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VALE OF WHITE HORSE LOCAL PLAN
Land Around Wantage and Grove
Oxfordshire

Agricultural Land Classification
ALC Map and Report
Semi-detailed survey

March 1999

Resource Planning Team
Eastern Region
FRCA Reading

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AGRICULTURAL LAND CLASSIFICATION REPORT

VALE OF WHITE HORSE LOCAL PLAN
LAND AROUND WANTAGE AND GROVE, OXFORDSHIRE
SEMI-DETAILED SURVEY

INTRODUCTION

1. This report presents the findings of a series of semi-detailed Agricultural Land Classification (ALC) surveys on approximately 310 hectares of land around the settlements of Wantage and Grove in Oxfordshire. The surveys were carried out during March 1999 by the Farming and Rural Conservation Agency (FRCA)[1] on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF) in connection with MAFF's statutory input to the Vale of White Horse Local Plan. These surveys supersede any previous ALC information for this land.

2. The fieldwork was conducted by members of the Resource Planning Team in the Eastern Region of FRCA. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades is given in Appendix I. At the time of survey agricultural land uses on the sites were varied, including both arable and grassland. The areas mapped as 'Other Land' include housing, allotment gardens, a recreation ground, woodland, a section of disused canal, streams, tracks, a research facility as well as the remains of old runways and other hardstanding areas associated with an abandoned airbase.

3. The findings of the survey are shown on the enclosed ALC maps. The maps have been drawn at a scale of 1:15,000. They are accurate at this scale but any enlargement would be misleading. The area and proportions of the ALC grades and subgrades on the surveyed land across all the sites are summarised in Table 1.

Table 1: Land around Wantage and Grove - Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	83.9	30.8	27.0
3a	97.0	35.6	31.3
3b	85.7	31.5	27.6
4	5.8	2.1	1.9
Agricultural Land Not Surveyed	4.0	-	1.3
Other land	34.0	-	11.0
Total surveyed area	272.4	100	87.8
Total site area	310.4	-	100

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

FACTORS INFLUENCING ALC GRADE

Climate

4. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics. The key climatic variables used for grading each site are given in the site specific paragraphs below and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met. Office, 1989). 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. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.

5. The combination of rainfall and temperature for all of the sites means that there is no overall climatic limitation. Local climatic factors, such as exposure and frost risk are also not believed to affect land quality. All sites are climatically Grade 1.

Site

6. The area surveyed lies at altitudes in the range 70-135m AOD; much of the land is at or below 100m AOD. The highest area is to the south of Wantage where the land rises sharply onto chalk downland. The lowest land is to the north and west of Grove at around 70m AOD. Most of the gradients within the site are slight, except to the south of Wantage where the land rises sharply onto the chalk plateau of the Lambourn Downs. Only a small proportion of this land has gradients sufficient to adversely affect agricultural land quality.

Geology and soils

7. The most detailed published geological information for the areas surveyed (BGS, 1971) shows the land to be underlain by a series of geological formations overlain in some areas by drift deposits. The areas immediately underlain by solid geology are principally in the south and west. The solid deposits represented are all Cretaceous in age and include Lower Chalk, Upper Greensand and Gault Clay. Drift deposits in the area overlie the Gault Clay and Upper Greensand. They comprise first and second terrace gravel deposits over the Gault Clay to the west and north of Grove; head and younger coombe deposits overlying the boundary between Upper Greensand and Gault Clay between Wantage and Grove and alluvium along the lines of Letcombe Brook and Woodhill Brook.

8. According to the most recent published soils information for this area (SSEW, 1983), the land is underlain by five soil associations, namely Grove, Denchworth, Block, Harwell and Wantage 1. Other more detailed information (SSGB, 1973) maps a similar range of soils at a series level which are all incorporated within the associations.

9. Grove association soils are mapped in the north. This association is described as comprising, 'Moderately permeable fine loamy calcareous soils over chalky gravel affected by groundwater. Some fine loamy over clayey soils with slowly permeable subsoil and slight seasonal waterlogging. Some slowly permeable seasonally waterlogged clayey soils.' (SSEW,

1983). Soils of this nature were encountered in this area but were not as widespread as indicated on the Soil Survey map (SSEW, 1983).

10. Denchworth association soils are mapped in the west and are described as, 'Slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils. Some fine loamy over clayey soils with only slight seasonal waterlogging and some slowly permeable calcareous clayey soils. Landslips and associated irregular terrain locally.' (SSEW, 1983). Soils of this nature were encountered over a larger area than that indicated on the Soil Survey map (SSEW, 1983).

11. The Block association is mapped over a small area in the south-west. They are described as comprising, 'Moderately permeable calcareous loamy soils over chalky gravel variably affected by groundwater.' (SSEW, 1983). These were encountered to a limited extent only in this area.

12. Harwell association soils are mapped as underlying Wantage town itself and extending east and west mainly over the Upper Greensand geology. The soils are described as comprising, 'Well drained loamy soils over sandstone and some similar soils with slight seasonal waterlogging. Shallow stony soils locally. Some slowly permeable seasonally waterlogged fine loamy or fine silty over clayey soils mainly on scarp slopes. Risk of water erosion.' (SSEW, 1983). Soils of this general nature were encountered in those areas which generally lie at around 100m AOD, i.e. land in the east of this survey area.

13. The Wantage 1 soil association overlies the Chalk to the south of Wantage. These soils are described as comprising, 'Well drained calcareous silty soils, in places shallow over argillacious chalk.' (SSEW, 1983). Soils of this nature were encountered during the surveys carried out in this area.

LAND EAST OF GROVE ROAD, WANTAGE (FRCA reference 3304/24/99)

14. This area of land totals 39.8 ha lying to the east of Grove Road between Wantage and Grove. A total of 21 borings and 3 soil pits was described. The location of the auger borings and pits is shown on the sample location map in Appendix II where details of the soils data are also presented. The survey comprises approximately one-third of the total area originally described by the Vale of White Horse District Council as Wg 2.

15. The climatic details for the site are given in Table 2 below. The survey area lies between approximately 82m and 104m AOD. The majority of the site is level though it falls through gentle gradients westwards. In the west, gradient alone is sufficient to restrict land quality to Subgrade 3b. The site is not affected by microrelief or flooding.

16. The geology shows that this area is predominantly underlain by Cretaceous Upper Greensand with some head and younger coombe deposits located to the west of the site.

