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Hampshire Minerals and
Waste Disposal Plan
Omission site 30 Batchley Farm,
Everton
Agricultural Land Classification Report
June 1994

AGRICULTURAL LAND CLASSIFICATION REPORT

HAMPSHIRE MINERALS AND WASTE DISPOSAL PLAN
OMISSION SITE 30 BATCHLEY FARM, EVERTON

1 Summary

1 1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality for a number of sites in Hampshire The work forms part of MAFF's statutory input to the Hampshire Minerals and Waste Disposal Plan

1 2 Omission site 30 comprises 94 4 hectares of land at Batchley Farm north of Everton An Agricultural Land Classification, (ALC) survey was carried out during May 1994 The survey was undertaken at a detailed level of approximately one boring per hectare for the agricultural area A total of 68 borings and four soil inspection pits were described in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land (MAFF 1988) These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose a long term limitation on its use for agriculture

1 3 At the time of the survey the majority of the land was in a five-year set-aside scheme The woodland mapped mostly comprises mature deciduous trees The urban marked consists of gravelly tracks and a house and garden

1 4 The distribution of grades and subgrades is shown on the attached ALC map and the areas and extent are given in the table below The map has been drawn at a scale of 1 10 000 It is accurate at this scale but any enlargement would be misleading

Table 1 Distribution of Grades and Subgrades

Grade	Area(ha)	% of Site	% of Agricultural Land
2	4 8	5 1	7 3
3a	15 4	16 3	23 3
3b	45 9	48 6	69 4
Urban	0 8	0 8	100% (66 1 ha)
Woodland	26 2	27 8	
Open Water	1 3	1 4	
Total area of site	94 4	100%	

1 5 Appendix I gives a general description of the grades subgrades and land use categories identified in the survey 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

1 6 Agricultural land on the site is predominantly Subgrade 3b (moderate quality land) and Subgrade 3a (good quality land) Small areas of Grade 2 (very good quality land) also occur Soil wetness is the key limitation to agricultural land quality with variations in soil permeability giving rise to the distribution of ALC grades

2 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 conditions

2 2 The main parameters used in the assessment of the overall climatic limitation are average annual 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 (Met Office 1989) The details are given in the table below and these show that there is no overall climatic limitation affecting the site However climatic factors do interact with soil factors to influence soil wetness and soil droughtiness limitations

2 4 No local climatic factors such as exposure or frost risk are believed to affect the site

Table 2 Climatic Interpolations

Grid Reference	SZ290946	SZ291954	SZ283947
Altitude (m)	21	25	30
Accumulated Temperature (days) (°days Jan-June)	1543	1538	1533
Average Annual Rainfall (mm)	818	826	823
Field Capacity (days)	169	171	170
Moisture Deficit Wheat (mm)	111	110	110
Moisture Deficit, Potatoes (mm)	106	105	105
Overall Climatic Grade	1	1	1

3 Relief

3 1 The site lies on a coastal plain rising from c 15m AOD in the south-east corner of the site to c 30m AOD in the north-west of the site Nowhere on the site does gradient or relief impose any restriction to land quality

4 Geology and Soil

4 1 British Geological Survey (1975) Sheet 330 Lymington shows the majority of the site to be underlain by plateau gravel with an area of Osborne and Headon Beds mapped in the woodland region in the south of the site

4 2 The published soil survey map Soils of South East England (SSEW, 1983 1 250 000) maps approximately two-thirds of the site extending eastwards from the western site boundary as the Efford 1 association These soils are described as well drained fine loamy soils often over gravel associated with similar permeable soils variably affected by groundwater (SSEW 1983) The remainder of the site is mapped as the Shabbington association, described as deep fine loamy and fine loamy over sandy soils variably affected by groundwater Some slowly permeable seasonally waterlogged fine loamy over clayey soils (SSEW 1983)

4 3 Detailed field examination generally found deep profiles which range from being moderately well drained to poorly drained

5 Agricultural Land Classification

5 1 Table 1 provides the details of the area measurements 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 are shown on the attached sample point map

Grade 2

5 3 Very good quality agricultural land is equally limited by slight soil wetness and droughtiness restrictions Profiles generally comprise medium clay loam topsoils over subsoils of varying texture (medium/heavy clay loams sandy clay loams clay and occasionally medium sandy loams at depth) In the west of the site profiles extend to depth, but in the east proved impenetrable to an auger at c 80 cm depth Subsoils are generally very slightly stony to moderately stony typically containing c 2-20% total flints v/v The interaction between these textures and profile stone contents at this site imparts a slight reduction in profile available water Such land may have slightly reduced yield potential as a result This land is restricted by soil wetness and consequently may be subject to minor restrictions on the flexibility of cropping, stocking and cultivations Profiles are moderately well drained (Wetness Class II) where there is gleying or slight gleying below and occasionally within, the topsoil This slight impedance to drainage is caused by slowly permeable clays at c 75-90 cm depth This mapping unit is typified by Pit 4

Subgrade 3a

5 4 Good quality land is restricted by soil droughtiness or soil wetness These profiles typically comprise medium clay loam topsoils and upper subsoils At c 50-60 cm these pass into slowly permeable heavy clay loams or clays which either extend to depth or pass into permeable sandy textured lower subsoils (medium sandy loams sandy clay loams) Many of these profiles proved impenetrable to an auger at c 70-100 cm depth The slowly permeable heavy clay loams and clays cause imperfect drainage (Wetness Class III) resulting in gleying, and occasionally slight gleying below and within the topsoil The interaction between these drainage characteristics and the medium clay loam topsoils at this site means that this land can be graded no better than 3a because of potential restrictions in terms of

croppıng, stockıng and cultıvatıons Such soıls are typıfied by Pıt 2 The remaınıng 3a land ıs prımarıly lımıted by soıl droughtıness Profiles typıcally comprıse medıum clay loam topsoıls over loamy subsoıls Topsoıls are very slıghtly to slıghtly stony (c 0-8% flınts > 2 cm v/v 1-12% total flınts v/v) whereas subsoıls tend to be slıghtly stonıer (c 5-30% total flınts v/v) These profiles all proved ımpenetrable to an auger at c 40-50 cm depth because of underlyıng gravelly deposıts The ınteractıon between soıl textures and profile stone contents at thıs sıte means that the amount of profile avaılable water ıs reduced Consequently, thıs land ıs lıkely to have lowered levels and consıstency of crop yıelds such that the land ıs graded 3a

