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Hampshire Minerals & Waste Disposal Plan
Omission Site 5 : Old Netley, Hound
Agricultural Land Classification
ALC Map and Report
June 1994

AGRICULTURAL LAND CLASSIFICATION REPORT

HAMPSHIRE MINERALS AND WASTE DISPOSAL PLAN
OMISSION SITE 5 : OLD NETLEY, HOUND

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 5 comprises approximately 61 hectares of land to the north-east of Netley, near Hamble, South Hampshire. An Agricultural Land Classification, (ALC), survey was carried out during June 1994. The survey was undertaken at a detailed level of approximately one boring per hectare for the agricultural area. A total of 57 borings and five 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 land was in a variety of uses, most notably for horticulture, with crops including soft fruit and vegetables. In addition, parts of the site were in permanent pasture, being grazed by cattle or horses.
Land mapped as urban includes tracks, roads, residential property, and farm shops. Non-agricultural land comprises mainly scrub, whilst a number of areas of woodland have been noted. An area of land was not surveyed due to difficulties with contacting the relevant landowner and obtaining their permission to enter the land.

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
1	12.6	20.6	22.9
2	12.1	19.7	22.0
3a	10.2	16.6	18.5
3b	18.9	30.9	34.3
4	1.3	2.1	2.3
Total agricultural area	55.1	89.9	100%
Urban	2.6	4.3	
Non-Agricultural	0.2	0.3	
Woodland	0.8	1.3	
Open Water	0.8	1.3	
Not surveyed	1.8	2.9	
Total area of site	61.3	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 Land quality on the site ranges between excellent quality, Grade 1, and poor quality, Grade 4. The land has been classified principally on the basis of soil wetness and/or droughtiness limitations, although locally high topsoil stone contents also influence land quality. The soils observed during survey work were found to be extremely variable giving rise to the complex pattern of land classification grades mapped. In general, fine loamy and clayey soils rest over gravelly horizons at variable depths and may be imperfectly drained.
The ALC grading is also influenced by the availability of irrigation water across parts of the site which may at least partially offset the effects of soil droughtiness.

2. Climate

2.1 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 Estimates of climatic variables relevant to the assessment of agricultural land quality were obtained by interpolation from a 5km grid point dataset (Met. Office, 1989) for representative locations in the survey area.

Table 2 : Climatic Interpolations

Grid Reference	SU463095	SU470102
Altitude (m)	29	35
Accumulated Temperature (degree days, Jan-June)	1524	1516
Average Annual Rainfall (mm)	782	792
Field Capacity (days)	160	162
Moisture Deficit, Wheat (mm)	113	111
Moisture Deficit, Potatoes (mm)	108	106

2.3 The details given in the table above show that there is no overall climatic limitation affecting the site. In addition, no local climatic factors such as exposure or frost risk affect the site.

2.4 Climatic factors do, however, interact with soil properties to influence soil wetness and droughtiness limitations. Soil droughtiness may be at least partially offset by the availability of irrigation water on land north of the boundary between the horticultural land associated with Pickwell Farm and the grass field to the south.

3. Relief

3.1 The site lies at an altitude of 29-35 m AOD, falling gently from north to south. The land rises slightly towards the centre of the site and falls more steeply eastwards towards Butlocks Heath Stream. Across the most southerly field, the land is dissected by two small valleys.

4. Geology and Soil

4.1 British Geological Survey (1987), Sheet 315, Southampton shows the majority of the site to be underlain by river terrace gravels, whilst deposits of Earnley Sand and the Marsh Farm Formation, both from the Bracklesham Group, across the centre of the site in a thin band running north-west to south-east.

4.2 Soil Survey of England and Wales (1983), Sheet 6, shows the site to comprise soils of the Hamble 2 association. These are described as 'deep stoneless, well drained silty soils and similar soils affected by groundwater, over gravel locally', (SSEW, 1983).

4.3 Soils on the site were found to comprise fine silty or fine and medium loamy mainly over gravelly horizons at variable depths, occasionally affected by groundwater. Similar soils passing to clay in the lower subsoil were encountered less often, mostly towards the east of the site close to the stream. These soils are affected by imperfect drainage caused by the poorly structured clay horizons.

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 and profile pits are given on the attached auger boring location map.

Grade 1

5.3 Excellent quality agricultural land capable of supporting a wide range of arable and horticultural crops has been identified in two mapping units to the north and west of the area surveyed.
Profiles comprise non-calcareous medium clay loam, or occasionally medium silty clay loam, silt loam or fine sandy silt loam, topsoils. These generally overlie clay loams or silty clay loams in the subsoil which become heavier with depth, sometimes passing to clay in the lower subsoils. Profiles may be very slightly to slightly stony throughout, (ie, 0-10% total flints by volume). Occasional profiles are affected by a fluctuating groundwater table, being slightly gleyed or gleyed in the lower subsoils. Overall, though profiles are well drained and assigned to Wetness Class I. Pit 4 is typical. These deep, medium textured soils have good reserves of available water for plant growth and soil droughtiness is not likely to be a problem.