17. The soils are mapped as the Harwell series over the majority of the site with soils of the Hendred series mapped over the Coombe deposits (SSGB, 1973). These series form part of the Harwell association as described in paragraph 12.

Table 2: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SU402887	SU409889
Altitude	m, AOD	85	100
Accumulated Temperature	day°C (Jan-June)	1426	1409
Average Annual Rainfall	mm	659	666
Field Capacity Days	days	141	142
Moisture Deficit, Wheat	mm	106	104
Moisture Deficit, Potatoes	mm	99	96
Overall climatic grade	N/A	Grade 1	Grade 1

18. The agricultural land in this area has been classified as Grade 2 (very good quality) and Subgrade 3b (moderate quality). The principal limitations to land quality are soil droughtiness and gradient. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 3 below.

Table 3: Land east of Grove Road, Wantage - Area of grades and other land

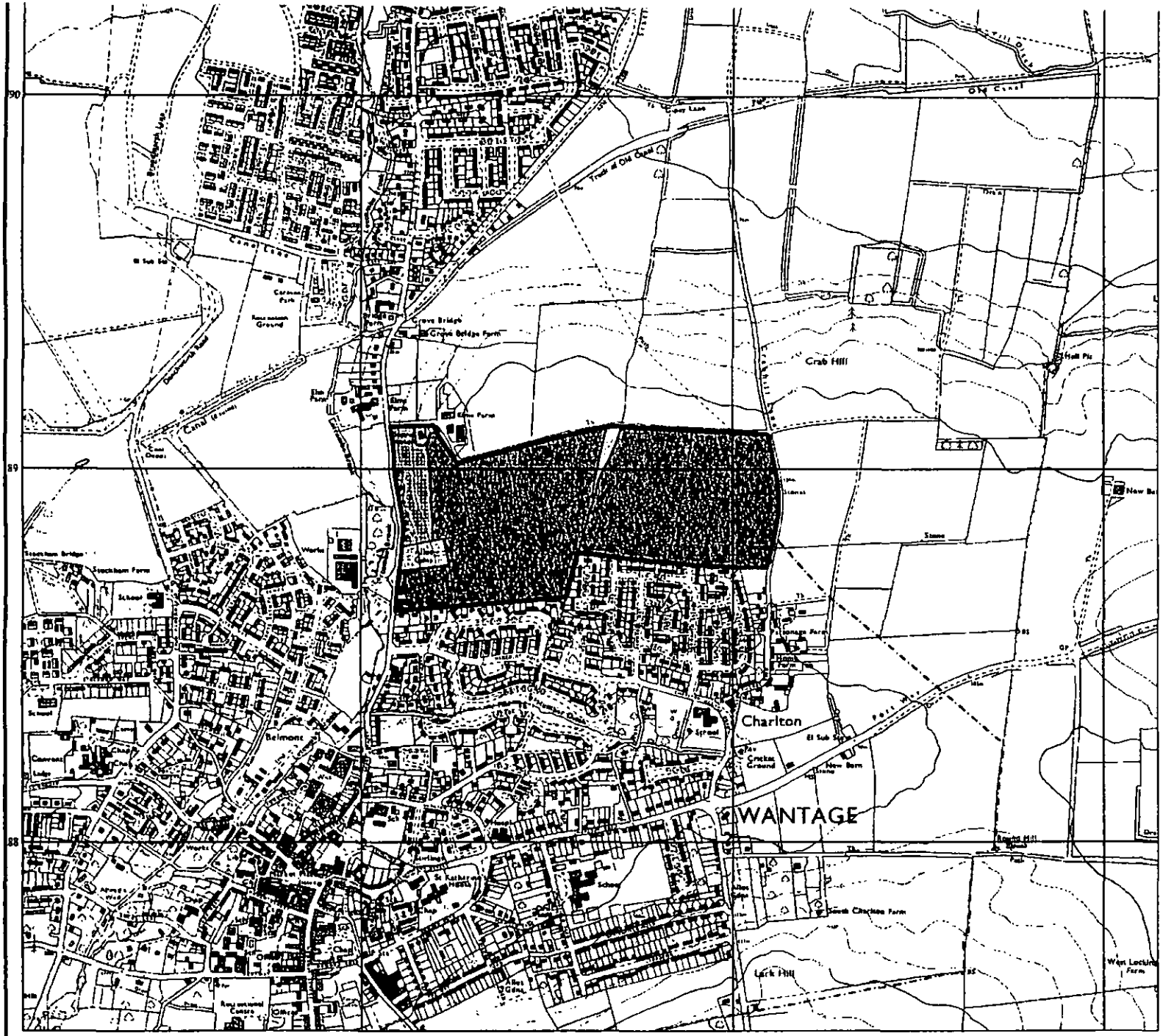
Grade/Other land	Area (hectares)	% surveyed area	% site area
2	35.6	93.0	89.4
3b	2.7	7.0	6.8
Other land	1.5	-	3.8
Total surveyed area	38.3	100	96.2
Total site area	39.8	-	100

Grade 2

19. Land of very good quality occurs over the majority of the site. The land was found to have a minor droughtiness limitation. The soils in this unit are characterised by soil pits 1P, 2P and 3P (Appendix II). The soils are well drained (Wetness Class I) and non-calcareous. Iron staining is evident in some profiles as the result of weathering of the parent material but is not indicative of gleying. The soils comprise medium silty clay loam topsoils overlying similar upper subsoils. These pass into lower subsoils that are either similarly textured or are heavy clay loams or heavy silty clay loams containing 10–45% fine soft sandstone or 40% silt rock. The combination of soil textures and stone contents, together with the local climatic regime, means that profiles often have restricted reserves of water. This leads to a slight risk of drought stress to plants in most years and means that this land can be classified no better than Grade 2.

Subgrade 3b

20. Gradient alone in the west restricts land quality to Subgrade 3b. Slopes were measured at between 7–11°. This is sufficient to restrict the safe and efficient use of certain agricultural machinery and so restrict the crops that may be grown in this area.



MAFF Agriculture Fisheries and Food

Agricultural Land Classification

Vale of the White Horse Local Plan

Land east of Grove Road, Wantage

Semi-detailed survey

Legend

	Quality	Area (ha)
Grade 1	Excellent	nil
Grade 2	Very Good	35.6
Grade 3a	Good	nil
Grade 3b	Moderate	2.7
Grade 4	Poor	nil
Grade 5	Very Poor	nil
	Agricultural land not surveyed	nil
	Other land	1.5
	Site Boundary	
	Total survey area	38.3
	Total site area	39.8

* Not present within survey area

Scale - 1:15,000

0 200 400 600 Metres

Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. Maff (publications), London SE99 7TP.
The information is accurate at base map scale but any enlargement would be misleading.