Subgrade 3b

5 5 Moderate qualıty land ıs restrıcted by sıgnıficant soıl wetness and workabılıty lımıtatıons The land ıs poorly draıned due to slowly permeable heavy clay loams and clays at shallow depths Medıum clay loam topsoıls are eıther dırectly underlaın by these slowly permeable heavy textured soıls or have permeable medıum clay loam upper subsoıls whıch pass ınto these slowly permeable horızons wıthın 45 cm Lower subsoıls comprıse soıls of varyıng texture, wıth permeable horızons of sandy clay loams medıum sandy loams and medıum clay loams often found lamınated wıth slowly permeable heavy clay loams and clays Profiles are eıther gleyed from the surface or below the topsoıl (Wetness Class IV) Subsoıls range from beıng stoneless to moderately stony contaınıng c 0-30% total flınts v/v Subsoıls tend to become stonıer wıth depth, and many proved ımpenetrable to an auger at c 55-105 cm depth Such profiles are typıfied by Pıts 1 and 3 The ınteractıon between the medıum clay loam topsoıls and poor draınage characterıstıcs at thıs sıte means that thıs land ıs subject to sıgnıficantly restrıcted flexıbılıty of croppıng stockıng and cultıvatıons Wıthın thıs mappıng unıt there are small areas not large enough to constıtute a separate mappıng unıt of poorer qualıty land

ADAS Ref 1508/106/94
MAFF Ref EL15/107

Resource Plannıng Team
Guıldford Statutory Group
ADAS Readıng

SOURCES OF REFERENCE

Bntish Geologcal Survey (1975) Sheet No 330 Lymngton, 1 50,000 (dnft edition)

MAFF (1988) Agncultural Land Classification of England and Wales Revised guidelnes and cntena for grading the quality of agncultural land

Meteorologcal Office (1989) Clmatologcal Data for Agncultural Land Classification

Soil Survey of England and Wales (1983) Sheet 6 Soils of South-East England and accompanying legend

APPENDIX I

DESCRIPTION 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 (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 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 including housing industry commerce education transport religous buildings cemetries 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 Also active mineral workings and refuse tips where restoration conditions to 'soft after-uses may apply

Woodland

Includes commercial and non commercial woodland A distinction may be made as necessary between farm and non-farm 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

FIELD ASSESSMENT OF SOIL WETNESS CLASS

SOIL WETNESS CLASSIFICATION

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

Definition of Soil Wetness Classes

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

Soils can be allocated to a wetness class on the basis of quantitative data recorded over a period of many years or by the interpretation of soil profile characteristics site and climatic factors Adequate quantitative data will rarely be available for ALC surveys and therefore the interpretative method of field assessment is used to identify soil wetness class in the field The method adopted here is common to ADAS and the SSLRC

[1]The number of days specified is not necessarily a continuous period
[2] In most years is defined as more than 10 out of 20 years

APPENDIX III

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 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 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

SOIL PIT DESCRIPTION

Site Name HANTS MINS OMISS SITE30 Pit Number 1P

Grid Reference SZ29009500 Average Annual Rainfall 822 mm
Accumulated Temperature 1540 degree days
Field Capacity Level 170 days
Land Use Set-aside
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 30	MCL	10YR42 00	0	2	HR	F	WKCSAB	FR		
30- 55	HCL	10YR53 54	0	5	HR	M	WKCSAB	FR	M	
55- 78	C	10YR52 00	0	20	HR	M	WKCSAB	FM	P	
78 120	C	10YR52 00	0	50	HR	M		FM	P	

Wetness Grade 3B Wetness Class IV
Gleying 030 cm
SPL 030 cm

Drought Grade 2 APW 117mm MBW 7 mm
APP 107mm MBP 1 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Wetness

SOIL PIT DESCRIPTION

Site Name HANTS MINS OMISS SITE30 Pit Number 2P

Grid Reference SZ28409490 Average Annual Rainfall 822 mm
Accumulated Temperature 1540 degree days
Field Capacity Level 170 days
Land Use Set-aside
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 26	MCL	10YR42 00	0	1	HR	C	MDCSAB	FR		
26- 36	MCL	10YR53 00	0	0		C	MDCSAB	FR	M	
36- 55	MCL	10YR64 00	0	0		M	MDCSAB	FR	M	
55- 70	HCL	10YR64 00	0	0		M		FR	M	

Wetness Grade 3A Wetness Class III
Gleying 0 cm
SPL 055 cm

Drought Grade 3A APW 105mm MBW -5 mm
APP 117mm MBP 11 mm

FINAL ALC GRADE 3A
MAIN LIMITATION Wetness

SOIL PIT DESCRIPTION

Site Name HANTS MINS OMISS SITE30 Pit Number 3P

Grid Reference SZ28209470 Average Annual Rainfall 822 mm
Accumulated Temperature 1540 degree days
Field Capacity Level 170 days
Land Use Set-aside
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	MCL	10YR42 00	0	1	HR	F	MDCSAB	FR		
28- 45	MCL	10YR64 00	0	1	HR	C	MDCSAB	FR	M	
45- 70	HCL	10YR63 00	0	3	HR	M	WKCSAB	FR	M	
70- 85	SCL	10YR63 00	0	1	HR	M	MDCSAB	FR	M	
85-105	MSL	10YR62 00	0	5	HR	M	MDCAB	FR	M	
105-120	SCL	10YR62 00	0	15	HR	M			M	

Wetness Grade 3B Wetness Class IV
Gleying 028 cm
SPL 045 cm

Drought Grade 1 APW 153mm MBW 43 mm
APP 116mm MBP 10 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Wetness

SOIL PIT DESCRIPTION

Site Name HANTS MINS OMISS SITE30 Pit Number 4P

Grid Reference SZ29209500

Average Annual Rainfall 822 mm
Accumulated Temperature 1540 degree days
Field Capacity Level 170 days
Land Use Set-aside
Slope and Aspect 01 degrees SE

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 29	MCL	10YR42 00	0	1	HR		WKCSAB	FR		
29- 44	HCL	10YR43 00	0	2	HR	C	MDCSAB	FR	M	
44- 51	HCL	10YR64 00	0	1	HR	M	WKCSAB	FR	M	
51- 62	SCL	10YR64 00	0	5	HR	M	MDCSAB	FR	M	
62- 90	MSL	10YR64 63	0	10	HR	M	MDCAB	FR	M	
90-120	C	10YR64 00	0	20	HR	M		FM	P	

