B.

5.4.3 A range of wetness characteristics exist in the rest of this map unit. Pit 5, for example, is actually classified as Sub-grade 3A. These soils are placed in Wetness Class III as a result of shallow gleying in an algal marl layer and the presence of a slowly permeable Silty Clay layer at approximately 54 cm. However, given the information from Pit 6 and adjacent borings, Wetness Class IV would appear to be the more appropriate Wetness Class for this lowlying area. At Pit 6, slowly permeable layers occur immediately below the topsoil. At the time of survey (early August) the water table was present at 85 cm.

5.4.4 The majority of this wetter land was classified as Grade 4 by the developer's consultants and the ADAS sub-contractor also assessed some of the soils as possibly Wetness Class V and Grade 4. This has not been borne out by the ADAS pits and the hydrological information supplied by the developer also suggests that the water table does not rise to shallow depths for prolonged periods of the year. As a result, Wetness Class IV is considered to be the worst scenario for this land with the wetness attributed to slowly permeable clay layers rather than a widespread grounwater problem. No Grade 4 has been mapped on the site.

5.4.5 The site also experiences a flood risk but anecdotal evidence suggests that this is no worse than 3B in frequency and duration.

APPENDIX I

DESCRIPTION OF THE GRADES AND SUB-GRADES

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 on the 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.

Grade 3 : Good To Moderate Quality Agricultural Land

Land with moderate limitations which affect the choice of crops, 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.

Sub-grade 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.

Sub-grade 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 (eg. 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 very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

Urban

Built-up or 'hard' uses with relatively little potential for a return to agriculture : housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture, including : private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports/airfields. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Woodland

Includes commercial and non-commercial woodland.

Agricultural Buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg. polythene tunnels erected for lambing) may be ignored.

Open Water

Includes lakes, ponds and rivers as map scale permits.

Land Not Surveyed

Agricultural land which has not been surveyed.

Where the land use includes more than one of the above, eg. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will be shown.

APPENDIX II

REFERENCES

* MAFF (1988), Agricultural Land Classification of England And Wales : revised guidelines and criteria for grading the quality of agricultural land.

* Meteorological Office (1989), Climatological Data for Agricultural Land Classification.

* British Geological Survey (1946), Sheet No.268, Reading, 1:63,360

APPENDIX III

DEFINITION OF SOIL WETNESS CLASSES

Wetness Class I

The soil profile is not wet within 70cm depth for more than 30 days in most years.

Wetness Class II

The soil profile is wet within 70cm depth for 31-90 days in most years **or**, if there is no slowly permeable layer within 80cm depth, it is wet within 70cm for more than 90 days, but not wet within 40cm depth for more than 30 days in most years.

Wetness Class III

The soil profile is wet within 70cm depth for 91-180 days in most years **or**, if there is no slowly permeable layer within 80cm depth, it is wet within 70cm for more than 180 days, but only wet within 40cm depth for 31-90 days in most years.

Wetness Class IV

The soil profile is wet within 70cm depth for more than 180 days but not wet within 40cm depth for more than 210 days in most years **or**, if there is no slowly permeable layer within 80cm depth, it is wet within 40cm depth for 91-210 days in most years.

Wetness Class V

The soil profile is wet within 40cm depth for 211-335 days in most years.

Wetness Class VI

The soil profile is wet within 40cm depth for more than 335 days in most years.

(The number of days is not necessarily a continuous period. 'In most years' is defined as more than 10 out of 20 years.)

APPENDIX IV

SOIL PIT AND SOIL BORING DESCRIPTIONS

Contents :

SOIL PROFILE DESCRIPTIONS : EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a database. This has commonly used *notations and abbreviations as set out below.*

Boring Header Information

1. **GRID REF** : national 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 **HRT** : Horticultural Crops **PGR** : Permanent Pasture **LEY** : Ley Grass **RGR** : Rough Grazing
SCR : Scrub **CFW** : Coniferous Woodland **DCW** : Deciduous Woodland **HTH** : Heathland **BOG** : Bog or Marsh
FLW : Fallow **PLO** : Ploughed **SAS** : Set aside **OTH** : Other

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

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

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

6. **MB (WHEAT/POTS)** : Moisture Balance.

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

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

MREL : Microrelief limitation **FLOOD** : Flood risk **EROSN** : Soil erosion risk **EXP** : Exposure limitation **FROST** : Frost
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** : Soil Erosion Risk **WD** : Combined 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
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 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

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

6. **STONE LITH** : One of the following is used.