Surveyed and drawn by the Resource Planning Team, FRCA, Reading

Source map(s): SU38NE,SU48NW

Reference no: 3304/024/99

LAND NORTH OF THE PORT WAY, WANTAGE (FRCA reference 3304/16/99)

21. This area totals 44.3 ha of land located to the north of the Port Way, east of Wantage town. In total, 22 borings and 2 soil pits were described. The survey corresponds to the area described by the Vale of White Horse District Council as Wg 3.

22. The climatic details for the site are given in Table 4 below. The survey area lies between approximately 97m and 105m AOD. The highest land occurs in the north of the site and falls through gentle gradients southwards. The site is not affected by microrelief or flooding.

Table 4: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SU415889	SU414884
Altitude	m, AOD	100	100
Accumulated Temperature	day°C (Jan-June)	1409	1409
Average Annual Rainfall	mm	667	669
Field Capacity Days	days	142	143
Moisture Deficit, Wheat	mm	105	105
Moisture Deficit, Potatoes	mm	96	96
Overall climatic grade	N/A	Grade 1	Grade 1

23. The geology of the site is predominately Upper Greensand with some Head and younger Coombe deposits in the south-east.

24. The soils are mapped as the Harwell series over the majority of the site with soils of the Ardington series mapped over the Head and younger Coombe deposits (SSGB, 1973). These series are components of the Harwell association as described in paragraph 12.

25. The agricultural land at this site has been classified as Grade 2 (very good quality) and Subgrade 3a (good quality). The main limitations to land quality are soil droughtiness and soil wetness respectively. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 5, below.

Table 5: Land north of the Port Way, Wantage - Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	32.9	76.5	74.3
3a	10.1	23.5	22.8
Other land	1.3	-	2.9
Total surveyed area	43.0	100	97.1
Total site area	44.3	-	100

Grade 2

26. Land of very good quality, occurs over the majority of the site. The land was found to have a minor droughtiness limitation. The soils in this unit are characterised by soil pit 2P (Appendix II) and droughtier conditions by soil pit 1P of the adjacent survey (3304/17/99). The soils are well drained (Wetness Class I) and non-calcareous. Iron staining is evident in some profiles as the result of weathering of the parent material but is not indicative of gleying. Soils comprise very slightly stony (5% total fine soft sandstone by volume) medium silty clay loam topsoils overlying similar upper subsoils with 2% total fine soft sandstone. These pass into similar lower subsoils extending to a depth of at least 120cm. Droughtier conditions occur where profiles are impenetrable to the auger at variable depths in the range 75–90cm over weathered malmstone. Soil pit 1P, on the adjacent survey, is representative of these soils and is also classified as Grade 2. It comprises a very slightly stony (2% flints by volume) medium silty clay loam overlying a similarly textured upper subsoil with 2% silt rock. This passes to a very slightly stony (5% silt rock) heavy silty clay loam lower subsoil before passing to a slightly stony (10% fine soft sandstone) heavy clay loam. The combination of soil textures and stone contents, together with the local climatic regime, means that profiles have slightly restricted reserves of water. This leads to a slight risk of drought stress to plants in most years and means that this land can be classified no better than Grade 2.

Subgrade 3a

27. Land of good quality has been mapped in the south of the site. The principal limitation is soil wetness. Soils in this unit are characterised by soil pit 1P (see Appendix II) and comprise a non-calcareous medium silty clay loam topsoil. This overlies a gleyed heavy silty clay loam upper subsoil before passing to a poorly structured silty clay subsoil. The lower clay horizon is slowly permeable and has the effect of restricting drainage to the extent that in the local climate Wetness Class III is most appropriate. The combination of imperfect drainage, topsoil textures and local climate assigns this land to Subgrade 3a. Excessive soil wetness may adversely affect crop growth and development. It is also likely to limit the flexibility of the land by reducing the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock. Occasional observations of both a slightly better and slightly worse quality have been included in this map unit as they were of too scattered a distribution to be mapped separately at this scale of survey.

LAND SOUTH OF THE PORT WAY, WANTAGE (FRCA reference 3304/17/99)

28. This area totals 22.2 ha of land to the south of the Port Way, to the east of Wantage town. In total, 13 borings and 2 soil pits were described. The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix II. The survey corresponds to the area described by the Vale of White Horse District Council as Wg 4.

29. The climatic details for the site are given in Table 6 below. The survey area lies between approximately 97m and 105m AOD. The highest land occurs in the south of the site and falls through gentle gradients to the north-west. The site is not affected by microrelief or flooding.

Table 6: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SU414881	SU416880
Altitude	m, AOD	100	105
Accumulated Temperature	day°C (Jan-June)	1409	1404
Average Annual Rainfall	mm	671	674
Field Capacity Days	days	143	144
Moisture Deficit, Wheat	mm	105	104
Moisture Deficit, Potatoes	mm	96	95
Overall climatic grade	N/A	Grade 1	Grade 1

30. The geology of the site is predominately Upper Greensand with some Head and younger Coombe deposits in the east.

31. The soils are mapped as the Harwell series over the majority of the site with soils of the Ardington series mapped over the Head and younger Coombe deposits (SSGB, 1973). These series are components of the Harwell association as described in paragraph 12.

32. The agricultural land at this site has been classified as Subgrade 3a (good quality). The main limitations to land quality are soil wetness or, less frequently, soil droughtiness. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 7, below.

Table 7: Land South of the Port Way, Wantage - Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
3a	20.2	100	91.0.
Other land	2.0	-	9.0
Total surveyed area	20.2	100	91.0
Total site area	22.2	-	100

Subgrade 3a

33. All of this survey area has been classified as Subgrade 3a on the basis of a soil wetness or a soil droughtiness limitation. The profiles are variable in nature due to the interbedded and complicated pattern of the parent materials from which they are derived. As a result of this inherent variability, occasional borings of better quality were found but were too scattered to be mapped separately at this scale.