Wetness Grade 1

Wetness Class I
Gleying 044 cm
SPL 090 cm

Drought Grade 2

APW 141mm MBW 31 mm
APP 113mm MBP 7 mm

FINAL ALC GRADE 2
MAIN LIMITATION Droughtiness

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
1	SZ28909550	SAS			030	030	4	3B	89	-21	93	-13	3B				WE	3B	I60 3a to 120
1P	SZ29009500	SAS			030	030	4	3B	117	7	107	1	2				WE	3B	PIT TO 85
2	SZ28809540	SAS			030	030	4	3B	94	-16	102	-4	3A				WE	3B	IMPEN 65
2P	SZ28409490	SAS			0	055	3	3A	105	-5	117	11	3A				WE	3A	WT 55 PIT 70
3	SZ28909540	SAS			030	075	2	2	111	1	113	7	3A				DR	2	I80 2 to 120
3P	SZ28209470	SAS			028	045	4	3B	153	43	116	10	1				WE	3B	PIT TO 110
4	SZ29109540	PGR	E	01	028		2	2	84	-26	84	-22	3B				DR	3A	I50 3a to 120
4P	SZ29209500	SAS	SE	01	044	090	1	1	141	31	113	7	2				DR	2	SL GLEYED 29
5	SZ28609530	SAS			032	032	4	3B	115	5	115	9	2				WE	3B	IMPEN 82
6	SZ28709530	SAS			042	042	3	3A	99	-11	109	3	3A				WE	3A	IMPEN 78
7	SZ28809530	SAS			035	035	4	3B	111	1	113	7	3A				WE	3B	IMPEN 105
8	SZ28909530	SAS	E	01	035	035	4	3B	112	2	116	10	3A				WE	3B	IMPEN 78
9	SZ29009530	SAS	E	01	0	030	4	3B	126	16	108	2	2				WE	3B	IMPEN 105
10	SZ29109530	PGR			035	055	3	3A	108	-2	114	8	3A				WE	3A	IMPEN 78
11	SZ28509520	SAS			045	045	4	3B	138	28	117	11	2				WE	3B	IMPEN 105
12	SZ28609520	SAS			035	045	4	3B	107	-3	114	8	3A				WE	3B	IMPEN 75
13	SZ28709520	SAS			036	036	4	3B	149	39	116	10	1				WE	3B	
14	SZ28809520	SAS	E	01	065		1	1	122	12	115	9	2				DR	2	I90 2 to 120
15	SZ28909520	SAS			0	045	4	3B	113	3	117	11	3A				WE	3B	IMPEN 80
16	SZ29009520	SAS			045	045	3	3A	117	7	111	5	2				WE	3A	IMPEN 90
17	SZ29089520	PGR	S	01	025	035	4	3B	108	-2	110	4	3A				WE	3B	IMPEN 80
18	SZ29209520	SAS	NE	01			2	2	77	-33	77	-29	3B				DR	3A	I50 3a to 120
19	SZ28409510	SAS			035	035	4	3B	124	14	117	11	2				WE	3B	IMPEN 90
20	SZ28509510	SAS			032	075	2	2	139	29	113	7	2				WD	2	
21	SZ28609510	SAS			030	030	4	3B	124	14	108	2	2				WE	3B	IMPEN 100
22	SZ28709510	SAS			032	032	4	3B	123	13	116	10	2				WE	3B	IMPEN 93
23	SZ28809510	SAS			0	045	4	3B	126	16	116	10	2				WE	3B	IMPEN 110
24	SZ28909510	SAS			020	035	4	3B	126	16	116	10	2				WE	3B	IMPEN 100
25	SZ29009510	SAS			0	032	4	3B	102	-8	106	0	3A				WE	3B	IMPEN 80
26	SZ29109510	SAS	SE	01	0	045	4	3B	116	6	115	9	2				WE	3B	IMPEN 85
27	SZ29209510	SAS	SE	01	058	058	3	3A	105	-5	110	4	3A				WE	3A	SL GLEYED 28
28	SZ29309510	SAS	E	01	0	028	4	3B	135	25	109	3	2				WE	3B	
29	SZ28209500	SAS	E	01	0	058	3	3A	160	50	119	13	1				WE	3A	
30	SZ28309500	SAS	E	01	038	070	2	2	156	46	119	13	1				WE	2	
31	SZ28409500	SAS	E	01	0	038	4	3B	158	48	118	12	1				WE	3B	
32	SZ28509500	SAS	E	01	0		2	2	159	49	117	11	1				WE	2	
33	SZ28609500	SAS	E	01	0	045	4	3B	158	48	118	12	1				WE	3B	
34	SZ28709500	SAS			0	030	4	3B	123	13	116	10	2				WE	3B	IMPEN 90
35	SZ28809500	SAS			0	029	4	3B	108	-2	114	8	3A				WE	3B	IMPEN 80
36	SZ28909500	SAS			0	029	4	3B	113	3	115	9	3A				WE	3B	IMPEN 80
37	SZ29009500	SAS			035	035	4	3B	105	-5	113	7	3A				WE	3B	IMPEN 75
38	SZ29109500	SAS	SE	01	0	030	4	3B	109	-1	115	9	3A				WE	3B	IMPEN 75