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

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

7. **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

8. **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

9. **SUBS STR** : Subsoil structural condition recorded for the purpose of calculating profile droughtiness.

G : good **M** : moderate **P** : poor

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

11. **IMP** : If the profile is impenetrable a 'Y' will appear in this column at the appropiate horizon.

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

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

14. 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 : VILL.FM.ALDERMASTON OS4 Pit Number : 1P

Grid Reference: SU59456570 Average Annual Rainfall : 694 mm
Accumulated Temperature : 1466 degree days
Field Capacity Level : 148 days
Land Use :
Slope and Aspect : 01 degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	MCL	10YR32 00	12	30		
30- 60	MCL	10YR44 00	0	50		
60-120	GH	10YR44 00	0	0		

Wetness Grade : 1 Wetness Class : I
Gleying :000 cm
SPL : No SPL

Drought Grade : 3B APW : 067mm MBW : -43 mm
APP : 066mm MBP : -38 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : VILL.FM.ALDERMASTON OS4 Pit Number : 2P

Grid Reference: SU59256555 Average Annual Rainfall : 694 mm
Accumulated Temperature : 1466 degree days
Field Capacity Level : 148 days
Land Use :
Slope and Aspect : 01 degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	MCL	10YR32 00	2	5		
30- 60	MSL	10YR44 00	0	5		MDCSAB
60- 75	MSL	10YR44 00	0	50		
75-120	GH	10YR44 00	0	0		

Wetness Grade : 1 Wetness Class : I
Gleying :000 cm
SPL : No SPL

Drought Grade : 3A APW : 099mm MBW : -11 mm
APP : 102mm MBP : -2 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : VILL.FM.ALDERMASTON OS4 Pit Number : 3P

Grid Reference: SU59756570 Average Annual Rainfall : 694 mm
Accumulated Temperature : 1466 degree days
Field Capacity Level : 148 days
Land Use :
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 27	MSL	10YR33 00	3	8		
27- 55	MCL	10YR44 00	0	8	F	MDCSAB
55- 75	MCL	10YR44 00	0	50		
75-120	GH	10YR44 00	0	0		

Wetness Grade : 1 Wetness Class : I
Gleying :000 cm
SPL : No SPL

Drought Grade : 3A APW : 096mm MBW : -14 mm
APP : 097mm MBP : -7 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : VILL.FM.ALDERMASTON OS4 Pit Number : 4P

Grid Reference: SU60056605 Average Annual Rainfall : 694 mm
Accumulated Temperature : 1466 degree days
Field Capacity Level : 148 days
Land Use : Bare Soil
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 25	HZCL	10YR32 00	2	6		
25- 60	MCL	10YR82 00	0	50	C	MDCSAB
60-120	ZC	10YR31 00	0	0	C	CP

Wetness Grade : 3A Wetness Class : III
Gleying :025 cm
SPL :060 cm

Drought Grade : 2 APW : 134mm MBW : 24 mm
APP : 106mm MBP : 2 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : VILL.FM.ALDERMASTON OS4 Pit Number : 5P

Grid Reference: SU60256625 Average Annual Rainfall : 694 mm
Accumulated Temperature : 1466 degree days
Field Capacity Level : 148 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 20	HZCL	10YR32 00	0	1		MDCSAB
20- 38	C	10YR53 00	0	0	M	MDCSAB
38- 54	HCL	10YR81 52	0	0	M	MDCSAB
54- 70	ZC	10YR21 00	0	0		MASSVE
70-120	OZC	10YR21 00	0	0		

Wetness Grade : 3A Wetness Class : III
Gleying :020 cm
SPL :054 cm

Drought Grade : 2 APW : 181mm MBW : 71 mm
APP : 111mm MBP : 7 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : VILL.FM.ALDERMASTON OS4 Pit Number : 6P

Grid Reference: SU60056635 Average Annual Rainfall : 694 mm
Accumulated Temperature : 1466 degree days
Field Capacity Level : 148 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 25	MZCL	10YR32 00	0	0		MDCSAB
25- 50	ZC	10YR61 00	0	0	M	MASSVE
50- 80	ZC	10YR51 00	0	0	C	WVCSAB
80-120	MZCL	10YR51 00	0	0	C	

