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Hampshire Minerals and Waste Disposal Plan
Omission Site 15 Walkford Farm, Hinton
Agricultural Land Classification Report
May 1994

AGRICULTURAL LAND CLASSIFICATION REPORT

HAMPSHIRE MINERALS AND WASTE DISPOSAL PLAN
OMISSION SITE 15 WALKFORD FARM, HINTON

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 formed part of MAFF s statutory input to the preparation of the Hampshire Minerals and Waste Disposal Plan

1 2 Approximately 88 hectares of land relating to Omission Site 15 to the east of the village of Hinton was surveyed in May 1994 The survey was undertaken at a detailed level of approximately one boring per hectare A total of 86 borings and three soil inspection pits were assessed 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 long term limitations on its use for agriculture

1 3 The work was carried out by members of the Resource Planning Team in the Guildford Statutory Group of ADAS

1 4 At the time of the survey the majority of the agricultural land was under barley and wheat crops with a smaller area down to a grass ley The Urban areas identified comprise farm tracks and the Non Agricultural land consists of a former track which is now overgrown

1 5 The distribution of grades and subgrades is shown on the attached ALC map and the areas 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 This map supersedes any previous survey information for this site

Table 1 Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% Agricultural Area surveyed
1	16 8	19 0	19 3
2	38 9	44 0	44 7
3a	30 6	34 6	35 1
3b	0 8	1 0	0 9
Urban	1 1	1 2	100% (87 1 ha)
Non Agricultural	0 2	0 2	
Total area of Site	88 4	100%	

1 6 The agricultural land at this site has been classified as grades 1 2 3a and 3b with soil droughtiness and wetness being the main limitations The majority of land has been classified as Grade 2 and comprises well drained fine loamy soils becoming moderately to very stony in the lower subsoil These soil properties reduce water reserves such that soils suffer slight droughtiness and is classified as grade 2 accordingly Occasionally the stony lower subsoils pass to slowly permeable clay which impairs the drainage of water through the profile and land is also limited to Grade 2 due to slight soil wetness Subgrade 3a land comprises similar soils to that of Grade 2 Well drained soils suffer from moderate droughtiness due to significant volumes of stone in the upper and lower subsoils while those experiencing moderate soil wetness exhibit slowly permeable layers of clay at a shallower depth than Grade 2 soils Conversely Grade 1 land is typified by virtually stone free profiles which are similar in texture to the aforementioned grades Sometimes these soils become silty and often pass to sandy textures at depth As before soils are well drained containing adequate reserves of water and display no wetness problems which results in no limitations to the agricultural use of this excellent quality land Finally a small area of land to the eastern boundary of the site is classified as Subgrade 3b due to significant soil wetness This land comprises fine loamy topsoils over slowly permeable clay subsoils through which the drainage of water is quite severely restricted

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

Table 2 Climatic Interpolations

Grid Reference	SZ 224948	SZ 223955	SZ 225964
Altitude (m AOD)	35	42	51
Accumulated Temperature (°days Jan June)	1529	1521	1510
Average Annual Rainfall (mm)	809	836	850
Field Capacity Days	168	173	175
Moisture deficit wheat (mm)	111	108	107
Moisture deficit potatoes (mm)	106	103	100

2 2 The main parameters used in the assessment of an 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 The details in the above table show that there is no overall climatic limitation affecting this site In addition no local climatic factors such as exposure or frost risk are believed to affect the land quality

2 3 It should be noted that climatic characteristics do interact with soil properties to influence soil wetness and droughtiness

3 Relief

3 1 The site lies at an altitude of approximately 35 54 metres AOD Land drops very gently southwards but also falls away at the eastern boundary Nowhere on the site do relief or gradient affect agricultural land quality

4 Geology and Soils

4 1 The published geology map for the site area Sheet 329 (BGS 1976) shows the underlying geology to be plateau gravel

4 2 The published soils information for the area Sheet 6 (SSEW 1983) shows the entire site to comprise soils of the Efford 1 association which are described as Well drained fine loamy soils often over gravel Associated with similar permeable soils affected by groundwater (SSEW 1983)

4 3 A detailed inspection of the site found soils similar to those described above mostly well drained with stony layers at varying depths making them prone to different degrees of droughtiness In places there are poorly drained slowly permeable soils but these are in the minority across the site

5 Agricultural Land Classification

5 1 Table 1 provides the details of the extent of each grade and the distribution of each grade is shown on the attached map

5 2 The location of the soil observation points are shown on the attached sample point map

Grade 1

5 3 Excellent quality agricultural land is mapped in two areas to the north and south of the site Soils typically comprise very slightly stony (1 3% v/v total flints) medium silty clay loam or medium clay loam topsoils Upper subsoils consist of similar textures as well as heavy clay loam with 0 10% total flints This passes to lower subsoils which are variable in texture but typically comprise heavy clay loam/silty clay loam medium clay loam and occasionally clay with 0 20% total flints These textures often give way to lighter soils at depth such as fine sandy loam or loamy fine sand or conversely they become heavy with poorly structured slowly permeable clay Soil Pit 1 is typical of soils in these mapping units Overall profiles are well drained showing slight or no signs of wetness problems and are

assigned to Wetness Class I In addition there are adequate reserves of water held in the soil for crop growth Consequently this land has no or very minor limitations to its agricultural use and is classified as Grade 1 As a result this land is capable a very wide range of agricultural and horticultural crops producing high and consistent yields One profile of poorer quality was encountered but was included in this predominant mapping unit

Grade 2

5 4 Very good quality agricultural land covers the majority of the site In this mapping unit soil profiles are limited by wetness and/or droughtiness and typically comprise slightly stony (1 7% v/v total flints) topsoils of medium clay loam occasionally medium silty clay loam Upper subsoils consist of medium or heavy clay loam occasionally heavy silty clay loam with 0 30% total flints Lower subsoils comprise heavy clay loam and to a lesser extent medium clay loam containing 10 40% total flints Sometimes this passes to poorly structured slowly permeable clay at depth Soil pit 3 typifies these soils and was dug to a depth of 80 cm becoming impenetrable thereafter Although the pit qualifies for Subgrade 3a on droughtiness an example boring 3Q (not a field auger boring) indicates that if rooting were to continue to 120 cm the pit qualifies for Grade 2 almost 1 on droughtiness In terms of soil wetness many profiles show evidence of this in the form of gleying or slight gleying from 27 75 cm depth and occasional slowly permeable layers of clay from 60 80 cm depth Consequently some permeable profiles where gleying occurs above 40 cm are assigned to Wetness Class II and this combined with climatic factors results in a classification of Grade 2 land limited by slight soil wetness The majority of profiles are permeable and assigned to Wetness Class I where gleying occurs below 40 cm depth The majority of land graded 2 therefore has minor droughtiness limitations although there are some profiles within this mapping unit which are limited by both soil wetness and droughtiness limitations