Additionally, a number of profiles which would otherwise be Grade 2 due to minor soil droughtiness, are mapped as Grade 1 as a result of the enhanced potential afforded by irrigation water, which offsets the droughtiness limitation. Profiles are similar to those described above, but profile available water is slightly restricted as a result of a combination of factors such as, shallower soils over impenetrable stony horizons, higher stone contents throughout the profile or profiles with higher clay contents throughout.

Grade 2

5.4 Very good quality land has been mapped where minor soil wetness and/or droughtiness limitations exist.
Profiles typically comprise non-calcareous medium clay loam or occasionally medium silty clay loam or fine sandy silt loam topsoils which overlie similar upper subsoil horizons. Profiles may pass to clay and/or become impenetrable, (to soil auger), in the lower subsoil from about 65-95 cm. Profiles are generally very slightly to moderately stony, (ie, 0-25% total flints by volume) tending to become more stony with depth. Where clay is present in the lower subsoil, it impedes drainage, causing gleying or slight gleying below about 48-55 cm. Given these drainage characteristics, Wetness Class II is appropriate, and this land is slightly limited, in terms of opportunities for cultivations and grazing and adverse effects on crop growth and development, by soil wetness.

Where profiles are more stony and/or impenetrable over stony horizons at depths below about 78 cm, the land may be slightly drought prone due to the slight reduction in profile available water which the stones cause.

A number of profiles particularly just south of Pickwell Farm are included in the Grade 2 mapping unit on the basis of their enhanced potential resulting from their being irrigated, allowing a soil droughtiness limitation to be partially offset. Profiles of similar texture to those described above, become impenetrable, (to soil auger), between 55 and 65 cm and are generally more stony, containing 2-35% total flints by volume with the moderately stony horizons occurring immediately above the impenetrable layer. Such profiles have restricted reserves of soil moisture as a result of their stoniness and Subgrade 3a would be assigned under normal circumstances. However, with the availability of irrigation water, soil droughtiness limitations are partially offset and land is mapped as Grade 2.

Subgrade 3a

5.5 Good quality land has been mapped where soil properties and climatic factors combine to give rise to soil droughtiness and/or soil wetness limitations.
Profiles typically comprise non-calcareous medium clay loam or fine sandy silt loam topsoils which may contain 2-25% total flints by volume, (0-10% of which are > 2 cm in diameter). These overlie upper subsoils of similar or slightly heavier texture, (ie, heavy clay loam) with stone contents in the range 1-25% total flints. Lower subsoils may be impenetrable, (to soil auger) over gravelly horizons containing 30-65% total flints in which case the land is affected by soil droughtiness. The high stone contents throughout the profile restrict the amount of soil moisture which may be available to a growing crop. Yield potential may thus be decreased and variable.

Alternatively, where lower subsoils pass to clay, the land is affected by soil wetness. Pit 2 is typical. The clay horizons are poorly structured and slowly permeable, and thereby impede drainage. Gleying in the upper and lower subsoil is indicative of this imperfect drainage. These soils are placed in Wetness Class III, which equates with Subgrade 3a given the prevailing climate and topsoil texture. Soil wetness may affect crop growth and development and cause restrictions on cultivations and/or grazing.

Some land has been mapped as Subgrade 3a due to its enhanced potential arising from its being irrigated. Medium textured profiles which are generally slightly stony in the topsoil and become more stony with depth, passing to very gravelly lower horizons are typically impenetrable to soil auger at relatively shallow depths, ie, 35-55 cm. Pit 1 is typical of these profiles. This land is affected by soil droughtiness due to the shallow, stony nature of the soils and would be assigned to Subgrade 3b under normal circumstances. However, the soil droughtiness limitation is partially offset by the availability of irrigation water and Subgrade 3a is therefore appropriate.

Subgrade 3b

5.6 Moderate quality agricultural land has been mapped principally where soil droughtiness is limiting, although the unit of Subgrade 3b towards the north-east of the site is affected by soil wetness.

Where soil droughtiness is the overriding limitation to the agricultural use of the land, profiles typically comprise sandy silt loam, medium clay loam or medium silty clay loam topsoils which are non-calcareous and contain between 5 and 25% total flints by volume, (1-12% > 2 cm diameter). These overlie similar upper subsoils which become impenetrable, (to soil auger), at shallow depths, ie, between 30 and 50 cm. Pits 1 and 5 dug in these soils confirmed the presence of very stony horizons containing 60-63% flints in the lower subsoil, passing to gravel below 90-95 cm depth. The high stone contents throughout these profiles in combination with loamy medium sand textures in the lower subsoil below about 58-60 cm, causes the available water in the profile to be severely restricted. As a result, crops will be prone to drought stress and yields may be inconsistent and depressed.

Where soil wetness affects agricultural land quality to the extent that Subgrade 3b is appropriate, profiles typically comprise non-calcareous medium clay loam topsoils which may be slightly to moderately stony, (ie, 10-20% total flints by volume, 2-8% > 2 cm). These overlie gleyed and slowly permeable clay upper and lower subsoils, (see Pit 3). The clay severely impedes drainage and soils are assigned to Wetness Class IV. The soil wetness which occurs will adversely affect crop growth and development and restrict the opportunities for landwork and/or grazing by livestock.