Wetness Grade : 3B Wetness Class : IV
Gleying :025 cm
SPL :025 cm

Drought Grade : 2 APW : 123mm MBW : 13 mm
APP : 102mm MBP : -2 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

MP	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
1P	SU59456570	ARB		01	000		1	1	067	-43	066	-38	3B				DR	3B	NOSSSTRT
2P	SU59256555	ARB		01	000		1	1	099	-11	102	-2	3A				DR	3A	
3P		ARB			000		1	1	096	-14	097	-7	3A				DR	3A	
4P	SU60056605	PLO			025	060	3	3A	134	24	106	2	2				WE	3A	ALGAL MARL 25C
5P	SU60156620	PGR			020	054	3	3A	181	71	111	7	2	Y			WE	3A	ALGAL MARL 38C
6P	SU60056635	PGR			025	025	4	3B	123	13	102	-2	2				WE	3B	WTBLE 85
9	SU59206600	PGR			030	030	4	3B	000	0	000	0					WE	3B	
0	SU59306600	PGR			020	020	4	3B	000	0	000	0					WE	3B	
1	SU59406600	PGR			020		2	2	165	55	122	18	1				WE	2	CALC
3	SU59006590	PGR			020	035	4	3B	000	0	000	0					WE	3B	
4	SU59106590	PGR			020	020	4	3B	000	0	000	0					WE	3B	
5	SU59206590	PGR			020	020	4	3B	000	0	000	0					WE	3B	
8	SU59006580	PGR			025	035	4	3B	000	0	000	0					WE	3B	
9	SU59106580	PGR			020	020	4	3B	000	0	000	0					WE	3B	
1	SU59006570	PGR			025	025	4	3B	000	0	000	0					WE	3B	CHK-25
2	SU59106570	PGR			025	025	4	3B	000	0	000	0					WE	3B	
3	SU59206570	ARB			000		1	1	146	36	132	28	1					1	GH90CKTS
4	SU59306570	ARB			000		1	1	057	-53	057	-47	4				DR	4	GH-35
5	SU59406570	ARB			000		1		060	-50	060	-44	3B				DR	4	GH-35
6	SU59506570	ARB			000		1	1	049	-61	049	-55	4				DR	4	GH-30
7	SU59606570	ARB			000		1	1	065	-45	065	-39	3B				DR	3B	GH-40
9	SU59756565	ARB			000		1	1	099	-11	102	-2	3A				DR	3A	GH-55
4	SU59106560	ARB			000		1	1	106	-4	113	9	3A				DR	3A	GH-75
5	SU59206560	ARB			000		1	1	085	-25	087	-17	3B				DR	3B	GH-55
6	SU59306560	ARB			000		1	1	100	-10	108	4	3A				DR	3A	GH-65
7	SU59406560	ARB			000		1	1	090	-20	093	-11	3B				DR	3B	3A-3B
8	SU59506560	ARB			050		1	1	110	0	117	13	3A				DR	3A	GH-75
9	SU59606560	ARB			050		1	1	109	-1	115	11	3A				DR	3A	GH-75
2	SU59206550	ARB			000		1	1	096	-14	096	-8	3A				DR	3A	GH-60
3	SU59306550	ARB			000		1	1	114	4	116	12	3A				DR	3A	GH-80

MPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
P	0-30	mcl	10YR32 00						12	0	HR	30						
	30-60	mcl	10YR44 00						0	0	HR	50		M				
	60-120	gh	10YR44 00						0	0		0		P				
P	0-30	mcl	10YR32 00						2	0	HR	5						
	30-60	msl	10YR44 00						0	0	HR	5	MDCSAB FR	M				
	60-75	msl	10YR44 00						0	0	HR	50		M				
	75-120	gh	10YR44 00						0	0		0		P				
3P	0-27	msl	10YR33 00						3	0	HR	8						
	27-55	mcl	10YR44 00	000C00 00	F				0	0	HR	8	MDCSAB FM	M				
	55-75	mcl	10YR44 00						0	0	HR	50		M				
	75-120	gh	10YR44 00						0	0		0		P				
P	0-25	hzcl	10YR32 00						2	0	HR	6						Y
	25-60	mcl	10YR82 00	75YR58 00	C			Y	0	0	CH	50	MDCSAB FR	M				Y
	60-120	zc	10YR31 00	75YR58 00	C			Y	0	0		0	CP FM	M			Y	Y
5P	0-20	hzcl	10YR32 00						0	0	HR	1	MDCSAB FM					Y
	20-38	c	10YR53 00	10YR58 52	M			Y	0	0		0	MDCSAB FM	M	Y			Y
	38-54	hcl	10YR81 52	10YR58 00	M			Y	0	0		0	MDCSAB FR	M			Y	Y
	54-70	zc	10YR21 00						0	0		0	MASSVE FM	P	Y		Y	
	70-120	ozc	10YR21 00					Y	0	0		0		M				
P	0-25	mzcl	10YR32 00						0	0		0	MDCSAB FM					Y
	25-50	zc	10YR61 00	75YR56 00	M			Y	0	0		0	MASSVE FM	P	Y		Y	Y
	50-80	zc	10YR51 00	75YR56 00	C			Y	0	0		0	WVCSAB FM	P	Y		Y	Y
	80-120	mzcl	10YR51 00	10YR56 00	C			Y	0	0		0		P	Y		Y	Y
39	0-30	hzcl	10YR32 00						0	0	CH	1						Y
	30-120	zc	10YR53 00	10YR58 00	C			Y	0	0	CH	1					Y	Y
40	0-20	hzcl	10YR32 00						0	0	CH	1						Y
	20-60	zc	10YR51 00	75YR58 00	C			Y	0	0	CH	1					Y	Y
	60-120	zc	10YR72 00	10YR58 00	C			Y	0	0	CH	5					Y	Y
41	0-20	hzcl	10YR32 00						0	0	CH	1						Y
	20-40	hzcl	10YR62 00	10YR58 00	C			Y	0	0	CH	1		M				Y
	40-120	mszl	10YR73 00	10YR68 00	C			Y	0	0	CH	1		M				Y
42	0-20	mzcl	10YR32 00						0	0	HR	1						
	20-35	hzcl	10YR61 00	75YR58 00	C			Y	0	0	GH	1						
	35-60	hzcl	10YR51 00	75YR58 00	C			Y	0	0		0					Y	
	60-120	zc	10YR62 00	75YR58 00	C			Y	0	0		0					Y	Y
43	0-20	hzcl	10YR32 00						0	0	CH	1						Y
	20-65	hzcl	10YR51 00	75YR58 00	C			Y	0	0	CH	1					Y	Y
	65-90	zc	10YR62 00	75YR58 00	C			Y	0	0	CH	1					Y	Y
	90-120	pzc	10YR31 00					Y	0	0	CH	1					Y	Y

MPLE	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
5	0-20	hzcl	10YR32 00						0	0		0						
	20-60	zc	10YR62 00	75YR58 00	C			Y	0	0	CH	1					Y	Y
	60-80	zc	10YR82 00	10YR58 00	C			Y	0	0	CH	5					Y	Y
	80-120	pzc	10YR31 00					Y	0	0	CH	1					Y	Y
68	0-25	hzcl	10YR32 00						0	0		0						
	25-35	hzcl	10YR51 00	75YR58 00	C			Y	0	0		0						
	35-120	zc	10YR62 00	75YR58 00	C			Y	0	0	CH	1					Y	Y
6	0-20	hzcl	10YR32 00						0	0	CH	1						Y
	20-65	zc	10YR62 00	10YR58 00	C			Y	0	0	CH	1					Y	Y
	65-120	pc	10YR31 00					Y	0	0	CH	1					Y	Y
8	0-25	hzcl	10YR32 00						0	0	HR	1						
	25-60	hzcl	10YR61 00	75YR58 00	C			Y	0	0		0					Y	
	60-85	zc	10YR62 00	75YR58 00	C			Y	0	0		0					Y	Y
	85-120	zc	10YR51 00	75YR58 00	C			Y	0	0		0					Y	Y
82	0-25	hzcl	10YR32 00						0	0	HR	1						
	25-55	hzcl	10YR61 00	75YR58 00	C			Y	0	0		0					Y	Y
	55-120	zc	10YR62 00	75YR58 00	C			Y	0	0		0					Y	Y
83	0-30	msl	10YR32 00						0	0	HR	2						
	30-90	mcl	10YR34 00						0	0	HR	2		G				
84	0-35	msl	10YR32 00						0	0	HR	5						
	0-35	mcl	10YR32 00						0	0	HR	5						
86	0-30	msl	10YR32 00						0	0	HR	5						
	0-25	msl	10YR32 00						0	0	HR	2						
	25-40	hcl	10YR44 00						0	0	HR	2		M				
	0-20	msl	10YR33 00						0	0	HR	5						
	20-55	mcl	10YR34 00						0	0	HR	5		G				
	0-30	msl	10YR32 00						0	0	HR	2						
	30-65	mcl	10YR54 00	75YR58 00	F				0	0	HR	2		M				
	65-75	mcl	10YR54 00	75YR58 00	C				0	0	HR	5		M				
	0-30	msl	10YR32 00						0	0	HR	2						
	30-55	msl	10YR44 00						0	0	HR	2		M				
	0-30	mcl	10YR32 00						0	0	HR	2						
	30-65	mcl	10YR44 00						0	0	HR	1		M				
	0-30	mcl	10YR32 00						0	0	HR	2						
	30-55	mcl	10YR46 00						0	0	HR	1		M				

MPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
9	0-30	mcl	10YR32 00						0	0	HR	2						
	30-50	mcl	10YR33 00						0	0	HR	1		M				
	50-75	hcl	10YR63 00	05YR58 00	C			Y	0	0		0		M				
99	0-30	msl	10YR32 00						0	0	HR	2						
	30-50	mcl	10YR33 00						0	0	HR	1		M				
	50-75	mszl	10YR52 00	75YR58 00	C			Y	0	0	HR	1		M				
102	0-30	msl	10YR32 00						0	0	HR	2						
	30-60	msl	10YR54 00						0	0	HR	2		M				
	60-120	gh	10YR44 00						0	0		0		M				
103	0-30	mcl	10YR33 00						0	0	HR	2						
	30-80	mcl	10YR44 00						0	0	HR	1		M				

SITE OS4, VILLAGE FARM, ALDERMASTON
Schedule of auger borings

2	0-20	10YR2/3 mZCL calc v moist no stones
	20-35	2.5Y6/2 hZCL com dist och mottles v moist & plastic
	35-90	2.5Y6/2 C com prom och mottles extremely wet soft & plastic
	90+	too wet to auger but sandy
	Watertable @ 55 cm	
	Wetness Class V Grade 4	
3	0-20	10YR3/3 hZCL calc no stones
	20-35	2.5Y6/2 ZC com dist och mottles calc
	35-50	2.5Y6/2 C many prom och mottles soft & v plastic
	50-120	waterlogged algal marl
	Watertable @ 70 cm	
	Wetness Class IV/V Grade 3b/4	
4	0-20	10YR2/3 mZCL calc sl org no stones
	20-60	2.5Y6/2 ZC calc com dist och mottles soft & plastic
	60-90	2.5Y6/3 C many dist och mottles v wet v plastic
	90+	waterlogged algal marl
	Watertable @ 75 cm	
	Wetness Class IV/V Grade 3b/4	
5	0-20	10YR3/2 hZCL com dist och mottles calc no stones
	20-55	2.5Y6/2 C many prom och mottles soft & v plastic becoming extremely wet @ 50 cm
	55-120	waterlogged algal marl
	Wetness Class V Grade 4	
6	0-18	10YR3/3 hZCL calc common faint och mottles no stones
	18-70	2.5Y6/2 C many prom och mottles v soft v plastic
	70-100	waterlogged algal marl
	100+ N2/0 org C becoming LyPt	
	Wetness Class V Grade 4	
13	0-20	10YR3/3 ZC v sl calc no stones
	20-35	10YR5/4 ZC v many prom och mottles non calc
	35-65	2.5Y6/2 C com dist och mottles v plastic & soft
	65-80	N2/0 extremely soft & plastic
	80-120	7.5YR2/1 LyPt
	Wetness Class IV/V Grade 3b/4	
15	0-15	10YR2/2 hZCL calc no stones
	15-50	2.5Y6/2 ZC many prom och mottles v soft wet & plastic
	50+	5Y5/2 ZL/ZCL liquid
	Wetness Class V Grade 4	

16
0-15 10YR3/3 ZC sl calc no stones
15-50 2.5Y6/2 C many dist och mottles common algal marl v calc
50-120 2.5Y8/2 algal marl peaty bands below 90 cm saturated below 70 cm
Wetness Class IV Grade 3b

17
0-20 10YR3/3 hZCL/ZC calc no stones
20-30 2.5Y5/3 C many prom och mottles calc com shells
30-120 algal marl saturated below 60 cm humose layers below 90cm
Wetness Class IV/V Grade 3b/4