5 5 Finally there are a small number of profiles of better and poorer quality which were included in this mapping unit and not identified separately due to their limited number and sporadic distribution

Subgrade 3a

5 6 Good quality land is mapped in three areas across the site with soil wetness and droughtiness as the limitations to land quality The majority of land in this grade comprises well drained soils Wetness Class I occasionally II which are limited by droughtiness The associated soil profiles typically comprise medium clay loam or medium silty clay loam topsoils slightly to moderately stony (2 20% v/v total flints flints of which 0-7% are over 2 cm in diameter) Upper subsoils consist of heavy clay loam occasionally medium clay loam or sandy clay loam with 5 30% total flints This passes to lower subsoils of coarse sandy loam with 30% total flints

Soil Pit 2 typifies these soils and was dug to 85 cm depth thereafter becoming impenetrable to dig

5 7 Profiles in this mapping unit limited by soil wetness account for a small number mainly concentrated to the north of the site Here soil profiles typically comprise slightly stony (0 5% v/v total flints) topsoils of medium silty clay loam over slightly stony medium or heavy silty clay loam upper subsoils Lower subsoils comprise of poorly structured slowly permeable clay which sometimes lightens in texture to heavy silty clay loam at depth Soils are imperfectly drained showing signs of wetness problems in the form of gleying from 30 40 cm caused by slowly permeable layers of clay from 50 60 cm depth In light of this soil water regime profiles are assigned to Wetness Class III and this in combination with climatic factors gives a classification of Subgrade 3a land being limited by moderate soil wetness

5 8 The overall grade of 3a reflects the ensuing drought stress on crops during the drier periods and difficulties in cultivating this land during the wetter periods of the year Additionally there are a small number of poorer quality profiles contained within this map unit which were not mapped separately due to their limited number and sporadic distribution

Subgrade 3b

5 9 A small area of comparitively low-lying land in the north of the site adjacent to Beckley Moor Copse is classified as Subgrade 3b Soil profiles typically comprise slightly stony (0 10% v/v total flints) medium clay loam topsoils over a thin horizon of heavy clay loam containing 15% total flints which passes to an upper subsoil of poorly structured slowly permeable clay with 15 20% total flints Lower subsoils consist of similar textures but with 60% total flints and are not considered slowly permeable Soils show clear signs of gleying from 25 cm caused by slowly permeable layers of clay from 35 cm depth and are assigned to Wetness Class IV and a resultant classification of Subgrade 3b The poor drainage status of these soils will restrict the flexibility of this land for cultivations grazing or trafficking

REFERENCES

* British Geological Survey (1976) Sheet No 329 (Drift Edition) Bournmouth 1 50 000 scale

* 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

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

* Soil Survey of England and Wales (1984) Bulletin 15 Soils of South East England

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 OM SITE 15 Pit Number 1P

Grid Reference SZ22109590

Average Annual Rainfall	836 mm
Accumulated Temperature	1521 degree days
Field Capacity Level	173 days
Land Use	Cereals
Slope and Aspect	01 degrees SW

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 31	MZCL	10YR42 00	1	3	HR		WKCSAB	FR		
31- 47	MZCL	10YR44 00	0	1	HR		MDCSAB	FR	M	
47- 87	HZCL	10YR54 44	0	0		C	MDCSAB	FR	M	
87-120	MCL	10YR53 54	0	0		C	MDCSAB	FR	M	

Wetness Grade 1

Wetness Class	I
Gleying	087 cm
SPL	No SPL

Drought Grade 1

APW	159mm	MBW	51 mm
APP	123mm	MBP	20 mm

FINAL ALC GRADE 1

MAIN LIMITATION

SOIL PIT DESCRIPTION

Site Name HANTS MINS OM SITE 15 Pit Number 2P

Grid Reference SZ22409620 Average Annual Rainfall 836 mm
Accumulated Temperature 1521 degree days
Field Capacity Level 173 days
Land Use Barley
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	MCL	10YR42 00	3	6	HR		WKCSAB	FR		
28- 44	HCL	10YR43 00	0	30	HR				M	
44- 63	HCL	10YR43 00	0	40	HR				M	
63- 85	CSL	75YR56 00	0	30	HR				M	

Wetness Grade 1 Wetness Class I
Gleying cm
SPL No SPL

Drought Grade 3A APW 098mm MBW -10 mm
APP 094mm MBP -9 mm

FINAL ALC GRADE 3A
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name HANTS MINS OM SITE 15 Pit Number 3P

Grid Reference SZ22149502 Average Annual Rainfall 836 mm
Accumulated Temperature 1521 degree days
Field Capacity Level 173 days
Land Use Ley
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		WKCSAB	FR		
30- 53	MCL	75YR43 00	0	1	HR		MDCSAB	FR	M	
53- 70	MCL	10YR56 00	0	1	HR	F	MDCSAB	FR	M	
70- 80	HCL	10YR56 00	0	35	HR				M	