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
39	SZ29209500	SAS	SE	01	050		2	2	113	3	114	8	3A				WD	2	I80 2 to 120
40	SZ29309500	SAS	SE	01			2	2	107	-3	107	1	3A				WD	2	I80 2 to 120
41	SZ28309490	SAS	E	01	030	038	4	3B	135	25	118	12	2				WE	3B	
42	SZ28409490	SAS			030	060	3	3A	153	43	118	12	1				WE	3A	
45	SZ28709490	SAS			0	042	4	3B	112	2	116	10	3A				WE	3B	IMPEN 80
46	SZ28809490	SAS			028	040	4	3B	139	29	116	10	2				WE	3B	
47	SZ28909491	SAS			040	050	3	3A	124	14	120	14	2				WE	3A	
49	SZ29109490	SAS			055	055	3	3A	130	20	108	2	2				WE	3A	SL GLEYED 45
50	SZ29209490	SAS			030	070	2	2	110	0	115	9	3A				WD	2	I80 2 to 120
51	SZ29309490	SAS					1	1	74	-36	74	-32	3B				DR	3A	I50 3a to 120
52	SZ29409490	SAS			030	055	3	3A	137	27	108	2	2				WE	3A	
53	SZ28209480	SAS			025	025	4	3B	153	43	117	11	1				WE	3B	
54	SZ28309480	SAS			028	028	4	3B	118	8	114	8	2				WE	3B	IMPEN 90
55	SZ28409480	SAS			030	030	4	3B	99	-11	107	1	3A				WE	3B	I65 2 to 120
58	SZ28709480	SAS			0	032	4	3B	104	-6	115	9	3A				WE	3B	IMPEN 70
59	SZ28809480	SAS			028		2	2	59	-51	59	-47	4				DR	3A	I40 3a to 120
62	SZ29109480	SAS			035	035	4	3B	108	-2	99	-7	3A				WE	3B	IMPEN 100
66	SZ28209470	SAS			027	027	4	3B	115	5	107	1	2				WE	3B	IMPEN 90
67	SZ28309470	SAS			029	029	4	3B	144	34	110	4	2				WE	3B	
68	SZ28409470	SAS			0	029	4	3B	142	32	108	2	2				WE	3B	
69	SZ28499470	SAS	E	01	030	055	3	3A	99	-11	110	4	3A				WE	3A	I70 2 to 120
79	SZ28309460	SAS			029	029	4	3B	82	-28	84	-22	3B				WE	3B	I55 3a to 120
80	SZ28409460	SAS			029	045	4	3B	104	-6	108	2	3A				WE	3B	IMPEN 80
81	SZ28509460	SAS			029	029	4	3B	133	23	110	4	2				WE	3B	
88	SZ28409450	SAS			0	028	4	3B	107	-3	107	1	3A				WE	3B	IMPEN 80
89	SZ28509450	SAS			028	028	4	3B	99	-11	103	-3	3A				WE	3B	IMPEN 80
90	SZ28609450	SAS			028	028	4	3B	99	-11	107	1	3A				WE	3B	IMPEN 75
91	SZ28709450	SAS	S	01	028		2	2	66	-44	66	-40	3B				DR	3A	I40 3a to 120
92	SZ28509440	SAS			070	070	2	2	144	34	114	8	2				WD	2	SL GLEYED 42
93	SZ28609440	SAS			040	040	4	3B	155	45	116	10	1				WE	3B	BORDER 3A