18
0-20 10YR3/3 ZC calc no stones
20-30 2.5Y5/3 ZC com dist och mottles calc com shells
30-90 2.5Y8/2 algal marl/ fSCL com dist och mottles
90+ 10YR7/1 sand & gravel saturated
Wetness Class IV Grade 3b

19
0-20 10YR3/3 ZC calc no stones
20-30 10YR5/3 ZC com faint och mottles v calc
30-40 2.5Y6/3 C v many prom och mottles (crumbly) calc
40-55 2.5Y6/2 C many prom och mottles v plastic non calc
55-80 N2/0 org C v soft & plastic
80-120 7.5YR2/1 LyPt
Wetness Class IV Grade 3b

20
0-18 10YR3/3 hZCL calc no stones
18-35 10YR5/4 ZC com dist och mottles calc
35-40 2.5Y5/3 ZC many prom och mottles
40-55 white algal marl com och mottles
55-80 N2/0 org C v moist v plastic & soft
80-120 7.5YR2/1 LyPt
Wetness Class III/(IV) Grade 3a/(b)

21
0-28 10YR4/3 hZCL calc no stone
28-55 10YR5/4 hCL com dist och mottles 10-15% algal marl
55-90 N2/0 org C plastic & sticky
90-120 7.5YR2/1 PtyL
Wetness Class III Grade 3a

22
0-20 10YR3/3 ZC few faint och mottles non calc no stones
20-55 2.5Y-10YR5/3 C com reddish mottles non calc firm
55-95 7.5YR3/2 org ZCL com faint dark brown mottles soft & plastic
95-120 waterlogged algal marl
Wetness Class IV Grade 3b

23
0-17 10YR3/3 ZC non calc no stones
17-55 2.5Y5/2 C com prom och mottles v sl calc
55-75 7.5YR2/3 org mZCL v soft & plastic
75-120 10YR4/2 ZL v soft & wet
Wetness Class III Grade 3b (non calc)

24 0-25 10YR3/3 hZCL v sl calc no stones
25-45 10YR5/3 ZC com dist och mottles calc
45-80 2.5Y6/3 hCL com dist och mottles 40% algal marl
80-120 10YR3/1 org C v ewt & v plastic
Wetness Class III? Grade 3b (non calc TS)

25 0-15 10YR3/4 hZCL calc no stones
15-50 2.5Y6/3 hCL many dist och mottles 40-50% algal marl
50-120 algal marl extremely wet saturated below 70 cm
Wetness Class IV Grade 3b

26 0-20 10YR4/2 ZC non calc com faint och mottles 2% flints
20-65 2.5Y5/1 C many dist och mottles non calc soft & plastic below 50 cm
65-110 10YR3/1 org C com faint olive mottles v soft v plastic
110+ LyPt
Wetness Class IV Grade 3b

34 0-27 10YR4/3 hZCL calc no stones
27-50 2.5Y6/3 hCL com dist och mottles 5-10% algal marl (not slowly permeable)
50-65 2.5Y7/3 algal marl v many prom och mottles
65-80 N2/0 org C soft v plastic v moist
80-120 7.5YR2/1 PtyL
Wetness Class III Grade 3a

36 0-20 10YR3/3 hZCL/ZC non calc no stones
20-30 10YR5/4 C few faint och mottles sl calc
30-50 2.5Y6/3 hCL com dist och mottles 20% algal marl
50-70 10YR3/1 C com dist olive mottles soft & plastic
70-120 2.5Y6/2 C com dist och mottles v plastic v sticky few stones at base
Wetness Class III Grade 3b (non calc TS)

45 0-15 10YR3/3 ZC sl org non calc no stones
15-50 2.5Y5/2 ZC com prom och mottles strong coarse angular blocky non calc
50-120 N2/0 org C non calc v soft & plastic saturated below 60 cm
Wetness Class V Grade 4

47 0-27 10YR4/3 hZCL v calc some algal marl ploughed up
27-50 10YR7/3 algal marl com dist och mottles
50-75 N2/0 org C soft & plastic
75-120 7.5YR2/1 PtyL
Wetness Class III Grade 3a

48 0-25 10YR4/3 ZC calc no stones
25-50 10YR6/4 C v mnay dist och mottles & com Mn concs (not slowly permeable)
50-70 2.5Y6/2 C many prom och mottles plastic (SP)
70-120 7.5YR4/1 sl org C com dark brown mottles soft & plastic becoming LyPt below 110 cm
Wetness Class III Grade 3a