Wetness Grade 1 Wetness Class I
Gleying cm
SPL No SPL

Drought Grade 3A APW 111mm MBW 3 mm
APP 116mm MBP 13 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	DRT	M REL FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SZ22409640	BAR			029		2	2	089	-19	093	-10	3A				DR	2	IMP60
1P	SZ22109590	CER	SW	01	087		1	1	159	51	123	20	1					1	ROOTS100
2	SZ22509640	BAR					1	1	083	-25	083	-20	3B				DR	3A	IMP50 AS 2P
2P	SZ22409620	BAR					1	1	098	-10	094	-9	3A				DR	3A	PIT TO 85
2Q	SZ22409620	BAR					1	1	125	17	093	-10	3A				DR	3A	2P DR TO 120
3	SZ22609640	BAR					1	1	061	-47	061	-42	3B				DR	3A	IMP40 AS 2P
3P	SZ22149502	LEY					1	1	111	3	116	13	3A				DR	2	PIT TO 80
3Q	SZ22149502	LEY					1	1	138	30	116	13	2				DR	2	DR OF 3P TO120
4	SZ22209630	BAR			075		1	1	113	5	114	11	2				DR	2	IMP85
5	SZ22309630	BAR			055		1	1	115	7	117	14	2				DR	2	IMP80 SLGLEY27
6	SZ22409630	BAR			046		1	1	098	-10	111	8	3A				DR	2	IMP70
7	SZ22509630	BAR					1	1	068	-40	068	-35	3B				DR	3A	IMP40
8	SZ22609630	BAR					1	1	083	-25	086	-17	3B				DR	3A	IMP55
9	SZ22309620	BAR					1	1	105	3	118	15	3A				DR	3A	IMP70
10	SZ22409620	BAR					1	1	076	-32	076	27	3B				DR	3A	IMP45 AS2P
11	SZ22509620	BAR					1	1	068	40	068	-35	3B				DR	3A	IMP40
12	SZ22009610	BAR	W	01			1	1	068	40	068	35	3B				DR	3A	IMP42
13	SZ22109610	BAR	W	01			1	1	060	48	060	43	3B				DR	3A	IMP35
14	SZ22209610	BAR			030	030	4	3B		0		0					WE	3B	IMP75
15	SZ22309610	BAR			030	055	3	3A		0		0					WE	3A	IMP80
16	SZ22409610	BAR			035	045	4	3B		0		0					WE	3B	IMP100
17	SZ22509610	BAR			032	052	3	3A		0		0					WE	3A	IMP95
18	SZ22609610	BAR			030	060	3	3A		0		0					WE	3A	IMP100
19	SZ22009600	BAR	W	01			1	1	073	-35	073	-30	3B				DR	3A	IMP48 AS2P
20	SZ22109600	BAR	W	01	055	095	1	1	140	32	115	12	1					1	
21	SZ22209600	BAR	S	01	068	068	2	2	144	36	115	12	1				WE	2	SLI GLEY 48
22	SZ22309600	BAR			068		1	1	098	-10	108	5	3A				DR	2	IMP70 SL GL30
23	SZ22409600	BAR			040		1	1	088	-20	094	-9	3A				DR	3A	IMP62 Q2
24	SZ22509600	BAR			025	035	4	3B		0		0					WE	3B	IMP90
25	SZ22009590	BAR			080		1	1	158	50	120	17	1					1	
26	SZ22109590	BAR			080		1	1	155	47	117	14	1					1	SLI GLEY 55
27	SZ22209590	BAR			039		2	2	160	52	119	16	1				WE	2	
28	SZ22309590	BAR			038	080	2	2	141	33	119	16	1				WE	2	
29	SZ22409590	BAR			030		2	2	131	23	113	10	2				WE	2	IMP105
30	SZ22509590	BAR					1	1	070	-38	072	-31	3B				DR	3A	IMP57 AS 2P
31	SZ22009580	BAR			045		1	1	166	58	119	16	1					1	
32	SZ22109580	BAR			085	100	1	1	151	43	119	16	1					1	
33	SZ22209580	BAR			056		1	1	165	57	120	17	1					1	SLI GLEY 35
34	SZ22309580	BAR					1	1	165	57	120	17	1					1	SLI GLEY 80
35	SZ22409580	BAR					1	1	056	-52	056	-47	4				DR	3A	IMP38
36	SZ22009570	BAR					1	1	152	44	121	18	1					1	SLI GLEYED 47
37	SZ22109570	BAR			055	085	1	1	147	39	120	17	1					1	

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
38	SZ22209570	BAR					1	1	162	54	120	17	1					1	SLI GLEYED 29
39	SZ22309570	BAR			0	100	2	2	148	40	116	13	1				WE	2	
40	SZ22409570	BAR	N	01			1	1	056	-52	056	47	4				DR	3B	IMP38
41	SZ22009560	BAR			0	045	4	3B		0		0					WE	3B	WT AT 65
42	SZ22109560	BAR			040	050	3	3A		0		0					WE	3A	
43	SZ22209560	BAR			036	055	3	3A		0		0					WE	3A	
44	SZ22309560	MZE				075	2	2	132	24	123	20	2				WD	2	IMP100 SLIGL50
45	SZ22409560	BAR	N	01	050		1	1	112	4	117	14	3A				DR	2	IMP78 AS3P
46	SZ22509560	BAR	E	01			1	1	051	-57	051	52	4				DR	3A	IMP35 AS2P Q3B
47	SZ22109550	BAR	W	01			1	1	157	49	118	15	1					1	
48	SZ22209550	BAR	W	01	028		2	2	156	48	113	10	1				WE	2	
49	SZ22309550	BAR	E	01	048		1	1	151	43	113	10	1					1	
50	SZ22409550	BAR					1	1	114	6	119	16	2				DR	2	IMP80 AS3P
51	SZ22509550	BAR					1	1	062	-46	062	-41	3B				DR	3A	IMP51 Q3B
52	SZ22109540	BAR	W	01	100		1	1	166	58	118	15	1					1	SLI GLEY 38
53	SZ22209540	BAR	E	01			1	1	165	57	118	15	1					1	
54	SZ22309540	BAR			030	060	2	2		0		0					WE	3A	IMP100
55	SZ22009530	LEY			055		1	1	145	37	117	14	1					1	IMP110
56	SZ22109530	LEY					1	1	156	48	118	15	1					1	SLI GLEYED 58
57	SZ22209530	LEY					1	1	159	51	116	13	1					1	SLI GLEYED 85
58	SZ22309530	WHT					1	1	155	47	117	14	1					1	
59	SZ22409530	PGR			075		1	1	157	49	118	15	1				WE	2	
60	SZ22509530	LEY	NE	03			1	1	055	-53	055	-48	4				DR	3A	IMP35-2P
61	SZ22009520	LEY					1	1	113	5	115	12	2				DR	2	IMP80
62	SZ22109520	LEY					1	1	132	24	115	12	2					1	IMP100 PROB 1
63	SZ22209520	LEY			068	095	1	1	156	48	118	15	1					1	
64	SZ22309520	WHT	S	01			1	1	111	3	114	11	3A				DR	2	IMP80 AS 3P
65	SZ22409520	LEY					1	1	112	4	114	11	3A				DR	3A	IMP80 AS 3P
66	SZ22509520	LEY	E	01			1	1	050	-58	050	-53	4				DR	3A	IMP35 AS 2P
67	SZ22009510	LEY					1	1	083	25	083	-20	3B				DR	3A	IMP50
68	SZ22109510	LEY					1	1	129	21	115	12	2				DR	2	IMP100
69	SZ22209510	LEY					1	1	105	-3	112	9	3A				DR	2	IMP75 AS 3P
70	SZ22309510	WHT					1	1	080	-28	081	-22	3B				DR	3A	IMP52 AS 2P
71	SZ22409510	LEY					1	1	075	-33	078	-25	3B				DR	3A	IMP55
72	SZ22509510	LEY	S	03			1	1	042	66	042	-61	4				DR	3B	IMP35
73	SZ22009500	WHT					1	1	111	3	119	16	3A				DR	2	IMP 75 AS 3P
74	SZ22109500	LEY					1	1	112	4	116	13	3A				DR	2	IMP 80 AS 3P
75	SZ22209500	LEY					1	1	101	-7	112	9	3A				DR	2	IMP 70 AS 3P
76	SZ22309500	BAR					1	1	076	-32	076	-27	3B				DR	3A	IMP 50
77	SZ22409500	BAR					1	1	061	47	061	-42	3B				DR	3A	IMP 40
78	SZ22009490	WHT					1	1	096	-12	103	0	3A				DR	2	IMP 65 AS 3P
79	SZ22109490	WHT					1	1	130	22	116	13	2				DR	2	IMP100