				----MOTTLES-	---		PED		----STONES----				STRUCT/	SUBS					
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
1	0-30	mcl	10YR52 53	75YR46 00	F				0	0	HR	3							
	30-55	hcl	10YR53 00	10YR58 00	C			Y	0	0	HR	10		M			Y		
	55-60	c	10YR53 00	10YR58 00	M			Y	0	0	HR	30		P			Y		
1P	0-30	mcl	10YR42 00	10YR56 00	F				0	0	HR	2	WKCSAB FR						
	30-55	hcl	10YR53 54	75YR58 00	M			Y	0	0	HR	5	WKCSAB FR	M	Y		Y		
	55-78	c	10YR52 00	75YR58 00	M			Y	0	0	HR	20	WKCSAB FM	P	Y		Y		
	78-120	c	10YR52 00	75YR58 00	M			Y	0	0	HR	50	FM	P					TOO STONY FOR SPL
2	0 30	mcl	10YR42 52	25Y 51 00	F				0	0	HR	3							
	30-55	hcl	10YR53 00	10YR56 58	M			Y	0	0	HR	3		M			Y		
	55-60	c	10YR53 52	10YR58 00	M			Y	0	0	HR	15		P			Y		
	60 65	c	10YR53 52	10YR58 00	M			Y	0	0	HR	25		P			Y		
2P	0-26	mcl	10YR42 00	10YR56 00	C			Y	0	0	HR	1	MDCSAB FR						
	26 36	mcl	10YR53 00	10YR58 00	C			Y	0	0		0	MDCSAB FR	M					
	36 55	mcl	10YR64 00	10YR58 00	M			Y	0	0		0	MDCSAB FR	M					
	55-70	hcl	10YR64 00	10YR58 00	M			Y	0	0		0	FR	M	Y		Y		VERY WET AT 55 cm
3	0-30	mcl	10YR43 00						0	0	HR	3							
	30-60	mcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M					
	60-75	scl	10YR53 00	10YR56 58	C			Y	0	0	HR	10		M					
	75-80	hcl	10YR53 00	10YR58 00	M			Y	0	0	HR	20		M			Y		
3P	0-28	mcl	10YR42 00	10YR56 00	F				0	0	HR	1	MDCSAB FR						
	28 45	mcl	10YR64 00	10YR58 00	C		00MN00 00	Y	0	0	HR	1	MDCSAB FR	M					
	45 70	hcl	10YR63 00	10YR68 72	M		00MN00 00	Y	0	0	HR	3	WKCSAB FR	M	Y		Y		
	70 85	scl	10YR63 00	10YR68 72	M		00MN00 00	Y	0	0	HR	1	MDCSAB FR	M					
	85-105	msl	10YR62 00	10YR68 72	M		00MN00 00	Y	0	0	HR	5	MDCAB FR	M					
	105-120	scl	10YR62 00	10YR68 72	M		00MN00 00	Y	0	0	HR	15		M					
4	0-28	mcl	10YR43 53	75YR58 00	C			S	0	0	HR	1							SL GLEYED
	28-48	mcl	10YR53 00	75YR58 00	C			Y	0	0	HR	1		M					
	48-50	mcl	10YR53 00	75YR58 00	C			Y	0	0	HR	15		M					
4P	0-29	mcl	10YR42 00						0	0	HR	1	WKCSAB FR						
	29-44	hcl	10YR43 00	10YR56 00	C			S	0	0	HR	2	MDCSAB FR	M					SL GLEYED
	44-51	hcl	10YR64 00	10YR58 00	M		00MN00 00	Y	0	0	HR	1	WKCSAB FR	M	Y				
	51 62	scl	10YR64 00	10YR64 00	M		00MN00 00	Y	0	0	HR	5	MDCSAB FR	M	Y				
	62 90	msl	10YR64 63	75YR68 00	M		00MN00 00	Y	0	0	HR	10	MDCAB FR	M	Y				
	90-120	c	10YR64 00	75YR58 00	M			Y	0	0	HR	20	FM	P	Y		Y		
5	0-32	mcl	10YR42 41						0	0	HR	2							
	32 65	hcl	10YR53 00	10YR58 00	M			Y	0	0	HR	3		M			Y		
	65-75	scl	10YR52 62	10YR58 00	M			Y	0	0	HR	10		M					
	75-83	scl	10YR53 51	10YR58 00	M			Y	0	0	HR	20		M					
6	0-30	mcl	10YR42 41	10YR56 00	F				0	0	HR	2							
	30-42	mcl	10YR43 41	10YR46 56	F				0	0	HR	2		M					
	42-65	hcl	10YR53 63	10YR56 58	C			Y	0	0	HR	10		M			Y		
	65-68	hcl	10YR63 00	10YR58 68	M			Y	0	0	HR	25		M			Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES 2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
7	0-35	mcl	10YR42 00						0	0	HR	3							
	35-55	hcl	10YR53 00	10YR56 00	C			Y	0	0	HR	3		M			Y		
	55-75	scl	10YR63 00	10YR58 00	M			Y	0	0	HR	10		M					
	75-82	c	25Y 62 00	10YR58 00	M		05YR58 00	Y	0	0	HR	25		P					
8	0-35	mcl	10YR42 00	10YR58 00	F				0	0	HR	1							
	35-60	hcl	10YR53 00	10YR58 00	C			Y	0	0	HR	1		M			Y		
	60-72	scl	10YR53 00	10YR58 00	C		00MN00 00	Y	0	0	HR	5		M					
	72-78	scl	10YR53 00	10YR58 00	C		00MN00 00	Y	0	0	HR	20		M					
9	0-30	mcl	10YR53 00	10YR58 00	C			Y	0	0	HR	1							
	30-45	hcl	10YR53 00	10YR58 00	M			Y	0	0	HR	1		M			Y		
	45-66	c	10YR53 00	75YR58 00	M		00MN00 00	Y	0	0	HR	5		P			Y		
	66-105	scl	75YR56 00	75YR46 00	M			S	0	0	HR	20		M					SL GLEYED
10	0-25	mcl	10YR43 00						0	0	HR	1							
	25-35	mcl	10YR43 00	10YR58 00	C			S	0	0	HR	1		M					SL GLEYED
	35-55	mcl	10YR53 00	10YR58 00	C			Y	0	0	HR	1		M					
	55 65	hcl	10YR53 00	75YR58 00	C			Y	0	0	HR	1		M			Y		
	65-75	c	10YR53 00	75YR58 00	C			Y	0	0	HR	1		P			Y		
	75-78	c	10YR53 00	75YR58 00	C			Y	0	0	HR	15		P			Y		
11	0-35	mcl	10YR42 43						0	0	HR	2							
	35-45	mcl	10YR54 00	10YR56 00	F				0	0		0		M					
	45-60	hcl	10YR53 00	10YR56 00	M			Y	0	0		0		M			Y		
	60-70	scl	10YR53 00	10YR58 00	M			Y	0	0		0		M					
	70-100	scl	10YR63 00	10YR58 00	M			Y	0	0	HR	5		M					
	100-105	scl	10YR63 00	10YR58 00	M			Y	0	0	HR	25		M					
12	0 35	mcl	10YR43 00						0	0	HR	2							
	35-45	mcl	10YR42 52	10YR56 00	C		00MN00 00	Y	0	0	HR	2		M					
	45-65	hcl	10YR53 52	10YR58 00	M		00MN00 00	Y	0	0	HR	5		M			Y		
	65-75	hcl	25Y 51 61	10YR58 00	M			Y	0	0	HR	25		M			Y		
13	0-36	mcl	10YR42 41						0	0	HR	2							
	36-65	hcl	10YR53 00	10YR58 00	M		00MN00 00	Y	0	0	HR	2		M			Y		
	65-85	scl	25Y 62 00	10YR58 00	M			Y	0	0	HR	5		M					
	85-120	hcl	25Y 63 61	10YR58 00	M			Y	0	0	HR	15		M			Y		
14	0-30	mcl	10YR43 00						0	0	HR	1							
	30-58	hcl	10YR43 00	10YR58 00	F				0	0	HR	1		M					
	58-65	hcl	10YR43 00	10YR58 00	C			S	0	0	HR	1		M					SL GLEYED
	65-75	c	10YR53 00	75YR46 00	M			Y	0	0	HR	5		P					
	75-85	scl	10YR53 00	75YR46 00	C			Y	0	0		0		M					
	85-90	msl	10YR63 00	75YR46 00	C			Y	0	0		0		M					
15	0-29	mcl	10YR42 00	10YR56 00	C			Y	0	0	HR	1							
	29-45	hcl	10YR43 00	10YR56 00	F				0	0		0		M					
	45-68	hcl	10YR53 54	75YR58 00	C			Y	0	0		0		M			Y		
	68-75	scl	10YR53 54	75YR58 00	C			Y	0	0	HR	5		M					
	75-80	c	10YR53 00	75YR58 00	M			Y	0	0	HR	20		P					