Grade 4

5.7 A small area of land has been assigned to Grade 4, poor quality agricultural land, as a result of a severe soil droughtiness limitation. Fine sandy silt loam topsoils containing 15-40% total flints by volume, (8-30% > 2 cm) become impenetrable (to soil auger) at very shallow depths, ie, 20-25 cm from the surface. Subsoils are considered to be of a similar nature to those observed in pits 1 and 5 and as such profiles are very to extremely stony below the topsoil. Profile available water is thereby severely restricted and plants will suffer extreme drought stress. Yields would be expected to be low, and highly variable depending upon seasonal weather conditions.

SOURCES OF REFERENCE

British Geological Survey (1987) Sheet No. 315, Southampton, 1:50,000 (Solid and drift edition).

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.

Soil Survey of England and Wales (1984), Bulletin No. 15, Soils and their use in 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 **ST** : strongly developed	**MD** : moderately developed
ped size	**F** : fine **C** : coarse	**M** : medium **VC** : very coarse
ped shape	**S** : single grain **GR** : granular **SAB** : sub-angular blocky **PL** : platy	**M** : massive **AB** : angular blocky **PR** : prismatic

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

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

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

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

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

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

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

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

SOIL PIT DESCRIPTION

Site Name : HANTS MINS, OLD NETLEY Pit Number : 1P

Grid Reference: SU46960977 Average Annual Rainfall : 792 mm
Accumulated Temperature : 1524 degree days
Field Capacity Level : 162 days
Land Use : Horticultural Crops
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 30	MCL	10YR42 00	1	25	HR					
30- 45	MCL	10YR42 00	0	30	HR				M	
45- 60	MCL	10YR44 00	0	63	HR				P	
60- 90	LMS	75YR56 00	0	61	HR				P	
90-120	GH	75YR56 00	0	0					P	

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

Drought Grade : 3B APW : 68 mm MBW : -44 mm
APP : 67 mm MBP : -40 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : HANTS MINS, OLD NETLEY Pit Number : 2P

Grid Reference: SU46900990
Average Annual Rainfall : 792 mm
Accumulated Temperature : 1524 degree days
Field Capacity Level : 162 days
Land Use : Horticultural Crops
Slope and Aspect : 01 degrees E

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 33	MCL	10YR42 00	1	10	HR		MDCSAB	FR		
33- 54	HCL	25Y 53 00	0	1	HR	M	MDCSAB	FR	M	
54- 66	C	25Y 52 00	0	45	HR	M			M	
66-105	C	25Y 61 71	0	12	HR	M	MDCAB	FR	M	
105-120	C	25Y 61 71	0	45	HR	M			M	

Wetness Grade : 3A
Wetness Class : III
Gleying :033 cm
SPL :066 cm

Drought Grade : 2
APW : 125mm MBW : 13 mm
APP : 104mm MBP : -3 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : HANTS MINS, OLD NETLEY Pit Number : 3P

Grid Reference: SU47100990
Average Annual Rainfall : 792 mm
Accumulated Temperature : 1524 degree days
Field Capacity Level : 162 days
Land Use : Horticultural Crops
Slope and Aspect : 02 degrees E

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 33	MCL	10YR42 00	12	30	HR					
33- 75	C	10YR52 00	0	2	HR	M	WKCSAB	FR	M	
75-120	C	10YR61 00	0	0		M	MDVCPL	FR	P	

Wetness Grade : 3B
Wetness Class : IV
Gleying :033 cm
SPL :033 cm

Drought Grade : 2
APW : 120mm MBW : 8 mm
APP : 101mm MBP : -6 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : HANTS MINS, OLD NETLEY Pit Number : 33P

Grid Reference: SU47100990 Average Annual Rainfall : 792 mm
Accumulated Temperature : 1524 degree days
Field Capacity Level : 162 days
Land Use : Horticultural Crops
Slope and Aspect : 02 degrees E

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 35	MCL	10YR42 00	1	30	HR					
35- 44	C	10YR52 00	0	60	HR	C			P	
44- 62	C	10YR61 00	0	40	HR	M	WKCSAB	FR	M	
62- 75	C	10YR52 00	0	2	HR	M	MDCAB	FR	M	
75-120	SCL	10YR52 00	0	0	HR	M	MDVCPL	FR	P	

Wetness Grade : 3B Wetness Class : IV
Gleying :035 cm
SPL :044 cm

Drought Grade : 3A APW : 109mm MBW : -3 mm
APP : 81 mm MBP : -26 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : HANTS MINS, OLD NETLEY Pit Number : 4P

Grid Reference: SU47071023 Average Annual Rainfall : 792 mm
Accumulated Temperature : 1524 degree days
Field Capacity Level : 162 days
Land Use : Ploughed
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 37	ZL	10YR42 00	0	1	HR					
37- 50	ZL	10YR43 00	0	0			MDCSAB	FR	M	
50- 70	HZCL	10YR44 00	0	0		F	MDCSAB	FR	M	
70-100	HZCL	10YR54 00	0	0		C	MDCSAB	FR	M	
100-120	HCL	10YR54 64	0	0		M	MDCSAB	FR	M	

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

Drought Grade : 1 APW : 183mm MBW : 71 mm
APP : 147mm MBP : 40 mm

FINAL ALC GRADE : 1
MAIN LIMITATION :