SAMPLE NO	GRID REF	USE	ASPECT		WETNESS--		-WHEAT-		-POTS-		M REL	EROSN	FROST	CHEM	ALC	
			GRDNT	GLEY SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT	COMMENTS
80	SZ22209490	LEY			1	1	098	-10	106	3	3A				DR 2	IMP 65 AS 3P
81	SZ22309490	LEY			1	1	107	1	115	12	3A				DR 2	IMP 75 AS 3P
82	SZ22409490	BAR			1	1	096	-12	104	1	3A				DR 2	IMP 65 AS 3P
83	SZ22009480	BAR			1	1	088	-20	093	-10	3B				DR 2	IMP 60 AS 3P
84	SZ22109480	BAR			1	1	078	-30	078	-25	3B				DR 2	IMP 50 AS 3P
85	SZ22309480	LEY	060	2	2		105	3	110	7	3A				WD 2	IMP 80 SLGL60
86	SZ22409480	BAR			1	1	114	6	114	11	2				DR 2	IMP 85

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	GLEY	STONES 2	STONES 6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
1	0-29	mcl	10YR42 00						0	0	HR	3							
	29-45	hcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M					
	45-55	mcl	10YR53 00	10YR56 00	C			Y	0	0	HR	30		M					
	55 60	hcl	10YR42 00	10YR56 00	C		00MN00 00	Y	0	0	HR	35		M					IMP 60 STONES
1P	0-31	mzcl	10YR42 00						1	0	HR	3	WKCSAB	FR					
	31-47	mzcl	10YR44 00						0	0	HR	1	MDCSAB	FR	M				
	47-87	hzcl	10YR54 44	10YR56 00	C			S	0	0		0	MDCSAB	FR	M				SLI GLEYED
	87-120	mcl	10YR53 54	10YR56 00	C			Y	0	0		0	MDCSAB	FR	M				
2	0-29	mzcl	10YR42 00						0	0	HR	4							
	29-47	hcl	10YR42 43	10YR56 00	F				0	0	HR	5		M					
	47-50	mcl	10YR43 00						0	0	HR	40		M					IMP 50 STONES
2P	0 28	mcl	10YR42 00						3	0	HR	6	WKCSAB	FR					
	28 44	hcl	10YR43 00						0	0	HR	30		M					
	44-63	hcl	10YR43 00						0	0	HR	40		M					
	63 85	csl	75YR56 00						0	0	HR	30		M					IMP TO DIG 85+
2Q	0-28	mcl	10YR42 00						3	0	HR	6	WKCSAB	FR					
	28-44	hcl	10YR43 00						0	0	HR	30		M					
	44-63	hcl	10YR43 00						0	0	HR	40		M					
	63-120	csl	75YR56 00						0	0	HR	30		M					2P TAKEN TO 120 CM
3	0-29	mcl	10YR42 00						5	0	HR	10							
	29-35	hcl	10YR42 43						0	0	HR	5		M					
	35-40	mcl	10YR43 42	10YR56 00	F				0	0	HR	40		M					IMP 40 STONES
3P	0 30	mcl	10YR42 00						0	0	HR	2	WKCSAB	FR					
	30-53	mcl	75YR43 00						0	0	HR	1	MDCSAB	FR	M				
	53-70	mcl	10YR56 00	10YR56 00	F				0	0	HR	1	MDCSAB	FR	M				
	70-80	hcl	10YR56 00						0	0	HR	35		M					IMP TO DIG 80+
3Q	0-30	mcl	10YR42 00						0	0	HR	2	WKCSAB	FR					
	30-53	mcl	75YR43 00						0	0	HR	1	MDCSAB	FR	M				
	53-70	mcl	10YR56 00	10YR56 00	F				0	0	HR	1	MDCSAB	FR	M				
	70 120	hcl	10YR56 00						0	0	HR	35		M					3P TAKEN TO 120 CM
4	0 28	mcl	10YR42 00						0	0	HR	5							
	28 65	hcl	10YR43 00						0	0	HR	2		M					
	65 75	mcl	10YR44 00						0	0	HR	4		M					
	75 82	c	10YR64 54	75YR58 00	C			Y	0	0	HR	5		P					STIFF CLAY
	82-85	c	10YR53 54	75YR58 00	C			Y	0	0	HR	40		M					IMP 85 STONES
5	0-27	mzcl	10YR42 00						0	0	HR	2							
	27 55	hcl	75YR54 00	10YR56 00	C			S	0	0	HR	2		M					SLI GLEYED
	55-66	mcl	10YR64 00	75YR58 00	C			Y	0	0	HR	5		M					
	66-80	hcl	10YR64 00	75YR58 00	C			Y	0	0	HR	5		M					IMP 80 STONES