34. Profiles affected by soil wetness restrictions typically comprise variably calcareous, medium clay loam or medium silty clay loam topsoils which are stoneless or very slightly stony (containing up to 3% total flints and/or ironstone fragments). These rest over similar, or slightly heavier textured, upper subsoils. Lower subsoils are encountered at depths between 42 and 48cm; these comprise clays or silty clays that are poorly structured with low porosity. As a result, soil drainage is significantly impeded. Soil Pit 2 (see Appendix II) is representative of this soil type. The combination of these drainage characteristics (Wetness Class III) and the prevailing climate gives rise to Subgrade 3a. The soil wetness limitation is likely to affect crop growth and development, as well as influence the number of days when the land is suitable for cultivation and/or grazing by livestock.

35. Profiles affected by a soil droughtiness limitation comprise variable topsoils which range from fine sandy silt loam to heavy silty clay loam textures, are variably calcareous, and are very slightly stony (containing up to 2% total hard rock). These overlie heavy silty clay loam or heavy clay loam subsoils which contain up to 10% silt rock/fine soft sandstone. The subsoils are variably drained but often show evidence of impeded drainage in the form of gleying. As a result, Wetness Class I or II has been assigned to these soils. At depths between 50cm and 60cm, the soils were impenetrable (to the soil auger) over fine soft sandstone/silt rock. Soil inspection Pit 1 (Appendix II) is typical of these profiles. In Pit 1, a compact, weathered fine soft sandstone/silt rock horizon was encountered at 50cm which continues to depth. Plant roots could not penetrate this horizon. The combination of soil texture, the amount of soft sandstone and siltstone and the effective rooting depth restricts the water available to crops such that there is a risk of drought stress to the plants in most years. This will result in a reduction in the level and consistency of yields. This land can therefore be graded no higher than Subgrade 3a.

LAND NORTH-WEST OF WANTAGE (FRCA reference 3304/22/99)

36. The area surveyed to the west of the town of Wantage totals 104.1 ha. It adjoins the town of Wantage and the village of East Challow and extends northwards towards the industrial areas adjacent to the disused airfield between Wantage and Grove. In total, 55 borings and 4 soil pits were described. The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix II. The survey comprises the land originally described by the Vale of White Horse District Council as Wg 10 and includes approximately one quarter of the area delineated as Wg 11. The remainder of Wg 11 was not surveyed.

37. The climatic details for the site are given in Table 8 below. The survey area lies between approximately 75m and 105m AOD. The highest land occurs in the south of the site and falls towards the centre of the site around Woodhill Brook. The remainder of the site to the north of the stream rises gently. The majority of the gradients on the site are shallow but towards the south one area has moderate gradients of sufficient slope to adversely affect land quality and restrict it to Subgrade 3b. The site is not affected by microrelief and is unlikely to be significantly affected by flooding, as Woodhill Brook is a small stream which runs in a deeply incised channel.

Table 8: Climatic and altitude data

Factor	Units	Values		
Grid reference	N/A	SU384895	SU387884	SU383880
Altitude	m, AOD	80	100	105
Accumulated Temperature	day°C (Jan-June)	1432	1410	1405
Average Annual Rainfall	mm	660	674	681
Field Capacity Days	days	142	145	147
Moisture Deficit, Wheat	mm	107	104	104
Moisture Deficit, Potatoes	mm	99	95	94
Overall climatic grade	N/A	Grade 1	Grade 1	Grade 1

38. The geology in the south is predominately Upper Greensand. This passes through second terrace drift deposits in the north to Gault Clay which prevails over the remainder of the site.

39. The soils are mapped as including the Harwell association where the Upper Greensand and terrace drift geology occurs with Denchworth and a small area of Block association soils mapped where the site is underlain by Gault Clay. These associations are as described in paragraphs 11 and 12.

40. The agricultural land at this site has been classified as Grade 2 (very good quality), Subgrade 3a (good quality) and Subgrade 3b (moderate quality). Limitations to land quality include soil droughtiness, soil wetness and gradient. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 9 below.

Table 9: Land north-west of Wantage - Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	15.4	17.2	14.8
3a	26.3	29.3	25.3
3b	48.0	53.5	46.1
Agricultural Land Not Surveyed	4.0	-	3.8
Other land	10.4	-	10.0
Total surveyed area	89.7	100	86.2
Total site area	104.1	-	100

Grade 2

41. Very good quality land is mapped in the south of this survey area. The principal limitation here is topsoil workability due to the heavy topsoils present in this area. Some profiles were limited by soil wetness alone where the topsoils were marginally lighter. Soil profiles commonly comprise a heavy clay loam or heavy silty clay loam topsoil passing to similar and clay subsoils. The majority of these subsoils showed no evidence of soil wetness within 70cm and are considered well drained (Wetness Class I). The heavy topsoils cause land versatility to be adversely affected as winter access is likely to be restricted. This restriction alone is sufficient to limit land quality to Grade 2. Some of the profiles present in this area were adjudged to have medium silty clay loam topsoils but often contained other indications of soil wetness such as ochreous mottling and/or slowly permeable clay horizons within 70–80cm. These fall into Wetness Class II and are classified as Grade 2. Topsoil workability and slight soil wetness have the effect of slightly restricting the versatility of the land so that certain highly demanding or winter harvested crops may not be successfully grown. However high yields are still likely to be attained from a wide range of crops.

Subgrade 3a

42. Good quality land is mapped in three separate units in the east, west and south-west of the survey area. The most common limitation to land use in this subgrade is soil wetness; soil droughtiness is prevalent in some areas especially in the south-western unit.

43. The most common soil type comprises a heavy clay loam, heavy silty clay loam or, occasionally, clay topsoil passing to similarly textured subsoil horizons. Upper subsoils rarely showed signs of drainage impedance and were discovered to be moderately structured in the representative soil pit (1P, see Appendix II). However, from between 50 and 75cm the lower subsoils contain ochreous mottles and are poorly structured (moderately developed coarse angular blocky). These factors are indicative of impeded drainage and increase the likelihood of the land being unsuitable for grazing and other landwork during wetter periods of the year. Within the local climate the depth to the slowly permeable horizons leads this land to be placed in Wetness Class II. With the heavy topsoils present in these areas Subgrade 3a is the most appropriate classification. Excessive soil wetness may adversely affect crop growth and development. It can also limit the flexibility of the land by reducing the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock.