SOIL PIT DESCRIPTION

Site Name : HANTS MINS, OLD NETLEY Pit Number : 5P

Grid Reference: SU46490954
Average Annual Rainfall : 792 mm
Accumulated Temperature : 1524 degree days
Field Capacity Level : 162 days
Land Use : Permanent Grass
Slope and Aspect : 02 degrees SW

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 30	FSZL	10YR43 00	3	20	HR					
30- 58	FSZL	75YR44 00	0	60	HR				P	
58- 95	LMS	75YR44 00	0	62	HR				P	
95-120	GH	75YR44 00	0	0					P	

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

Drought Grade : 3B
APW : 73 mm MBW : -39 mm
APP : 72 mm MBP : -35 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Droughtiness

AMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
1	0-40	mcl	10YR43 00						0	0	HR	1							IRRIGATED
	40-99	hcl	10YR44 54	10YR58 00	F				0	0		0		M					NO UPGRADE
	99-120	hcl	10YR54 00	10YR58 62	C			S	0	0	HR	1		M					
1P	0-30	mcl	10YR42 00						1	0	HR	25							IRRIGATED
	30-45	mcl	10YR42 00						0	0	HR	30		M					UPGRADE
	45-60	mcl	10YR44 00						0	0	HR	63		P					
	60-90	lms	75YR56 00						0	0	HR	61		P					
	90-120	gh	75YR56 00						0	0		0		P					
2	0-40	mcl	10YR43 00						0	0	HR	2							IRRIGATED
	40-50	hcl	10YR44 54	10YR58 00	F				0	0		0		M					NO UPGRADE
	50-90	c	10YR44 00	10YR58 00	F				0	0		0		M					
	90-120	hcl	10YR54 00						0	0	HR	1		M					
2P	0-33	mcl	10YR42 00						1	0	HR	10	MDCSAB	FR					IRRIGATED
	33-54	hcl	25Y 53 00	10YR58 00	M			Y	0	0	HR	1	MDCSAB	FR M					NO UPGRADE
	54-66	c	25Y 52 00	10YR58 00	M			Y	0	0	HR	45		M					
	66-105	c	25Y 61 71	10YR58 00	M			Y	0	0	HR	12	MDCAB	FR M	Y		Y		
	105-120	c	25Y 61 71	10YR58 00	M			Y	0	0	HR	45		M					
3	0-20	mcl	10YR42 00						2	0	HR	6							IRRIGATED
	20-48	mcl	10YR32 00						0	0	HR	6		M					UPGRADE
	48-55	hcl	25Y 42 00						0	0	HR	15		M					
	55-58	hcl	25Y 42 00						0	0	HR	35		M					IMP 58, STONES
3P	0-33	mcl	10YR42 00						12	1	HR	30							LEFT HAND FACE
	33-75	c	10YR52 00	75YR58 68	M			Y	0	0	HR	2	WKCSAB	FR M	Y		Y		OF PIT
	75-120	c	10YR61 00	75YR68 00	M			Y	0	0		0	MDVCPL	FR P	Y		Y		
4	0-38	mcl	10YR43 00						0	0	HR	2							IRRIGATED
	38-58	hcl	10YR54 00	10YR58 00	C			S	0	0	HR	2		M					UPGRADE
	58-65	c	10YR54 00	75YR58 00	M			S	0	0	HR	12		M					IMP 65, STONES
4P	0-37	zl	10YR42 00						0	0	HR	1							IRRIGATED
	37-50	zl	10YR43 00						0	0		0	MDCSAB	FR M					NO UPGRADE
	50-70	hzcl	10YR44 00	10YR58 00	F				0	0		0	MDCSAB	FR M					
	70-100	hzcl	10YR54 00	10YR58 00	C			S	0	0		0	MDCSAB	FR M					
	100-120	hcl	10YR54 64	75YR46 00	M			S	0	0		0	MDCSAB	FR M					
5	0-39	mcl	10YR43 00						0	0	HR	1							IRRIGATED
	39-55	mcl	10YR44 54						0	0		0		M					NO UPGRADE
	55-65	hcl	10YR44 54	10YR58 62	F				0	0		0		M					
	65-120	c	10YR54 00	10YR58 62	C			S	0	0		0		M					
5P	0-30	fszl	10YR43 00						3	0	HR	20							
	30-58	fszl	75YR44 00						0	0	HR	60		P					
	58-95	lms	75YR44 00						0	0	HR	62		P					
	95-120	gh	75YR44 00						0	0		0		P					