SAMPLE	DEPTH	TEXTURE	COLOUR	--- MOTTLES --- COL	ABUN	CONT	PED COL	GLEY	----STONES- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
6	0-28	mcl	10YR42 00						0	0	HR	4						
	28 46	mcl	10YR43 00	10YR56 00	F				0	0	HR	4		M				
	46-60	hcl	10YR64 00	75YR58 00	C			Y	0	0	HR	8		M				
	60-70	c	10YR43 00	10YR56 00	C			S	0	0	HR	15		M				SL GLEY IMP70 STONE
7	0-29	mzcl	10YR42 00						0	0	HR	3						
	29-40	c	10YR44 43						0	0	HR	20		M				IMP 40 STONES
8	0-28	mcl	10YR42 00						4	0	HR	8						
	28-45	mcl	10YR43 00						0	0	HR	10		M				
	45-55	hcl	10YR43 00						0	0	HR	10		M				IMP 55 STONES
9	0-26	mzcl	10YR42 00						2	0	HR	5						
	26-45	mzcl	10YR54 00						0	0	HR	2		M				
	45 60	hzcl	10YR54 00						0	0	HR	2		M				
	60-70	hzcl	10YR56 00						0	0	HR	20		M				IMP 70 STONES
10	0-30	mzcl	10YR42 00						4	0	HR	8						
	30-45	hzcl	75YR56 00						0	0	HR	8		M				IMP 45 STONES
11	0-25	mzcl	10YR42 00						2	0	HR	5						
	25-40	mzcl	10YR54 00						0	0	HR	10		M				IMP 40 STONES
12	0-30	mcl	10YR42 00						0	0	HR	5						
	30-38	mcl	10YR42 00						0	0	HR	10		M				
	38-42	mcl	10YR51 00						0	0	HR	20		M				IMP 42 STONES
13	0-25	mzcl	10YR43 00						2	0	HR	7						
	25 35	mcl	10YR52 00						0	0	HR	5		M				IMP 35 STONES
14	0 30	mzcl	10YR52 00	10YR58 00	F				0	0	HR	3						
	30-55	c	10YR62 00	10YR66 71	M			Y	0	0	HR	5		P		Y		
	55-75	c	10YR62 00	10YR66 71	M			Y	0	0	HR	10		P		Y		IMP 75 STONES
15	0-30	mzcl	10YR42 00						0	0	HR	2						
	30-55	mzcl	10YR62 00	10YR58 00	C			Y	0	0	HR	2		M				
	55 80	c	10YR72 00	10YR78 00	M			Y	0	0	HR	5		P		Y		IMP 80 STONES
16	0 35	mzcl	10YR42 00						0	0	HR	3						
	35 45	hzcl	10YR52 00	10YR66 00	C			Y	0	0	HR	2		M				
	45-70	c	10YR72 00	10YR66 71	M			Y	0	0	HR	5		P		Y		
	70-100	c	10YR72 00	10YR66 71	M			Y	0	0	HR	15		P		Y		IMP 100 STONES
17	0-32	mzcl	10YR42 00						0	0	HR	3						
	32 40	mzcl	10YR52 00	10YR58 00	C			Y	0	0	HR	2		M				
	40 52	hzcl	10YR52 00	10YR58 61	C			Y	0	0	HR	2		M				
	52 80	c	10YR62 00	10YR58 61	C			Y	0	0	HR	10		P		Y		
	80 95	c	10YR62 00	10YR58 61	C			Y	0	0	HR	20		P		Y		IMP 95 STONES

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES 2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
18	0-30	mzcl	10YR42 00						2	0	HR	5							
	30 45	mzcl	10YR51 00	10YR58 00	C			Y	0	0	HR	2		M					
	45-60	hzcl	10YR43 00	10YR58 00	C			Y	0	0		0		M					
	60-100	c	10YR62 00	10YR58 00	C			Y	0	0	HR	10		P		Y			IMP 100 STONES
19	0-30	mcl	10YR42 00						0	0	HR	5							
	30-40	scl	10YR51 00						0	0	HR	20		M					
	40-48	msl	10YR61 00						0	0	HR	28		M					IMP 48 STONES
20	0-30	mzcl	10YR42 00						0	0	HR	3							
	30-55	mzcl	10YR42 00						0	0	HR	10		M					
	55-70	hcl	10YR63 00	75YR58 00	M			Y	0	0	HR	15		M					
	70-95	hcl	10YR62 00	75YR58 00	M			Y	0	0	HR	20		M					
	95-120	c	10YR61 00	75YR58 00	M			Y	0	0	HR	10		P		Y			
21	0 25	mcl	10YR43 00						0	0	HR	2							
	25 48	mcl	10YR43 44						0	0	HR	1		M					
	48-55	c	10YR44 00	10YR56 00	F				0	0		0		M					
	55-68	c	10YR54 00	75YR68 00	C			S	0	0		0		M					SLI GLEYED
	68-88	c	10YR64 00	75YR68 00	C			Y	0	0		0		P		Y			
	88-120	hcl	10YR63 00	75YR58 00	M			Y	0	0		0		M					
22	0-25	mcl	10YR42 00						0	0	HR	3							
	25-30	mcl	10YR54 00						0	0	HR	3		M					
	30 50	mcl	10YR54 00	10YR56 00	C			S	0	0	HR	5		M					SLI GLEYED
	50 60	hcl	10YR54 00	10YR58 00	C			S	0	0	HR	10		M					SLI GLEYED
	60 68	hcl	10YR54 00	10YR58 00	C			S	0	0	HR	25		M					SLI GLEYED
	68-70	mcl	10YR63 00	10YR68 00	M			Y	0	0	HR	40		M					IMP 70 STONES
23	0-30	mcl	10YR43 00						0	0	HR	5							
	30 40	mcl	10YR44 54	10YR56 00	F				0	0	HR	10		M					
	40-60	mcl	10YR63 00	10YR58 00	M			Y	0	0	HR	20		M					
	60-62	hcl	10YR63 00	10YR68 00	M			Y	0	0	HR	45		M					IMP 62 STONES
24	0-25	mcl	10YR42 00						0	0	HR	10							
	25-35	hcl	10YR42 00	10YR58 00	C			Y	0	0	HR	15		M					
	35 60	c	25Y 42 52	75YR58 00	M			Y	0	0	HR	15		P		Y			
	60 85	c	25Y 42 52	75YR58 00	M		05YR58 00	Y	0	0	HR	20		P		Y			
	85-90	c	75YR58 00	05YR58 00	C			Y	0	0	HR	60		P					IMP 90 STONES
25	0 30	mzcl	10YR42 00						0	0	HR	2							
	30 80	mcl	10YR43 00	10YR56 00	F				0	0		0		M					
	80-120	mcl	10YR53 54	75YR58 00	C		00MN00 00	Y	0	0		0		M					
26	0 34	mzcl	10YR42 00						0	0	HR	2							
	34-55	mcl	10YR43 00	75YR56 00	F		00MN00 00		0	0		0		M					
	55-68	c	10YR54 00	75YR58 00	C		00MN00 00	S	0	0		0		P					SLI GLEYED
	68-80	mcl	10YR54 00	75YR58 00	C			S	0	0		0		M					SLI GLEYED
	80-100	hcl	10YR53 54	75YR58 00	C			Y	0	0		0		M					
	100-120	mcl	10YR53 00	75YR58 00	C			Y	0	0		0		M					