44. The good quality land mapped in the south west of this survey area is principally limited by soil droughtiness. Soil Pit 3 (see Appendix II) is representative of this soil unit. The soils comprise heavy silty clay loam topsoils and upper subsoils which pass to medium silty clay loam lower subsoils. Within the profile 2% flints and 2% silt rock were noted in the topsoil and upper subsoil, rising to 23% chalk by volume from 42cm in the lower subsoil. The volume of chalk in the lower subsoil causes root penetration to cease at approximately 75cm and restricts plant water availability in the local climate to a level whereby Subgrade 3a is most appropriate. Soil droughtiness is likely to restrict plant growth as there may not be sufficient water available for plant growth throughout the growing season and as such maximum yields may not be realised. No evidence of soil wetness was noted within the profile and as such this area is classified as Wetness Class I.

Subgrade 3b

45. The moderate quality land within this survey area is located in the north, and is most often on ground which slopes towards Woodhill Brook. The substrate in this area is mapped as Gault Clay. The land is principally limited by soil wetness. The soils typically comprise a heavy clay loam or clay topsoil which directly overlies a gleyed and slowly permeable subsoil. Soil Pit 2 from the adjacent site (3304/18/99) confirms the poor structural condition of the subsoil as moderately developed coarse angular blocky with <0.5% biopores visible in a heavily gleyed matrix. The effects of soil wetness are described above in paragraph 66 but in this area they are more severe and access to the land for cultivations etc. is more limited.

LAND NORTH-WEST OF DENCHWORTH ROAD, GROVE (FRCA reference 3304/18/99)

46. This area totals 73.5 ha and is located on a disused airfield west/south-west of Grove and north-west of Wantage. In total, 38 borings and 4 soil pits were described during the survey. The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix II. The survey area is that mapped by the Vale of White Horse District Council as Wg 12.

47. The climatic details of the site are given in the Table 10 below. The area is virtually flat lying between 80m and 85m AOD. The slightly higher land is towards the centre of the survey area and falls very gently away to the north, east and west. The site is not adversely affected by microrelief or flooding.

Table 10: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SU393893
Altitude	m, AOD	85
Accumulated Temperature	day°C (Jan-June)	1426
Average Annual Rainfall	mm	658
Field Capacity Days	days	141
Moisture Deficit, Wheat	mm	106
Moisture Deficit, Potatoes	mm	98
Overall climatic grade	N/A	Grade 1

48. The geology map (BGS, 1971) shows this area to be predominantly underlain by second terrace drift deposits which are bordered by Cretaceous Gault Clay in the west, south and east. In the east, first terrace drift deposits are mapped.

49. The soils across the majority of the site are shown as comprising the Grove association with Denchworth soils bordering to the west (SSEW, 1983). The earlier more detailed soil map of the area (SSGB, 1973) includes the airfield as an unsurveyed area. These soils are as described in paragraphs 9 and 10.

50. The majority of the agricultural land at this site has been classified as Subgrade 3a (good quality) with smaller areas of Subgrade 3b (moderate quality) and Grade 4 (poor quality). The main limitations to land quality are soil droughtiness, soil wetness, topsoil workability and the presence of disturbed areas along the lines of old runways. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 11 below.

Table 11: Land north-west of Denchworth Road, Wantage - Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
3a	40.4	58.9	54.9
3b	22.4	32.6	30.5
4	5.8	8.5	7.9
Other land	4.9	-	6.7
Total surveyed area	68.6	100	93.3
Total site area	73.5	-	100

Subgrade 3a

51. The majority of the site is mapped as good quality land. Principal limitations in this unit includes soil wetness, soil droughtiness and topsoil workability. Soils in this area that are principally restricted by soil droughtiness typically contain a heavy clay loam, heavy silty clay or clay topsoil, passing to a clay or silty clay upper subsoil overlying medium to heavy silty clay loam subsoils. Stone contents in the topsoil are typically in the range 2–5% flints by volume, although up to 15% was recorded. In the upper subsoil 5–10% flints was common. This horizon also occasionally contained up to 15% chalk fragments. The lower subsoil contained between 20 and 50% chalk. In a few observations the chalky drift horizon was penetrated and a weathered shattered chalk was encountered at depths in excess of 75cm. More typically however the chalky drift horizon was impenetrable to the soil auger between 60 and 100cm. In soil pits 1P and 4P (Appendix II) roots were observed to be restricted by the presence of the chalky drift. Roots were able to penetrate between 12 and 21cm into the chalky substrate. This has the effect of restricting water availability to any crops grown in these areas such that Subgrade 3a is most appropriate on the basis of soil droughtiness. This has the effect of restricting plant growth by causing insufficient water to be available to crops throughout the growing season.

52. Some of the areas mapped as Subgrade 3a are limited by a combination of soil wetness and topsoil workability as a result of the presence of poorly drained horizons and heavy topsoils. Soil profiles in these areas typically comprise clay or heavy clay loam topsoils which pass to similar upper subsoils overlying a gleyed and slowly permeable lower subsoil. The depths of the clay are such the soils are placed in Wetness Classes I and II. The heavy nature of the topsoils produces a classification of Subgrade 3a. Excessive soil wetness may adversely affect crop growth and development. It can also limit the flexibility of the land by reducing the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock. These factors may be exacerbated by shallow groundwater which was occasionally encountered.

Subgrade 3b

53. The moderate quality land within this survey area is located towards the margins of the site, on slightly sloping ground which does not have the benefit of a drift deposit overlying the Gault Clay. The land is principally limited by soil wetness. The soils typically comprise a heavy clay loam or clay topsoil which directly overlies a gleyed and slowly permeable subsoil. Soil pit 3P

confirms the poor structural conditions of the subsoil (moderately developed coarse angular blocky with <0.5% biopores visible in a heavily gleyed matrix).

Grade 4

54. Poor quality land has been mapped in two strips across the site. The land in this area has been disturbed in the past by being part of runways associated with the land's previous use as an airbase. The runways have been mechanically broken up and seeded with grass. The apparent soil resource is severely limited and these areas are suited only to rough grazing. Ploughing may be possible although the areas were generally not penetrable beyond a maximum of 30cm. A small trial pit was dug in one location which showed the topsoil to contain abundant concrete fragments. The area has a severe soil droughtiness limitation that would inhibit growth of all but the hardiest crops and its current use as grassland for rough grazing is the best that might be expected.

LAND EAST OF DENCHWORTH ROAD, WANTAGE (FRCA reference 3304/23/99)

55. This area totalling 26.5 ha of land is located between Wantage and Grove. The site is split by a disused canal - to the south the land is in agricultural use but to the north it is currently in a non-agricultural recreational use. In total, 8 borings and 1 soil pit were described. The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix II. The survey comprises the area originally described by the Vale of White Horse District Council as Wg 13.