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	
6	0-28	mcl	10YR43 00						0	0	HR	2							IRRIGATED
	28-58	mcl	10YR43 00						0	0	HR	1		M					NO UPGRADE
	58-65	mcl	10YR44 00						0	0	HR	0		M					
	65-120	hcl	10YR44 54						0	0		0		M					
7	0-30	mcl	10YR43 00						0	0	HR	3							IRRIGATED
	30-38	mcl	10YR54 00						0	0		0		M					NO UPGRADE
	38-57	mcl	10YR54 00	75YR58 00	C			S	0	0		0		M					
	57-70	hcl	10YR54 00	75YR58 00	C		10YR61 00	S	0	0		0		M					
	70-100	hcl	10YR52 00	75YR68 00	M		10YR71 00	Y	0	0		0		M					
	100-120	hcl	10YR52 00	75YR68 00	M		10YR71 00	Y	0	0	HR	3		M					
8	0-30	mcl	10YR42 00						1	0	HR	5							IRRIGATED
	30-38	mcl	10YR43 00						0	0	HR	15		M					UPGRADE
	38-48	mcl	10YR44 00						0	0	HR	20		M					IMP 48, STONES
9	0-30	mcl	10YR42 00						0	0	HR	1							IRRIGATED
	30-45	mcl	10YR42 56						0	0		0		M					UPGRADE
	45-60	hcl	10YR44 00	75YR56 00	M		10YR52 00	S	0	0	HR	10		M					IMP 60, STONES
10	0-30	mcl	10YR43 00						0	0	HR	1							IRRIGATED
	30-40	mcl	75YR44 00						0	0		0		M					NO UPGRADE
	40-60	hcl	75YR54 44	75YR52 00	C				0	0		0		M					
	60-70	mzcl	75YR53 00	75YR56 00	M			Y	0	0		0		M					
	70-120	mcl	75YR54 00					Y	0	0	HR	2		M					
11	0-32	mzcl	75YR42 00						0	0	HR	2							IRRIGATED
	32-45	mcl	75YR44 00						0	0		0		M					UPGRADE
	45-65	hcl	75YR44 56						0	0	HR	1		M					
	65-78	hcl	10YR53 00	75YR56 68	M			Y	0	0	HR	10		M					IMP 78, STONES
12	0-28	mzcl	75YR42 00						4	0	HR	15							IRRIGATED
	28-45	mzcl	10YR44 00						0	0	HR	10		M					UPGRADE
	45-50	mcl	10YR44 00	10YR56 00	F				0	0	HR	35		M					IMP 50, STONES
13	0-33	mszl	10YR42 00						0	0	HR	5							
	33-40	mcl	10YR44 00						0	0	HR	5		M					
	40-45	mcl	10YR44 00						0	0	HR	25		M					IMP 45, STONES
14	0-32	mcl	10YR42 00						0	0	HR	1							IRRIGATED
	32-55	mcl	10YR44 00						0	0		0		M					NO UPGRADE
	55-70	hcl	10YR54 00	75YR58 00	C		10YR62 00	S	0	0		0		M					
	70-80	hcl	10YR63 00	75YR58 00	C			Y	0	0		0		M					
	80-85	scl	10YR63 00	75YR58 00	C			Y	0	0		0		M					
	85-95	msl	10YR63 00	75YR58 00	C			Y	0	0	HR	10		M					
	95-120	c	10YR63 00	75YR58 00	C			Y	0	0	HR	5		P					
15	0-35	mcl	10YR43 00						1	0	HR	5							IRRIGATED
	35-45	hcl	10YR54 00	75YR58 00	C			S	0	0	HR	5		M					NO UPGRADE
	45-50	hcl	10YR53 00	75YR68 00	C		10YR62 00	Y	0	0	HR	3		M					
	50-90	c	10YR53 00	75YR68 00	C		10YR62 00	Y	0	0	HR	5		P		Y			IMP 90, 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	
16	0-35	mcl	10YR42 00						0	0	HR	2							IRRIGATED
	35-45	mcl	10YR43 00	75YR46 00	C			S	0	0	HR	2		M					UPGRADE
	45-60	mcl	10YR53 00	75YR58 00	C		10YR62 00	Y	0	0	HR	2		M					IMP 60, STONES
17	0-35	mcl	10YR42 00						0	0	HR	5							IRRIGATED
	35-55	hcl	25 Y63 00	75YR68 00	M		10YR71 00	Y	0	0	HR	5		M					NO UPGRADE
	55-60	c	25 Y63 00	75YR68 00	M		10YR71 00	Y	0	0	HR	15		P					IMP 60, STONES
18	0-32	mcl	10YR42 00						0	0	HR	2							IRRIGATED
	32-45	mcl	10YR43 00						0	0		0		M					UPGRADE
	45-50	hcl	10YR63 00	75YR58 00	C			Y	0	0	HR	2		M					
	50-55	c	10YR63 00	75YR58 00	M			Y	0	0	HR	25		P					IMP 55, STONES
19	0-32	mcl	10YR41 00						8	0	HR	20							IRRIGATED
	32-60	c	25 Y63 00	75YR68 00	M		10YR71 00	Y	0	0	HR	2		P			Y		NO UPGRADE
	60-67	c	25 Y63 00	75YR68 00	M		10YR71 00	Y	0	0	HR	15		P			Y		
20	0-35	mcl	10YR43 00						0	0	HR	1							
	35-58	mcl	10YR44 54						0	0		0		M					
	58-120	hcl	10YR54 00						0	0		0		M					
21	0-30	mcl	10YR43 00						0	0	HR	5							
	30-58	hcl	10YR44 00						0	0	HR	1		M					
	58-120	hcl	10YR54 00	75YR58 00	C			S	0	0		0		M					
22	0-30	mcl	10YR43 00						0	0	HR	25							IMP 30, STONES
23	0-30	mcl	10YR43 00						0	0	HR	25							IMP 30, STONES
24	0-30	mcl	10YR43 00						1	0	HR	5							IRRIGATED
	30-48	mzcl	10YR44 00						0	0	HR	2		M					UPGRADE
	48-65	mcl	10YR54 00						0	0	HR	20		M					IMP 65, STONES
25	0-20	mcl	10YR43 00						2	0	HR	6							IRRIGATED
	20-40	mcl	10YR43 00						0	0	HR	2		M					UPGRADE
	40-55	mcl	10YR44 00	10YR58 00	C			S	0	0	HR	20		M					IMP 55, STONES
26	0-30	mcl	10YR43 00						2	0	HR	10							IRRIGATED
	30-120	c	10YR71 00	05YR58 00	M			Y	0	0	HR	2		P	Y		Y		NO UPGRADE
27	0-32	mcl	10YR42 00						0	0	HR	5							
	32-40	mcl	10YR43 00						0	0	HR	10		M					IMP 40, STONES
28	0-29	mzcl	10YR43 00						0	0		0							
	29-55	hzcl	10YR44 54						0	0		0		M					
	55-120	hcl	10YR54 00	10YR58 00	C		10YR72 00	Y	0	0		0		M					
29	0-30	mzcl	10YR43 00						0	0	HR	2							
	30-45	mzcl	10YR44 54						0	0	HR	2		M					
	45-120	hzcl	10YR54 00	10YR58 00	F				0	0		0		M					