				--- MOTTLES ---			PED		----STONES----				STRUCT/	SUBS					
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
16	0-35	mcl	10YR42 00	10YR56 00	F				0	0	HR	1							
	35-45	hcl	10YR43 00	10YR56 00	C			S	0	0		0		M					SL GLEYED
	45-70	c	10YR53 54	75YR58 00	C			Y	0	0		0		P			Y		
	70-88	scl	10YR53 54	75YR58 00	C			Y	0	0	HR	5		M					
	88-90	c	10YR53 00	75YR58 00	C			Y	0	0	HR	20		P					
17	0 25	mcl	10YR43 00	10YR58 00	C			S	0	0	HR	1							SL GLEYED
	25-35	mcl	10YR53 00	10YR58 00	C			Y	0	0	HR	1		M					
	35-48	hcl	10YR53 00	75YR58 00	C			Y	0	0	HR	2		M			Y		
	48 60	c	10YR53 00	75YR58 61	C			Y	0	0	HR	2		P			Y		
	60-80	scl	10YR53 00	75YR58 61	C			Y	0	0	HR	10		M					
18	0 25	mcl	10YR43 00	10YR52 56	C			S	0	0	HR	2							SL GLEYED
	25 40	hcl	10YR44 00	10YR56 00	C			S	0	0	HR	5		M					SL GLEYED
	40 50	c	10YR44 00	10YR56 00	M			S	0	0	HR	25		P					SL GLEYED
19	0 35	mcl	10YR41 00						0	0	HR	2							
	35 60	hcl	10YR53 62	10YR56 00	C			Y	0	0	HR	2		M			Y		
	60-70	hcl	25Y 61 00	75YR58 00	M			Y	0	0		0		M			Y		
	70-80	mcl	25Y 61 00	75YR58 00	M			Y	0	0		0		M					
	80-85	mcl	25Y 62 00	10YR58 00	M			Y	0	0	HR	5		M					
	85-90	mcl	10YR53 00	10YR56 00	F			Y	0	0	HR	20		M					
20	0-32	mcl	10YR42 00						0	0	HR	2							
	32-45	mcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M					
	45-60	mcl	25Y 63 62	10YR58 00	M			Y	0	0	HR	10		M					
	60-75	mcl	10YR63 00	10YR58 00	M			Y	0	0	HR	10		M					
	75-100	c	25Y 52 62	75YR58 00	M			Y	0	0	HR	15		P			Y		
	100-120	scl	25Y 52 62	75YR58 00	M			Y	0	0	HR	15		M			Y		
21	0-30	mcl	10YR42 00						0	0	HR	2							
	30-50	hcl	10YR52 00	10YR56 00	C		00MN00 00	Y	0	0	HR	10		M			Y		
	50-65	c	10YR53 00	10YR56 58	M		00MN00 00	Y	0	0	HR	2		P			Y		
	65-85	scl	10YR62 00	10YR58 00	M			Y	0	0	HR	5		M					
	85-100	scl	25Y 61 62	10YR68 00	M			Y	0	0	HR	15		M					
22	0-32	mcl	10YR43 41						0	0	HR	2							
	32-60	hcl	10YR53 63	10YR58 00	M		00MN00 00	Y	0	0	HR	2		M			Y		
	60-75	mcl	10YR53 00	10YR58 00	M			Y	0	0	HR	5		M					
	75-93	scl	10YR63 00	10YR58 00	M			Y	0	0	HR	20		M					
23	0-29	mcl	10YR42 00	10YR56 00	C			Y	0	0	HR	1							
	29-45	hcl	10YR54 00	10YR56 00	F				0	0	HR	1		M					
	45-60	hcl	10YR53 54	75YR58 00	C			Y	0	0		0		M			Y		
	60-70	scl	10YR53 00	75YR58 00	C			Y	0	0		0		M					
	70-95	lms	10YR53 00	75YR58 00	C			Y	0	0		0		M					
	95-110	c	10YR53 00	75YR58 00	M			Y	0	0	HR	15		P			Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
24	0-20	mcl	10YR42 00	10YR56	00	F			0	0	HR	1							
	20-35	mcl	10YR42 00	10YR56	00	C		Y	0	0		0		M					
	35-55	hcl	10YR42 00	10YR56	00	C	00MN00 00	Y	0	0		0		M					
	55-75	hcl	10YR53 00	75YR58	00	C		Y	0	0		0		M			Y		
	75-100	c	10YR53 00	75YR58	00	M	00MN00 00	Y	0	0		0		P			Y		
25	0-32	mcl	10YR42 00	10YR56	00	C		Y	0	0	HR	1							
	32 68	c	10YR53 54	75YR58	00	C		Y	0	0	HR	1		P			Y		
	68-75	scl	10YR53 54	75YR58	00	C		Y	0	0	HR	5		M					
	75-80	c	10YR53 00	75YR58	00	C		Y	0	0	HR	20		P					
26	0-28	mcl	10YR42 00	10YR56	00	C		Y	0	0	HR	1							
	28-45	mcl	10YR42 00	10YR52	56	M		Y	0	0	HR	4		M					
	45-70	hcl	10YR62 00	75YR58	00	M		Y	0	0	HR	4		M			Y		
	70-85	scl	10YR62 00	75YR58	00	C		Y	0	0	HR	15		M					
27	0-28	mcl	10YR43 00						0	0	HR	1							
	28-40	mcl	10YR44 00	10YR56	00	C		S	0	0	HR	4		M					SL GLEYED
	40-58	hcl	10YR44 00	10YR56	00	M		S	0	0	HR	4		M					SL GLEYED
	58-80	c	10YR53 54	75YR58	00	M		Y	0	0	HR	15		P			Y		
28	0-28	mcl	10YR52 00	75YR56	00	C		Y	0	0		0							
	28-40	hcl	10YR53 54	10YR56	00	C		Y	0	0		0		M			Y		
	40-65	c	10YR53 63	10YR56	00	M		Y	0	0		0		P			Y		
	65-80	scl	10YR53 63	10YR56	00	M		Y	0	0	HR	5		M					
	80-120	c	10YR62 00	75YR58	68	M		Y	0	0	HR	2		P			Y		
29	0-38	mcl	10YR42 00	10YR58	00	C	00MN00 00	Y	0	0	HR	1							
	38-58	mcl	10YR53 00	10YR58	00	C	00MN00 00	Y	0	0	HR	1		M					
	58-85	hcl	10YR53 00	75YR58	61	M	00MN00 00	Y	0	0		0		M			Y		
	85-120	msl	10YR71 00	10YR58	00	C		Y	0	0		0		M					
30	0-38	mcl	10YR42 00						0	0	HR	1							
	38-70	mcl	10YR62 00	10YR58	00	C	00MN00 00	Y	0	0		0		M					
	70-120	hcl	10YR63 00	10YR58	00	C		Y	0	0	HR	1		M			Y		
31	0-38	mcl	10YR42 00	10YR58	00	C	00MN00 00	Y	0	0	HR	1							
	38-65	hcl	10YR53 00	10YR58	00	C		Y	0	0		0		M			Y		
	65 95	scl	10YR61 00	75YR58	00	C		Y	0	0	HR	1		M					
	95-120	msl	10YR61 00	75YR58	00	C		Y	0	0	HR	5		M					
32	0-28	mcl	10YR42 00	10YR58	00	C		Y	0	0	HR	1							
	28-70	mcl	10YR53 00	10YR58	00	C		Y	0	0		0		M					
	70-120	msl	10YR63 00	10YR58	00	C		Y	0	0	HR	2		M					
33	0-35	mcl	10YR42 00	10YR58	00	C		Y	0	0	HR	1							
	35 45	mcl	10YR53 00	10YR58	00	C		Y	0	0	HR	1		M					
	45-85	hcl	10YR53 00	10YR58	00	C		Y	0	0		0		M			Y		
	85-98	mcl	10YR63 00	10YR58	00	C		Y	0	0		0		M					
	98-120	msl	10YR61 00	75YR46	00	M		Y	0	0	HR	1		M					