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
27	0-26	mzcl	10YR42 00						0	0	HR	2							
	26-39	hcl	10YR43 00	75YR58 00	F		00MN00 00		0	0		0		M					
	39 65	hcl	10YR53 54	75YR58 00	C		00MN00 00	Y	0	0		0		M					
	65-70	mcl	10YR53 54	75YR58 00	C			Y	0	0		0		M					
	70 85	hcl	10YR53 54	75YR58 00	C			Y	0	0		0		M					
	85-95	fsl	10YR53 54					Y	0	0		0		M					
	95-120	hcl	10YR53 54	75YR58 00	C		00MN00 00	Y	0	0		0		M					
28	0-29	mzcl	10YR42 00						0	0	HR	2							
	29-38	hcl	10YR43 00	10YR56 00	F		00MN00 00		0	0		0		M					
	38-50	hcl	10YR53 54	75YR56 00	C			Y	0	0		0		M					
	50-80	hcl	10YR53 00	75YR58 00	C			Y	0	0	HR	2		M					
	80-120	c	10YR53 54	75YR58 00	M			Y	0	0	HR	15		P		Y			
29	0-30	mcl	10YR42 00						0	0	HR	3							
	30-50	mcl	10YR42 52	10YR56 00	C			Y	0	0	HR	5		M					
	50-70	hcl	10YR56 00					Y	0	0	HR	5		M					
	70-100	hcl	10YR56 00					Y	0	0	HR	15		M					
	100-105	hcl	10YR56 00					Y	0	0	HR	40		M					IMP 105 STONES
30	0-27	mcl	10YR42 52						3	0	HR	12							
	27 40	scl	10YR52 00						0	0	HR	25		M					
	40-57	scl	10YR44 00						0	0	HR	50		M					IMP 57 STONES
31	0-28	mzcl	10YR42 00						0	0	HR	2							
	28-45	hcl	10YR43 00				00MN00 00		0	0		0		M					
	45-55	hcl	10YR53 54	75YR58 00	C			Y	0	0		0		M					
	55-90	hcl	10YR53 54	75YR58 00	C			Y	0	0		0		M					
	90-120	fsl	10YR53 54	75YR58 00	C			Y	0	0		0		M					
32	0-28	mzcl	10YR42 00						0	0	HR	2							
	28 45	mcl	10YR42 43				00MN00 00		0	0		0		M					
	45-85	hcl	10YR43 00				00MN00 00		0	0		0		M					
	85-100	mcl	10YR63 00	10YR56 00	C		00MN00 00	Y	0	0		0		M					
	100 120	c	10YR53 00	75YR58 00	M		00MN00 00	Y	0	0		0		P		Y			
33	0-29	mzcl	10YR42 00						0	0	HR	2							
	29 35	hcl	10YR43 00	10YR56 00	F				0	0		0		M					
	35 56	c	10YR54 00	75YR58 00	C		00MN00 00	S	0	0		0		M					SLI GLEYED
	56-90	mcl	10YR53 54	75YR58 00	C			Y	0	0		0		M					
	90-120	fsl	10YR53 00	75YR58 00	M			Y	0	0		0		M					
34	0 29	mzcl	10YR42 00						0	0	HR	2							
	29-80	hcl	10YR56 00	10YR56 00	F				0	0		0		M					
	80 90	c	10YR56 00	75YR58 00	C			S	0	0		0		M					SLI GLEYED
	90 120	fsl	10YR56 00						0	0		0		M					
35	0 25	mcl	10YR42 52						0	0	HR	8							
	25 32	mcl	10YR53 00						0	0	HR	20		M					
	32 38	mcl	10YR53 00						0	0	HR	50		M					IMP 38 STONES

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	IMP	SPL	CALC
36	0-32	mzcl	10YR42 00						0	0	HR	1						
	32-47	hcl	10YR43 00				00MN00 00		0	0		0		M				
	47-70	c	10YR43 00	10YR56 00	C			S	0	0		0		M				SLI GLEYED
	70-85	c	10YR54 00	10YR56 00	C			S	0	0		0		M				SLI GLEYED
	85-120	scl	10YR54 00	10YR56 00	F				0	0		0		M				
37	0-29	mzcl	10YR42 00						0	0	HR	1						
	29-45	hcl	10YR43 00	10YR56 00	F		00MN00 00		0	0		0		M				
	45-55	c	10YR43 00	10YR56 00	F		00MN00 00		0	0		0		M				
	55-85	hcl	10YR42 43	10YR56 00	C		00MN00 00	Y	0	0		0		M				
	85-120	c	10YR42 53	75YR56 00	C		00MN00 00	Y	0	0		0		P		Y		
38	0-29	mzcl	10YR42 00						0	0	HR	2						
	29-45	mcl	10YR43 00	10YR56 00	C			S	0	0		0		M				SLI GLEYED
	45-65	c	10YR43 00	10YR56 00	F				0	0		0		M				
	65-85	hcl	10YR43 00	10YR56 00	F				0	0		0		M				
	85-95	mcl	10YR54 00						0	0		0		M				
	95-120	fsl	10YR54 00	75YR58 00	C			S	0	0		0		M				SLI GLEYED
39	0-25	mcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2						
	25-35	hcl	10YR53 00	10YR56 00	C			Y	0	0		0		M				
	35-85	mcl	10YR42 00	10YR56 00	F		00MN00 00		0	0		0		M				
	85-100	scl	10YR64 00	75YR58 00	C			Y	0	0		0		M				
	100-120	c	10YR64 00	75YR58 00	C			Y	0	0		0		P		Y		
40	0-25	mcl	10YR42 00						0	0	HR	10						
	25 35	mcl	10YR43 00						0	0	HR	15		M				
	35-38	mcl	10YR44 54						0	0	HR	50		P				IMP 38 STONES
41	0-30	mzcl	10YR42 00	10YR58 00	C			Y	0	0		0						
	30-45	hzcl	75YR52 00	75YR58 00	C			Y	0	0		0		M				
	45 70	c	75YR53 00	75YR58 00	M			Y	0	0		0		P		Y		
	70-85	c	75YR53 00	75YR58 00	M			Y	0	0		0		P		Y		IMP 85 STONES
42	0 28	mzcl	10YR42 00						0	0		0						
	28 40	mzcl	10YR43 00						0	0		0		M				
	40 50	hzcl	75YR53 00	75YR58 00	C			Y	0	0		0		M				
	50 80	c	75YR53 00	75YR58 00	M			Y	0	0		0		P		Y		
	80-120	hzcl	75YR62 00	75YR58 00	C			Y	0	0		0		M				
43	0-36	mzcl	10YR42 00						0	0		0						
	36-55	hzcl	75YR53 00	75YR68 00	C			Y	0	0		0		M				
	55 80	c	75YR62 00	75YR68 00	C			Y	0	0		0		P		Y		
	80-120	hzcl	75YR63 00	75YR58 00	M			Y	0	0		0		M				
44	0-30	mzcl	10YR42 00						0	0	HR	1						
	30-50	hzcl	75YR54 00						0	0	HR	2		M				
	50-75	hzcl	75YR54 00	75YR58 00	C			S	0	0	HR	2		M				SLI GLEYED
	75-100	c	75YR56 00	75YR68 00	C			S	0	0	HR	15		M		Y		SL GLEY IMP100STONE