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
30	0-28	mcl	10YR43 00						1	0	HR	8							
	28-45	mcl	10YR44 00						0	0	HR	5		M					
	45-73	hcl	10YR53 00	75YR68	62	M		Y	0	0	HR	5		M					
	73-78	hcl	10YR53 00	75YR68	52	M		Y	0	0	HR	10		M					IMP 78, STONES
31	0-28	mzcl	10YR42 00						3	0	HR	15							
	28-35	mcl	10YR44 00						0	0	HR	35		M					IMP 35, STONES
32	0-28	mzcl	10YR43 00						4	0	HR	20							IRRIGATED,UPGRADE
	28-35	mzcl	10YR44 00						0	0	HR	15		M					IMP 35, STONES
33	0-30	mcl	10YR42 00						4	0	HR	20							IRRIGATED,UPGRADE
	30-40	mcl	10YR42 43						0	0	HR	35		M					IMP 40, STONES
33P	0-35	mcl	10YR42 00						1	0	HR	30							FRONT FACE OF PIT
	35-44	c	10YR52 00	10YR58	00	C		Y	0	0	HR	60		P					
	44-62	c	10YR61 00	75YR68	58	M		Y	0	0	HR	40	WKCSAB FR	M	Y		Y		
	62-75	c	10YR52 00	75YR58	68	M		Y	0	0	HR	2	MDCAB FR	M	Y		Y		
	75-120	scl	10YR52 00	75YR58	00	M		Y	0	0	HR	0	MDVCPL FR	P	Y		Y		
34	0-30	mcl	10YR42 00						4	0	HR	20							IRRIGATED,UPGRADE
	30-35	mcl	10YR42 00						0	0	HR	35		M					IMP 35, STONES
35	0-30	mcl	10YR43 00						1	0	HR	5							IRRIGATED
	30-55	hcl	10YR54 00	10YR56	00	C		S	0	0	HR	5		M					NO UPGRADE
	55-80	c	10YR53 00	75YR68	62	M		Y	0	0	HR	2		P			Y		
36	0-30	fszl	10YR32 00						12	0	HR	25							
	30-50	mszl	10YR42 00						0	0	HR	40		M					IMP 50, STONES
37	0-35	mcl	10YR42 00						0	0	HR	2							
	35-55	mcl	10YR43 00						0	0	HR	2		M					
	55-67	mzcl	10YR43 00						0	0		0		M					
	67-95	mzcl	10YR54 00						0	0		0		M					IMP 95, STONES
38	0-28	mcl	10YR43 00						0	0		0							
	28-50	hzcl	10YR54 00	10YR58	00	F	00MN00	00	0	0		0		M					
	50-120	c	10YR54 00	75YR58	00	C	00MN00	00 S	0	0		0		M					
40	0-30	mcl	10YR43 00						0	0	HR	2							
	30-62	hcl	10YR62 00	75YR68	00	C	00MN00	00 Y	0	0		0		M					
	62-120	c	10YR62 00	75YR68	00	C	00MN00	00 Y	0	0		0		P	Y		Y		
41	0-27	mcl	10YR43 00						1	0	HR	8							
	27-40	mcl	10YR44 00						0	0	HR	15		M					
	40-50	mcl	10YR44 00						0	0	HR	25		M					IMP 50, STONES
42	0-30	mzcl	10YR42 00						4	0	HR	20							
	30-35	mcl	10YR42 00						0	0	HR	35		M					IMP 35, STONES