56. The climatic details for the site are given in Table 12 below. The survey area is virtually flat, lying at approximately 80m AOD. The site is not affected by microrelief or flooding.

Table 12: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SU397893
Altitude	m, AOD	80
Accumulated Temperature	day°C (Jan-June)	1432
Average Annual Rainfall	mm	654
Field Capacity Days	days	140
Moisture Deficit, Wheat	mm	106
Moisture Deficit, Potatoes	mm	99
Overall climatic grade	N/A	Grade 1

57. The geology of the site is predominately first river terrace gravels overlying Gault Clay. In the south west, Gault is mapped, while along the south-eastern flank of the site is a very small band of alluvium is mapped associated with the Letcombe Brook.

58. The soils are predominantly mapped as the Grove series. Towards the south-east of the site the Ford-End and Hendred series are shown by the Soil Survey of Great Britain (1973). These series are components of the Grove association described in paragraph 9.

59. The agricultural land at this site has been classified as Subgrade 3b. The main limitation to land quality is soil wetness. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 13 below.

Table 13: Land east of Denchworth Road, Wantage - Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
3b	12.6	100	47.5
Other land	13.9	-	52.5
Total surveyed area	12.6	100	47.5
Total site area	26.5	-	100

60. Typical soil profiles comprise calcareous, very slightly stony, heavy silty clay loam topsoils over calcareous clay upper and lower subsoils. In some cases, the clay subsoils pass into

slightly lighter textured (heavy silty clay loam) horizons, which may reflect the presence of malmstone. Profiles are typified by the soil pit, 1P (see Appendix II). Evidence from the pit indicated that the subsoils are gleyed and slowly permeable, therefore, downward water movement through the profile is impeded. In the local climate, the profiles in this unit are poorly drained (Wetness Class IV) which, in combination with the fine textured topsoils, places the soils in Subgrade 3b. The soil wetness limitation imparts a restriction on access to the land for cultivations and/or grazing and also restricts the range of crops that can be produced and the level and consistency of yields that can be achieved. Within the Subgrade 3b unit, borings of better quality were observed, due to insufficient depth of slowly permeable layer or absence of mottling. As such, these profiles are imperfectly to moderately well drained. However, these were isolated borings and were insufficient to form a discrete mapping unit.

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SOURCES OF REFERENCE

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

Soil Survey of England and Wales (1984) *Soils and their Use in South East England*SSEW: Harpenden

APPENDIX I

DESCRIPTIONS OF THE GRADES AND SUBGRADES

Grade 1: Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2: Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a: Good Quality Agricultural Land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b: Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4: Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5: Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

APPENDIX II

SOIL DATA FOR INDIVIDUAL SITES

Contents:

Soil abbreviations - explanatory note

Sample location map for each site

Soil pit and soil boring descriptions (boring and horizon levels) by site

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	OTH	Other
DCW:	Deciduous woodland	BOG:	Bog or marsh	SAS:	Set-Aside
HTH:	Heathland	HRT:	Horticultural crops	PLO:	Ploughed

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	ST:	Topsoil Stoniness
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
EX:	Exposure				

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	**FSST**:	soft, fine grained sandstone
ZR:	soft, argillaceous, or silty rocks	**CH**:	chalk
MSST:	soft, medium grained sandstone	**GS**:	gravel with porous (soft) stones
SI:	soft weathered igneous/metamorphic rock	**GH**:	gravel with non-porous (hard) stones

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

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 appropriate horizon.

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

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

15. Other notations:

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

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	DRT	M.REL FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
3	SU40608910	CER					1	1	154	49	120	21	1					1	CAPPING
5	SU40808910	CER			25	25	4	3B	82	-23	87	-12	3B				DR	3B	IMP60NOTSPL 2P
7	SU41008910	CER					1	1	120	15	118	19	2				DR	2	IMP87 SEE 1P
8	SU40108900	PGR		7			1	2	139	34	114	15	1				GR	3B	
10	SU40308900	LEY	S	1			1	1	144	39	120	21	1					1	CAPPING SEE 3P
12	SU40508900	CER					1	1	93	-12	99	0	3A				DR	2	SEE 2P
14	SU40708900	CER			50	50	2	2	111	6	113	14	2				DR	2	IMP78NOTSPL 1P
16	SU40908900	CER					1	1	111	6	120	21	2				DR	2	I75 MALMSTONE
18	SU41108900	CER					1	1	114	9	113	14	2				DR	2	I82 MALMSTONE
19	SU40208890	PGR	W	5			1	1	155	50	121	22	1					1	
21	SU40408890	LEY	S	2			1	1	151	46	117	18	1					1	CAPPING
23	SU40608890	CER	SW	1			1	1	126	21	122	23	2				DR	2	IMP88
25	SU40808890	CER			52	52	2	2	101	-4	110	11	3A				DR	3A	IMP68NOTSPL 2P
27	SU41008890	CER	S	1			1	1	139	34	122	23	1					1	
30	SU40308880	PGR	SW	2			1	2	142	37	116	17	1				WK	2	
32	SU40508880	CER	S	1			1	1	106	1	120	21	3A				DR	3A	IMP70 SEE 3P
34	SU40708880	CER					1	1	138	33	123	24	1					1	
36	SU40908880	CER	S	1			1	1	101	-4	115	16	3A				DR	3A	IMP70
38	SU41108880	CER	S	1	45	45	3	3A	136	31	111	12	1					1	NOTSPLSEE 1P
40	SU40208870	PGR	W	5			1	1	135	30	117	18	1					1	SEE 3P RIDGE &
42	SU40408870	LEY	SW	3			1	1	144	39	121	22	1				DR	2	3P LOCATION
1P	SU41108900	CER					1	1	119	14	118	19	2				DR	2	PIT 90
2P	SU40508900	CER					1	1	111	6	111	12	2				DR	2	PIT 85
3P	SU40408870	LEY	SW	3			1	1	132	27	115	16	2				DR	2	PIT95AUGER110