				----MOTTLES-----			PED		----STONES- --				STRUCT/	SUBS					
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
34	0-30	mcl	10YR42 00	10YR58 61	C			Y	0	0	HR	2							
	30-70	hcl	10YR52 00	10YR68 61	M			Y	0	0	HR	2		M			Y		
	70-90	scl	10YR63 00	10YR68 00	M			Y	0	0	HR	5		M					
35	0-29	mcl	10YR52 00	10YR58 00	C			Y	0	0	HR	2							
	29-65	hcl	10YR53 00	10YR58 61	C			Y	0	0	HR	2		M			Y		
	65-80	c	10YR63 00	10YR58 61	C			Y	0	0	HR	10		P			Y		
36	0-29	mcl	10YR42 00	10YR56 00	C			Y	0	0	HR	1							
	29-50	hcl	10YR64 00	75YR58 00	C			Y	0	0	HR	1		M			Y		
	50-75	scl	10YR64 00	75YR58 00	C			Y	0	0		0		M					
	75-80	c	10YR64 00	75YR58 00	M			Y	0	0	HR	20		P					
37	0-35	mcl	10YR53 00	10YR56 00	F		00MN00 00		0	0	HR	1							
	35-60	hcl	10YR53 64	75YR58 00	C			Y	0	0	HR	1		M			Y		
	60-75	c	10YR53 64	75YR58 00	M			Y	0	0	HR	20		P			Y		
38	0-30	mcl	10YR42 00	10YR56 52	C			Y	0	0	HR	1							
	30-45	hcl	10YR62 00	10YR58 00	M			Y	0	0	HR	1		M			Y		
	45-75	hcl	10YR62 63	10YR58 00	M			Y	0	0	HR	5		M			Y		
39	0-30	mcl	10YR42 00						0	0	HR	2							
	30-50	hcl	10YR54 43	10YR56 00	C			S	0	0	HR	2		M					SL GLEYED
	50-70	scl	10YR63 00	75YR58 00	M			Y	0	0	HR	2		M					
	70-80	scl	10YR63 00	75YR58 68	M			Y	0	0	HR	10		M					
40	0-30	mcl	10YR42 00						0	0	HR	2							
	30-45	scl	10YR43 00	10YR56 00	C			S	0	0	HR	5		M					SL GLEYED
	45-60	scl	10YR43 00	10YR56 00	C			S	0	0	HR	20		M					SL GLEYED
	60-80	hcl	10YR43 54	10YR56 00	C			S	0	0	HR	10		M			Y		SL GLEYED
41	0-30	mcl	10YR42 00						0	0		0							
	30-38	mcl	10YR42 00	75YR58 61	C			Y	0	0		0		M					
	38-88	hcl	10YR53 00	75YR58 61	C			Y	0	0		0		M			Y		
	88-100	scl	10YR61 00	75YR46 00	M			Y	0	0	HR	10		M					
42	0-30	mcl	10YR42 00						0	0		0							
	30-45	mcl	10YR42 52	10YR56 00	C			Y	0	0		0		M					
	45-60	mcl	25Y 63 61	10YR58 00	M			Y	0	0		0		M					
	60-80	hcl	25Y 63 00	10YR58 00	M			Y	0	0		0		M			Y		
	80-100	mcl	10YR63 00	75YR58 00	M			Y	0	0	HR	5		M					
	100-120	scl	25Y 61 00	75YR58 00	M			Y	0	0	HR	10		M					
45	0-29	mcl	10YR42 00	10YR58 00	C			Y	0	0	HR	2							
	29-42	mcl	10YR62 00	10YR68 61	C			Y	0	0	HR	2		M					
	42-75	hcl	10YR62 00	10YR68 61	M			Y	0	0	HR	2		M			Y		
	75-80	c	10YR63 00	75YR56 71	M			Y	0	0		0		P			Y		