				MOTTLES			PED		STONES				STRUCT/	SUBS				
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL.	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
43	0-26	mcl	10YR43 00						2	0	HR	15						
	26-40	mcl	10YR44 43						0	0	HR	15		M				
	40-75	mzcl	10YR44 00						0	0	HR	10		M				
	75-80	mcl	10YR44 00	10YR56 00	C			S	0	0	HR	30		M				IMP 80, STONES
44	0-30	fszl	10YR33 00						10	0	HR	25						
	30-60	mcl	10YR43 00					S	0	0	HR	25		M				IMP 60, STONES
45	0-30	fszl	10YR32 00						0	0	HR	10						
	30-50	mzcl	10YR52 00	75YR44 00	C			Y	0	0	HR	10		M				IMP 50, STONES
46	0-30	fszl	10YR32 00						5	0	HR	10						
	30-40	fszl	10YR32 00						0	0	HR	25		M				IMP 40, STONES
47	0-30	fszl	10YR42 00						5	0	HR	10						
	30-45	fszl	10YR43 00						0	0	HR	10		M				
	45-70	mcl	10YR43 00						0	0	HR	5		M				
	70-90	hcl	10YR53 54	10YR56 00	M			Y	0	0	HR	10		M				
48	0-30	mcl	10YR42 00						0	0	HR	2						
	30-48	mcl	10YR43 00						0	0		0		M				
	48-65	mcl	10YR63 00	10YR58 00	C			Y	0	0		0		M				
	65-90	c	10YR63 00	10YR58 00	C			Y	0	0		0		P	Y		Y	
	90-100	c	10YR62 00	75YR68 00	M			Y	0	0	HR	10		P	Y		Y	
	100-120	c	10YR62 00	75YR68 00	M			Y	0	0	HR	25		P	Y		Y	
50	0-29	fszl	10YR41 00						0	0	HR	20						
	29-40	mszl	10YR53 00	75YR56 00	F				0	0	HR	15		M				IMP 40, STONES
51	0-25	fszl	10YR42 00						12	0	HR	20						IMP 25, STONES
52	0-20	fszl	10YR42 00						30	0	HR	40						IMP 20, STONES
53	0-32	fszl	10YR41 00						0	0	HR	10						
	32-45	fszl	10YR42 00						0	0	HR	10		M				
	45-75	zl	10YR42 00						0	0	HR	5		M				IMP 75, STONES
54	0-30	fszl	10YR43 00						0	0	HR	10						
	30-35	fszl	10YR43 00						0	0	HR	20		M				IMP 35, STONES
55	0-35	zl	10YR43 00						0	0	HR	5						
	35-50	zl	10YR54 00						0	0	HR	15		M				IMP 50, STONES
56	0-30	mzcl	10YR43 00						0	0		0						
	30-58	mzcl	10YR54 00						0	0		0		M				
	58-75	mzcl	10YR54 00	10YR58 00	C		10YR62 00	S	0	0	HR	5		M				
	75-80	hzcl	10YR53 00	10YR58 00	C			Y	0	0	HR	20		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	
57	0-32	fsz1	10YR43 00						0	0	HR	5							
	32-45	fsz1	10YR44 00						0	0	HR	5		M					
	45-55	fsz1	10YR54 00						0	0	HR	2		M					
	55-72	mcl	10YR54 00	75YR58 00	C			S	0	0		0		M					
	72-120	c	10YR53 00	75YR68 00	M			Y	0	0	HR	2		P		Y			
59	0-25	fsz1	10YR41 00						8	0	HR	15							IMP 25, STONES
60	0-30	fsz1	10YR42 00						0	0	HR	10							
	30-40	fsz1	10YR54 00						0	0	HR	20		M					IMP 40, STONES