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	
3	0-30	MZCL	25Y 31						0	0	FSST	5							
	30-95	ZC	05Y 6272						0	0		0		M					
	95-120	HZCL	05Y 6272						0	0	ZR	8		M					SEE 2P
5	0-25	MZCL	25Y 31						0	0	ZR	5							
	25-60	ZC	05Y 5152	10YR4658	C	D		Y	0	0	ZR	3		P		Y			IMP60 NOTGLEY/SPL
7	0-28	MZCL	25Y 31						0	0	ZR	5							
	28-40	MZCL	25Y 42						0	0	ZR	2		M					
	40-70	HZCL	05Y 52						0	0	ZR	10		M					
	70-87	MZCL	05Y 5262						0	0	ZR	15		M					IMP 87 SEE 1P
8	0-30	HZCL	25Y 4142						0	0	ZR	2							
	30-120	ZC	05Y 5261						0	0	ZR	5		M					
10	0-30	MZCL	25Y 31						0	0	FSST	5							
	30-70	HZCL	25Y 41						0	0	ZR	5							
	70-120	ZC	05Y 5263						0	0	ZR	10		M					SEE 3P
12	0-32	MZCL	25Y 31						0	0	FSST	5							
	32-60	MZCL	25Y 41						0	0	ZR	20		M					IMP 60 2PLOCATION
14	0-30	MZCL	25Y 31						0	0	ZR	5							
	30-50	HZCL	05Y 5262						0	0		0		M					
	50-68	ZC	05Y 5262	10YR5658	C	D		Y	0	0	ZR	5		P		Y			
	68-78	HZCL	05Y5262	10YR5658	C	D		Y	0	0	ZR	5		M					NOTGLEY/SPLSEE1P
16	0-27	MZCL	25Y 31						0	0	ZR	5							IMP 78
	27-68	MZCL	25Y 42						0	0	ZR	5		M					
	68-75	HZCL	25Y 5262						0	0	ZR	5		M					IMP 75 SEE 1P
18	0-32	MZCL	25Y 31						0	0	HR	2							
	32-49	MZCL	05Y 4142						0	0		0		M					
	49-70	ZC	25Y 5152	10YR5658	C	D		Y	0	0	ZR	3		P		Y			NOT GLEY/SPL
	70-82	HZCL	05Y 5253	10YR5658	M	D		Y	0	0	ZR	10		M					IMP 82 1PLOCATION
19	0-30	HZCL	25Y 32						0	0	ZR	5					Y		
	30-120	HZCL	05Y 62						0	0	ZR	5		M			Y		
21	0-28	MZCL	25Y 31						0	0	ZR	5							
	28-50	HZCL	25Y 4152						0	0	FSST	10		M					
	50-120	HZCL	25Y 5262						0	0	ZR	5							SEE 3P
23	0-27	MZCL	25Y41						0	0	HR	1							
	27-40	MZCL	25Y52						0	0	FSST	1		M					
	40-60	HZCL	05Y6162						0	0	FSST	3		M					
	60-88	HZCL	05Y62						0	0	FSST	4		M					IMP 88

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	IMP	SPL	CALC
25	0-32	MZCL	25Y 31						0	0	ZR	3						
	32-52	MZCL	25Y 42						0	0	ZR	2		M				
	52-68	ZC	25Y 5262	10YR58	C	D			0	0	ZR	10		P		Y		IMP 68 SEE 2P
27	0-25	MZCL	25Y41						0	0	FSST	2						
	25-40	HZCL	05Y61						0	0	FSST	5		M				
	40-70	HZCL	05Y61						0	0		0		M				
	70-108	ZC	05Y61						0	0		0		M				
30	0-25	HZCL	25Y41						0	0		0						
	25-60	ZC	25Y62						0	0	FSST	1		M				
	60-110	HZCL	05Y6162						0	0	FSST	2		M				
32	0-28	MZCL	10YR41						2	0	HR	2						
	28-40	HZCL	05Y61	10YR56	F	F			0	0	FSST	2		M				
	40-70	HZCL	05Y61						0	0	FSST	2		M				IMP 70 SEE 3P
34	0-30	MZCL	10YR41						0	0	FSST	3						
	30-50	MZCL	05Y61	75YR46	F	F			0	0		0		M				
	50-100	HZCL	05Y61	75YR56	F	F			0	0	FSST	4		M				
36	0-26	MZCL	25Y41						0	0	HR	1						
	26-70	ZC	05Y61	75YR46	F	F			0	0		0		M				IMP 70
38	0-29	MZCL	25Y41						0	0	FSST	4						
	29-45	HZCL	05Y61						0	0		0		M				
	45-120	ZC	05Y62	75YR46	C	F			0	0		0		P		Y		NOTGLEY/SPLSEE1P
40	0-25	MZCL	10YR41	10YR56	F	F			0	0		0						
	25-38	HZCL	25Y41						0	0	FSST	1		M				
	38-80	ZC	05Y61	10YR56	F	F			0	0		0		M				
	80-110	ZC	05Y61						0	0		0		M				SEE 3P
42	0-30	MZCL	10YR31						0	0	FSST	1						
	30-52	MZCL	25Y31	10YR56	F	F			0	0	FSST	1		M				
	52-70	ZC	05Y62						0	0		0		M				
	70-108	HZCL	05Y62						0	0	FSST	1		M				3P LOCATION
1P	0-24	MZCL	25Y 41						0	0	HR	2						
	24-42	MZCL	05Y 51						0	0	ZR	2	MDCSAB	FR	M			
	42-50	HZCL	05Y 5262						0	0	ZR	5	MDCSAB	FR	M			
	50-85	HCL	05Y 6272						0	0	FSST	10	MDVCPL	FR	M			
2P	0-30	MZCL	25Y 31						0	0	FSST	5						
	30-45	MZCL	25Y 41						0	0	FSST	5	MDCSAB	FR	M			
	45-58	MZCL	05Y 3141						0	0	FSST	20	MDMSAB	FR	M			
	58-85	MZCL	05Y 3141						0	0	FSST	45		FR	M			

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
3P	0-25	MZCL	10YR3132						0	0	HR	2						
	25-62	MZCL	25Y 31						0	0	HR	5	MDCSAB	FR	M			
	62-110	HZCL	05Y 5262						0	0	ZR	40	MDCPL	FR	M			