				----MOTTLES-	---		PED		- --STONES----				STRUCT/	SUBS					
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
46	0-28	mcl	10YR42 00						0	0		0							
	28-40	mcl	10YR63 00	10YR58 61	C			Y	0	0	HR	2		M					
	40-80	hcl	10YR62 00	10YR68 61	M			Y	0	0	HR	3		M			Y		
	80-120	c	10YR62 00	10YR68 61	M			Y	0	0	HR	10		P			Y		
47	0-40	mcl	10YR42 00						0	0		0							
	40-50	mcl	10YR52 00	10YR58 61	C			Y	0	0		0		M					
	50-65	hcl	10YR62 00	10YR68 71	M			Y	0	0		0		M			Y		
	65-75	scl	10YR62 00	10YR68 72	M			Y	0	0		0		M					
	75-90	c	10YR63 00	75YR56 71	M			Y	0	0		0		P			Y		
49	0-35	mcl	10YR42 00						5	0	HR	8							
	35-45	hcl	10YR42 00						0	0	HR	5		M					
	45-55	hcl	10YR43 00	10YR58 61	C			S	0	0	HR	3		M					SL GLEYED
	55 120	c	10YR62 00	75YR58 71	M			Y	0	0	HR	5		P			Y		
50	0-30	mcl	10YR42 00						0	0	HR	3							
	30-40	mcl	10YR53 00	10YR58 00	C			Y	0	0	HR	2		M					
	40-70	mcl	10YR53 00	10YR58 00	C			Y	0	0	HR	3		M					
	70-80	c	10YR63 00	10YR58 62	M			Y	0	0	HR	10		P			Y		
51	0-30	mcl	10YR42 00						6	0	HR	10							
	30-40	mcl	10YR43 00						0	0	HR	15		M					
	40-50	csl	10YR44 00						0	0	HR	30		M					
52	0-30	mcl	10YR42 00						0	0	HR	3							
	30-45	mcl	10YR52 00	10YR56 00	C			Y	0	0	HR	3		M					
	45-55	scl	10YR52 53	10YR58 00	C			Y	0	0	HR	5		M					
	55 90	c	10YR62 00	10YR68 71	M			Y	0	0	HR	10		P			Y		
	90-120	hcl	10YR52 00	10YR58 61	M			Y	0	0	HR	10		M			Y		
53	0-25	mcl	10YR42 00						0	0		0							
	25-70	hcl	10YR53 00	10YR68 61	M			Y	0	0		0		M			Y		
	70-120	scl	10YR62 00	10YR68 61	M			Y	0	0	HR	5		M					
54	0-28	mcl	10YR42 00						0	0	HR	2							
	28-65	hcl	10YR53 00	10YR68 61	M			Y	0	0	HR	2		M			Y		
	65-80	c	10YR62 00	10YR68 61	M			Y	0	0	HR	2		P			Y		
	80-90	hcl	10YR53 00	10YR68 61	M			Y	0	0	HR	10		M			Y		
55	0-30	mcl	10YR42 00	10YR58 00	F				0	0		0							
	30-50	hcl	10YR53 00	10YR68 61	M			Y	0	0	HR	2		M			Y		
	50-65	hcl	10YR62 00	10YR68 61	M			Y	0	0	HR	10		M			Y		
58	0-32	mcl	10YR42 00	10YR58 00	C			Y	0	0	HR	2							
	32-60	hcl	10YR52 00	10YR68 61	M			Y	0	0	HR	2		M			Y		
	60-70	scl	10YR62 00	10YR68 61	M			Y	0	0	HR	5		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	POR	IMP	SPL	CALC	
59	0-28	mcl	10YR41 00	10YR58 00	F				8	0	HR	12							
	28-40	hcl	10YR52 00	10YR58 61	C			Y	0	0	HR	25		M					
62	0-35	mcl	10YR41 00						5	0	HR	8							
	35-65	sc	10YR63 00	10YR58 62	M			Y	0	0	HR	10		P			Y		
	65-100	c	10YR63 00	10YR58 62	M			Y	0	0	HR	15		P			Y		
66	0-27	mcl	10YR42 00	10YR56 00	F				0	0	HR	1							
	27-50	c	25Y 63 00	75YR58 00	M			Y	0	0		0		P			Y		
	50-85	scl	25Y 63 00	75YR58 00	M			Y	0	0	HR	2		M					
	85-90	c	10YR53 00	75YR58 00	M			Y	0	0	HR	30		P					
67	0-29	mcl	10YR42 00	10YR56 00	F				0	0	HR	1							
	29-45	hcl	10YR53 00	10YR56 00	C			Y	0	0		0		M			Y		
	45-85	c	10YR53 00	75YR58 00	M			Y	0	0		0		P			Y		
	85-95	scl	10YR53 00	75YR58 00	M			Y	0	0		0		M					
	95-110	msl	25Y 62 00	75YR58 00	C			Y	0	0	HR	5		M					
	110-120	scl	25Y 62 00	75YR58 00	C			Y	0	0	HR	3		M					
68	0-29	mcl	10YR42 00	10YR56 00	C			Y	0	0	HR	1							
	29-38	hcl	10YR53 00	75YR58 00	C			Y	0	0		0		M			Y		
	38-65	c	10YR53 00	75YR58 00	M			Y	0	0		0		P			Y		
	65-75	scl	25Y 62 00	75YR58 00	M			Y	0	0	HR	3		M					
	75-85	msl	25Y 62 00	75YR58 00	M			Y	0	0	HR	3		M					
	85-110	scl	25Y 62 00	75YR58 00	C			Y	0	0	HR	10		M					
	110 120	c	10YR53 00	75YR58 00	M			Y	0	0	HR	10		P			Y		ASSUME C 120 cm +
69	0-30	mcl	10YR42 00						0	0	HR	1							
	30 45	hcl	25Y 64 00	75YR58 00	M			Y	0	0	HR	1		M					
	45 55	scl	25Y 64 00	75YR58 00	M			Y	0	0	HR	3		M					
	55-70	c	25Y 62 00	75YR58 00	M			Y	0	0	HR	10		P			Y		
79	0-29	mcl	10YR42 00	10YR56 00	F				0	0	HR	1							
	29-50	c	25Y 74 00	75YR58 00	M			Y	0	0		0		P			Y		
	50-55	c	25Y 73 00	75YR58 00	M			Y	0	0	HR	30		P			Y		
80	0-29	mcl	10YR42 00	10YR56 00	F				0	0	HR	1							
	29-45	msl	25Y 63 00	75YR58 00	C			Y	0	0		0		M					
	45-70	c	10YR53 00	75YR58 00	M			Y	0	0		0		P			Y		
	70-75	scl	10YR53 54	75YR58 00	C			Y	0	0		0		M					
	75-80	c	10YR53 00	75YR58 00	M			Y	0	0	HR	20		P			Y		
81	0-29	mcl	10YR42 00	10YR56 00	F				0	0	HR	1							
	29-50	hcl	10YR53 00	75YR56 00	C			Y	0	0	HR	1		M			Y		
	50-70	c	10YR53 54	75YR58 00	M			Y	0	0	HR	5		P			Y		
	70-78	hcl	10YR53 54	75YR58 00	C			Y	0	0	HR	5		M			Y		
	78-120	c	10YR53 00	75YR58 00	M			Y	0	0	HR	10		P			Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
88	0-28	mcl	10YR42 00	10YR56	00	C		Y	0	0	HR	1						
	28-50	c	10YR61 00	75YR56	68	M	00MN00 00	Y	0	0		0		P			Y	
	50-80	scl	10YR61 62	75YR56	68	M	00MN00 00	Y	0	0	HR	4		M				
89	0-28	mcl	10YR42 00						0	0	HR	1						
	28-35	hcl	10YR53 54	75YR58	00	M		Y	0	0	HR	1		M			Y	
	35-55	c	10YR53 00	75YR58	62	M		Y	0	0	HR	2		P			Y	
	55-80	c	10YR53 00	75YR58	51	M		Y	0	0	HR	15		P			Y	
90	0-28	mcl	10YR43 00						0	0	HR	2						
	28-44	hcl	10YR42 00	10YR56	52	C		Y	0	0	HR	2		M			Y	
	44-75	c	10YR53 00	10YR56	00	M		Y	0	0	HR	5		P			Y	
91	0-28	mcl	10YR42 00						2	0	HR	5						
	28-40	mcl	10YR52 42	75YR46	00	C		Y	0	0	HR	5		M				
92	0-25	mcl	10YR43 00	10YR52	00	C			0	0		0						
	25-42	hcl	10YR44 00						0	0		0		M				
	42-70	scl	10YR54 00	10YR56	00	M		S	0	0		0		M				
	70-120	c	10YR53 54	75YR58	68	M		Y	0	0		0		M			Y	
93	0-30	mcl	10YR42 00						0	0	HR	1						
	30-40	hcl	10YR43 00						0	0	HR	1		M				
	40-60	hcl	10YR64 54	10YR56	52	C		Y	0	0		0		M			Y	
	60-120	scl	10YR64 54	10YR56	52	C		Y	0	0		0		M				