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	SU47001020	HRT					1	1	157	45	119	12	1					1	SL. GLEY 99
1P	SU46960977	HRT					1	1	68	-44	67	-40	3B				DR	3B	PIT TO 90
2	SU47101020	HRT					1	1	148	36	119	12	1					1	
2P	SU46900990	HRT	E	01	033	066	3	3A	125	13	104	-3	2				WE	3A	PIT AT AB 17
3	SU46801010	HRT					1	1	85	-27	89	-18	3B				DR	3A	IMP, 3A TO 120
3P	SU47100990	HRT	E	02	033	033	4	3B	120	8	101	-6	2				WE	3B	PIT AT AB 19
4	SU46901012	HRT					1	1	99	-13	108	1	3A				DR	3A	SL. GLEY 38
4P	SU47071023	PLO					1	1	183	71	147	40	1					1	SL. GLEY 70
5	SU47001010	HRT					1	1	146	34	119	12	1					1	SL. GLEY 65
5P	SU46490954	PGR	SW	02			1	1	73	-39	72	-35	3B				DR	3B	
6	SU47091010	HRT					1	1	154	42	116	9	2				DR	2	ALMOST 1
7	SU46701000	HRT	W	01	070		1	1	154	42	116	9	2				DR	2	SL. GLEY 38
8	SU46801000	PLO	W	01			1	1	75	-37	75	-32	3B				DR	3B	
9	SU46901000	PLO					1	1	94	-18	99	-8	3A				DR	3A	SL. GLEY 45
10	SU47001000	POT			060		1	1	155	43	118	11	1					1	
11	SU47101000	HRT			065		1	1	115	3	119	12	3A				DR	2	IMP, 2 TO 120
12	SU47201000	HRT					1	1	77	-35	77	-30	3B				DR	3B	IMP 50
13	SU46500990	PGR	W	01			1	1	77	-35	77	-30	3B				DR	3B	IMP 45
14	SU46600990	HRT	W	01	070		1	1	147	35	118	11	1					1	SL. GLEY 55
15	SU46700990	HRT	W	01	045	050	3	3A	110	-2	108	1	3A				WE	3A	SL. GLEY 35
16	SU46800990	HRT	W	01	045		1	1	95	-17	101	-6	3A				DR	3A	SL. GLEY 35
17	SU46900990	HRT	W	01	035		2	2	91	-21	96	-11	3B				WD	3A	3A WET, SEE 2P
18	SU47000990	HRT			045		1	1	88	-24	90	-17	3B				DR	3A	3A TO 120
19	SU47100990	FAL	E	01	032	032	4	3B	81	-31	90	-17	3B				WE	3B	IMP 67
20	SU46500980	PGR	SW	01			1	1	156	44	118	11	1					1	
21	SU46600980	PGR	SW	01			1	1	153	41	115	8	2				DR	2	SL. GLEY 58
22	SU46700980	PGR	SW	01			1	1	41	-71	41	-66	4				DR	3B	3B, SEE 1P
23	SU46800980	PGR					1	1	41	-71	41	-66	4				DR	3B	3B, SEE 1P
24	SU46900980	HRT					1	1	96	-16	104	-3	3A				DR	3A	
25	SU47000980	HRT					1	1	82	-30	85	-22	3B				DR	3B	SL. GLEY 40
26	SU47100980	HRT			030	030	4	3B	123	11	100	-7	2				WE	3B	
27	SU46400970	PGR					1	1	66	-46	66	-41	3B				DR	3B	IMP 40, SEE 5P
28	SU46500970	PGR			055		1	1	161	49	123	16	1					1	
29	SU46600970	SGR					1	1	159	47	123	16	1					1	
30	SU46700970	PGR	N	01	045		1	1	107	-5	111	4	3A				DR	3A	ALMOST 2
31	SU46800970	PGR	N	01			1	1	53	-59	53	-54	4				DR	3B	IMP 35, SEE 1P
32	SU46960977	PGR					1	1	53	-59	53	-54	4				DR	3B	IMP 35, SEE 1P
33	SU47020975	HRT	E	01			1	1	55	-57	55	-52	4				DR	3B	IMP 40, SEE 1P
33P	SU47100990	HRT	E	02	035	044	4	3B	109	-3	81	-26	3A				WE	3B	
34	SU47090972	HRT	E	01			1	1	49	-63	49	-58	4				DR	3B	IMP 35, SEE 1P
35	SU47150970	HRT	E	03	055	055	3	3A	104	-8	109	2	3A				WE	3A	SL. GLEY 30
36	SU46400960	PGR	S	01			1	1	71	-41	71	-36	3B				DR	3B	IMP 50, SEE 5P

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	EROSN FLOOD	FROST EXP	CHEM DIST	CHEM LIMIT	ALC	COMMENTS
37	SU46500961	PGR					1	1	130	18	119	12	2				DR	2	
38	SU46600960	PGR					1	1	144	32	120	13	1					1	SL. GLEY 50
40	SU46800960	LEY	S	01	030	062	3	3A	138	26	115	8	2				WE	3A	
41	SU46900961	PGR	N	01			1	1	75	-37	75	-32	3B				DR	3B	IMP 50, SEE 1P
42	SU47000960	PGR	E	01			1	1	52	-60	52	-55	4				DR	3B	IMP 35, SEE 1P
43	SU47100960	PGR	E	02			1	1	101	-11	106	-1	3A				DR	3A	SL. GLEY 75
44	SU46300950	PGR	S	01			1	1	82	-30	87	-20	3B				DR	3B	SL. GLEY 30
45	SU46400950	PGR			030		2	2	91	-21	91	-16	3B				DR	3A	GROUNDWATER
46	SU46500950	PGR					1	1	76	-36	76	-31	3B				DR	3B	IMP 40, SEE 5P
47	SU46600950	PGR			070		1	1	133	21	126	19	2					12	BORDER 2
48	SU46700950	LEY	S	01	048	065	2	2	135	23	115	8	2				WD	2	
50	SU46900950	PGR	S	01			1	1	68	-44	68	-39	3B				DR	3B	IMP 40, SEE 5P
51	SU47000950	PGR	E	01			1	1	45	-67	45	-62	4				DR	3B	3B TO 120
52	SU47100950	PGR	E	01			1	1	27	-85	27	-80	4				DR	4	3B TOPSOIL ST.
53	SU46400940	PGR	SE	01			1	1	132	20	141	34	2				DR	2	GROUNDWATER
54	SU46500940	PGR					1	1	68	-44	68	-39	3B				DR	3B	
55	SU46600940	PGR	SE	01			1	1	105	-7	105	-2	3A				DR	2	BORDER 3A
56	SU46700940	PGR			075		1	1	119	7	124	17	2				DR	2	SL. GLEY 58
57	SU46900941	PGR			072	072	2	2	161	49	138	31	1				WE	2	SL. GLEY 55
59	SU47100940	PGR	E	01			1	1	47	-65	47	-60	4				DR	3B	3B TO 120
60	SU46600930	PGR	S	01			1	1	77	-35	77	-30	3B				DR	3A	BORDER 3B