SAMPLE	DEPTH	TEXTURE	COLOUR	-- MOTTLES --- COL	ABUN	CONT	PED COL	GLEY	- STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
45	0-30	mzcl	10YR42 00						0	0	HR	3						
	30-50	mzcl	10YR44 00						0	0	HR	5		M				
	50-60	mcl	10YR53 63	10YR56 00	C		00MN00 00	Y	0	0	HR	5		M				
	60-75	mcl	10YR53 63	10YR58 00	C			Y	0	0	HR	15		M				
	75-78	mcl	10YR53 63	10YR58 00	C			Y	0	0	HR	40		M				IMP 78 STONES
46	0-27	mcl	10YR42 00						0	0	HR	12						
	27-35	mcl	10YR43 00						0	0	HR	40		M				IMP 35 STONES
47	0-35	mcl	10YR43 00						0	0	HR	1						
	35-70	c	10YR53 00	75YR58 00	F				0	0		0		M				
	70-105	hcl	10YR53 00						0	0		0		M				
	105-120	fsl	10YR63 00						0	0		0		M				
48	0-28	mcl	10YR43 00						0	0	HR	2						
	28-40	c	10YR53 00	75YR58 00	C			Y	0	0		0		P				
	40-70	c	10YR54 00	10YR58 00	F			S	0	0		0		M				SLI GLEYED
	70 89	hcl	10YR53 00						0	0		0		M				
	89-120	fsl	10YR63 00						0	0		0		M				
49	0-32	mcl	10YR43 00						0	0	HR	2						
	32-48	hcl	10YR43 53						0	0	HR	1		M				
	48-60	c	10YR53 00	75YR58 00	C			Y	0	0		0		P				
	60 90	hcl	10YR53 00	75YR58 00	F				0	0		0		M				
	90 120	mcl	10YR53 00						0	0		0		M				)
50	0-28	mzcl	10YR42 00						0	0	HR	3						
	28-40	mzcl	10YR43 53						0	0	HR	2		M				
	40 55	hzcl	10YR56 00	10YR53 00	F				0	0	HR	5		M				
	55 75	hcl	10YR56 58	10YR53 00	F				0	0	HR	5		M				
	75 80	c	10YR58 00						0	0	HR	40		M				IMP 80 STONES
51	0 25	mcl	10YR42 00						0	0	HR	8						
	25 51	scl	10YR54 56						0	0	HR	50		M				IMP 51 STONES
52	0-38	mcl	10YR43 00						0	0	HR	2						
	38 50	c	10YR54 00	75YR58 00	C			S	0	0		0		M				SLI GLEYED
	50 89	hcl	10YR54 00	75YR58 00	C			S	0	0		0		M				SLI GLEYED
	89-100	fsl	10YR63 00						0	0		0		M				
	100-120	lfs	10YR63 00	75YR58 00	C			Y	0	0		0		M				
53	0-35	mcl	10YR43 00						0	0	HR	2						
	35-80	hcl	10YR53 00						0	0		0		M				
	80-90	hcl	10YR53 61						0	0		0		M				
	90-120	fsl	10YR63 00						0	0		0		M				
54	0-30	mzcl	10YR43 42	10YR41 00	F				0	0	HR	2						
	30-45	mzcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M				
	45-60	hcl	10YR53 00	10YR56 00	C			Y	0	0	HR	2		M				
	60 80	c	10YR53 00	10YR56 00	C			Y	0	0	HR	2		P		Y		
	80-95	c	10YR53 00	10YR58 00	M			Y	0	0	HR	10		P		Y		
	95-100	c	10YR53 63	10YR58 00	M			Y	0	0	HR	40		M				IMP 100 STONES

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES--- COL	ABUN	CONT	PED COL	GLEY	- STONES- >2	>6	LITH	STRUCT/ TOT	CONSIST	SUBS STR	POR	IMP	SPL	CALC
55	0-30	mcl	10YR43 00						0	0	HR	1						
	30-45	mcl	10YR44 00						0	0	HR	1		M				
	45-55	hcl	10YR54 00						0	0		0		M				
	55-75	mcl	10YR53 54	10YR68 00	C			Y	0	0		0		M				
	75-105	scl	10YR54 00	10YR56 00	C			S	0	0		0		M				SLI GLEYED
	105-110	hcl	10YR56 00					Y	0	0	HR	10		M				IMP 110 STONES
56	0-35	mcl	10YR43 00	10YR53 00	F				0	0	HR	1						
	35-58	mcl	10YR44 00						0	0	HR	1		M				
	58-90	mcl	10YR54 00	10YR56 00	M		00MN00 00	S	0	0		0		M				SLI GLEYED
	90-120	hcl	10YR54 00	10YR56 00	M			S	0	0	HR	2		M				SLI GLEYED
57	0-20	mcl	10YR42 00						0	0	HR	1						
	20-35	mcl	10YR42 00	10YR52 00	F				0	0	HR	1		M				
	35-65	mcl	10YR44 00						0	0		0		M				
	65-85	fsl	10YR54 00						0	0		0		M				
	85-120	scl	10YR54 00	10YR58 00	M			S	0	0		0		M				SLI GLEYED
58	0-30	mcl	10YR43 00						0	0	HR	1						
	30-45	mcl	10YR44 00						0	0	HR	1		M				
	45-65	mcl	10YR56 44						0	0		0		M				
	65-120	hcl	10YR56 00						0	0		0		M				
59	0-32	mcl	10YR42 00						0	0	HR	1						
	32-45	mcl	10YR43 00	10YR56 00	C			S	0	0		0		M				SLI GLEYED
	45 55	hcl	10YR43 00						0	0		0		M				
	55-75	mcl	10YR54 00	10YR56 00	F				0	0		0		M				
	75-80	fsl	10YR64 00	75YR58 00	C			Y	0	0		0		M				
	80-120	hcl	10YR54 00	75YR58 00	F			S	0	0		0		M				SLI GLEYED
60	0-30	mcl	10YR42 00						4	0	HR	10						
	30 35	mcl	10YR42 00						0	0	HR	30		M				IMP 35
61	0-30	mcl	10YR43 00						0	0	HR	1						
	30 45	mcl	10YR44 00						0	0	HR	1		M				
	45 80	hcl	10YR54 00						0	0	HR	5		M				IMP 80
62	0 30	mcl	10YR43 00						0	0	HR	2						
	30 40	mcl	10YR43 44						0	0		0		M				
	40 100	mcl	10YR54 00	10YR56 00	C			S	0	0	HR	5		M				IMP 100 SLI GLEYED
63	0-30	mcl	10YR42 00						0	0	HR	1						
	30 40	mcl	10YR42 00	10YR52 00	F				0	0	HR	1		M				
	40 68	mcl	10YR44 00						0	0		0		M				
	68 95	fsl	10YR53 63	10YR68 00	C			Y	0	0		0		M				
	95-120	c	10YR54 00	10YR68 00	M			S	0	0		0		P		Y		SLI GLEYED
64	0 30	mcl	10YR43 00						0	0	HR	1						
	30 65	mcl	10YR44 00						0	0	HR	3		M				
	65 80	hcl	10YR44 00	10YR56 00	C			S	0	0	HR	25		M				IMP 80 SLI GLEYED

AMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL	GLEY	>2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
65	0-30	mcl	10YR42 00						2	0	HR	6						
	30-60	mcl	10YR44 00						0	0	HR	2		M				
	60-80	hcl	10YR54 00	10YR56 00	C			S	0	0	HR	2		M		IMP 80	SLI	GLEYED
66	0-30	mcl	10YR42 00						7	0	HR	20						
	30-35	mcl	10YR43 00						0	0	HR	30		M		IMP 35		
67	0-30	mcl	10YR42 00						0	0	HR	3						
	30-50	mcl	10YR44 00						0	0	HR	5		M		IMP 50		
68	0-30	mcl	10YR43 00						0	0	HR	2						
	30-40	mcl	10YR43 44						0	0	HR	1		M				
	40-60	mcl	10YR44 00						0	0	HR	2		M				
	60-95	mcl	10YR54 00	10YR56 00	C			S	0	0	HR	10		M		SLI	GLEYED	
	95-100	c	75YR56 00	10YR68 00	C			S	0	0	HR	15		M		SLI	GLEYED	IMP 100
69	0-30	mcl	10YR43 00						0	0	HR	3						
	30 40	mcl	10YR43 00						0	0	HR	10		M				
	40 55	mcl	10YR44 00						0	0	HR	5		M				
	55-75	mcl	10YR44 00						0	0	HR	10		M		IMP 75		
70	0-30	mcl	10YR42 00						0	0	HR	2						
	30-45	mcl	10YR43 00						0	0	HR	20		M				
	45-52	mcl	10YR44 00						0	0	HR	25		M		IMP 52		
71	0-30	mcl	10YR42 00						0	0	HR	10						
	30-55	mcl	10YR43 00						0	0	HR	30		M		IMP 55		
72	0 25	mcl	10YR42 00						7	0	HR	20						
	25-30	mcl	10YR43 00						0	0	HR	30		M		IMP 30		
73	0 35	mzcl	10YR43 00						0	0	HR	3						
	35-45	hcl	10YR44 00						0	0	HR	2		M				
	45-70	hcl	75YR54 00						0	0	HR	3		M				
	70-75	hcl	75YR54 00						0	0	HR	30		M		IMP 75		
74	0-30	mcl	10YR43 00						0	0	HR	2						
	30-50	mcl	75YR54 00						0	0	HR	2		M				
	50-75	hcl	75YR66 00						0	0	HR	2		M				
	75-80	hcl	75YR66 00						0	0	HR	30		M		IMP 80		
75	0-30	mcl	10YR43 00	10YR58 00	F				0	0	HR	2						
	30 55	mcl	10YR43 44						0	0	HR	2		M				
	55 65	mcl	10YR54 00						0	0	HR	15		M				
	65-70	mcl	10YR56 00						0	0	HR	30		M		IMP 70		
76	0 30	mcl	10YR42 00						0	0	HR	5						
	30-50	mcl	10YR54 00						0	0	HR	25		M		IMP 50		

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	CALC
77	0-25	mzcl	10YR42 00						5	0	HR	10						
	25-40	mcl	10YR43 00						0	0	HR	25		M				IMP 40
78	0-25	mcl	10YR42 00						0	0	HR	2						
	25-45	mcl	10YR44 00						0	0	HR	2		M				
	45-60	scl	75YR54 00						0	0	HR	2		M				
	60-65	scl	75YR54 00						0	0	HR	30		M				IMP 65
79	0-30	mcl	10YR42 00						0	0	HR	2						
	30-50	hcl	75YR54 00						0	0	HR	2		M				
	50-85	hcl	75YR66 00						0	0	HR	2		M				
	85-100	c	75YR56 00						0	0	HR	10		M				IMP 100
80	0-30	mcl	10YR42 00						0	0	HR	2						
	30-60	hcl	75YR54 00						0	0	HR	2		M				
	60-65	hcl	75YR54 00						0	0	HR	30		M				IMP 65
81	0-30	mcl	10YR42 00						0	0	HR	2						
	30-45	mcl	10YR44 00						0	0		0		M				
	45-70	hcl	75YR56 00						0	0	HR	5		M				
	70-75	hcl	75YR56 00						0	0	HR	30		M				IMP 75
82	0-25	mcl	10YR42 00						0	0	HR	2						
	25-50	mcl	10YR44 00						0	0	HR	2		M				
	50-60	hcl	10YR56 00						0	0	HR	10		M				
	60-65	hcl	10YR56 00						0	0	HR	30		M				IMP 65
83	0-30	mcl	10YR42 00						0	0	HR	7						
	30-45	mcl	10YR42 00						0	0	HR	10		M				
	45-60	hcl	10YR43 00						0	0	HR	15		M				IMP 60
84	0-28	mcl	10YR42 00						2	0	HR	7						
	28-38	mcl	10YR42 43						0	0	HR	10						
	38-50	mcl	10YR43 00						0	0	HR	15						IMP 50
85	0 30	mcl	10YR42 00						1	0	HR	3						
	30 60	mcl	10YR42 00						0	0	HR	5						
	60 80	c	10YR54 56	75YR58 00	C			S	0	0	HR	10				Y		SLI GLEYED IMP 80
86	0 30	mcl	10YR42 00						0	0	HR	2						
	30-50	mcl	10YR44 00						0	0	HR	3		M				
	50 65	hcl	10YR54 00						0	0	HR	3		M				
	65 80	hcl	75YR66 00						0	0	HR	20		M				
	80 85	hcl	75YR66 00						0	0	HR	30		M				IMP 85