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	SU41208910	OSR			26	45	3	3A	113	8	110	14	2				DR	2	IMP88
3	SU41408910	OSR			65		2	2	111	6	119	23	2				DR	2	IMP75
6	SU41308900	OSR			40	40	3	3A	158	53	120	24	1					1	
8	SU41508900	OSR			25		2	2	119	14	123	27	2				DR	2	IMP80
10	SU41708900	OSR	E	2	23	23	4	3B	79	-26	82	-14	3B				WD	3B	IMP55
12	SU41208890	OSR			26	64	3	3A	149	44	117	21	1					1	
14	SU41408890	OSR			25		2	2	112	7	117	21	2				DR	2	IMP78
16	SU41608890	OSR			50		2	2	123	18	121	25	2				DR	2	IMP90
18	SU41808890	OSR			28		2	1	133	28	146	50	2				DR	2	IMP70
20	SU41308880	OSR			39		2		120	15	124	28	2				DR	2	IMP82
22	SU41508880	OSR	S	1	25		2	2	118	13	132	36	2				DR	2	IMP70
24	SU41708880	OSR	SE	1	25		2	2	125	20	129	33	2				DR	2	IMP80
26	SU41208870	PGR			37	62	3	3A	151	46	119	23	1					1	SEE 2P
28	SU41408870	OSR	S	1	85	85	1	1	137	32	124	28	1					1	SEE 2P
30	SU41608870	OSR	S	1	45	45	3	3A	120	15	125	29	2				WE	3A	SEE 1P
32	SU41308860	OSR	S	2			1	1	128	23	122	26	2				DR	2	IMP90
34	SU41508860	OSR	SW	1	28	41	3	3A	107	2	112	16	3A				WE	3A	SEE 1P
36	SU41708860	OSR			22	48	3	3A	125	20	113	17	2				WE	3A	1P LOCATION
38	SU41408850	OSR	SW	1	22		2	2	136	31	120	24	1				DR	2	2P LOCATION
40	SU41608850	OSR	S	1	25	25	4	3B	109	4	106	10	1				WE	3B	
42	SU41308840	OSR	SW	1	38	38	3	3A	109	4	105	9	3A				WE	3A	
44	SU41508840	OSR	SW	1	62	62	2	2	133	28	121	25	2				WD	2	
45	SU41308830	OSR	S	1	45		2	2	102	-3	110	14	3A				DR	3A	IMP70
1P	SU41708860	OSR			22	41	3	3A	99	-6	109	13	3A				WE	3A	PIT65
2P	SU41408850	OSR	S	1			1	1	135	30	119	23	1				DR	2	BORDER1 PIT80

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	0-26	MZCL	25Y3141						0	0	FSST	2							SEE 1P WG2
	26-45	HZCL	05Y5262	10YR4656	C	F		Y	0	0		0		M					
	45-88	ZC	05Y5262	10YR5658	M	D		Y	0	0		0		P			Y		WEATHERING
3	0-32	MZCL	25Y3132						0	0	FSST	5							SEE 1P WG2
	32-65	HZCL	25Y4252						0	0	ZR	5		M					
	65-75	HZCL	25Y5262	10YR56	C	D		Y	0	0	FSST	10		M					WEATHERING
6	0-28	ZL	25Y4142						0	0	ZR	2							
	28-40	MZCL	25Y52						0	0		0		M					
	40-70	ZC	25Y5262	10YR5658	C	D		Y	0	0		0		P			Y		WEATHERING
	70-120	HZCL	25Y5262	10YR5658	C	D		Y	0	0	ZR	5		M					
8	0-25	MZCL	10YR31						0	0	FSST	2							SEE 1P WG2
	25-80	MZCL	05Y63	10YR56	C	F		Y	0	0		0		M					WEATHERING
10	0-23	HZCL	25Y41						0	0	FSST	1							
	23-55	ZC	05Y63	10YR56	C	F		Y	0	0		0		P			Y		WEATHERING
12	0-26	MZCL	25Y31						0	0	HR	2							SEE 1P
	26-40	MZCL	25Y52	10YR56	C	D		Y	0	0		0		M					
	40-64	HZCL	25Y52	75YR58	M	D		Y	0	0	FSST	5		M					
	64-90	ZC	05Y5262	10YR58	C	D		Y	0	0		0		P			Y		WEATHERING
	90-120	HZCL	05Y5262	10YR4656	C	F		Y	0	0		0		M					
14	0-25	MZCL	10YR31						0	0	FSST	2							
	25-55	HZCL	05Y63	10YR56	C	F		Y	0	0	FSST	2		M					
	55-78	HZCL	05Y63	10YR56	C	F		Y	0	0	FSST	30		M					WEATHERING
16	0-28	MZCL	10YR42						0	0		0							SEE 1P WG2
	28-50	MZCL	05Y63	10YR56	F	F			0	0		0							
	50-90	ZC	05Y63	10YR56	C	F		Y	0	0		0							WEATHERING
18	0-28	FSZL	10YR41						0	0		0							
	28-60	FSZL	05Y42	10YR56	C	F		Y	0	0		0		M					
	60-70	HZCL	05Y63	10YR56	C	F		Y	0	0		0		M					WEATHERING
20	0-25	MZCL	10YR31						0	0		0							SEE 1P WG2
	25-39	HZCL	05Y51						0	0		0		M					
	39-70	HZCL	05Y51	75YR56	C	F		Y	0	0		0		M					
	70-82	ZC	05Y51	75YR56	M	D		Y	0	0		0		M					WEATHERING
22	0-25	ZL							0	0	FSST	2							
	25-70	MZCL	05Y63	10YR56	C	F		Y	0	0	FSST	2		M					WEATHERING
24	0-25	ZL	10YR31						3	0	FSST	5							
	25-80	HZCL	05Y52	10YR56	C	F		Y	0	0	FSST	5		M					WEATHERING

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	IMP	SPL	CALC	
26	0-25	MZCL	10YR42						0	0		0							SEE 2P
	25-37	MZCL	25Y51						0	0	ZR	2		M					
	37-62	HZCL	05Y61	10YR46	C	D		Y	0	0		0		M					
	62-85	ZC	05Y61	10YR58	M	D		Y	0	0	ZR	10		P		Y			WEATHERING
	85-120	HZCL	05Y61						0	0		0		M					
28	0-27	MZCL	10YR41						0	0		0							SEE 2P
	27-85	HZCL	25Y41						0	0		0		M					
	85-100	ZC	10Y61	10YR61	C	D		Y	0	0		0		P		Y			WEATHERING
30	0-28	ZL	10YR31						2	0	FSST	2							SEE 1P
	28-45	MZCL	05Y52						0	0		0		M					
	45-80	C	05Y63	10YR56	C	F		Y	0	0		0		P		Y			DENSE
32	0-23	MZCL	10YR41						0	0	FSST	2							SEE 2P
	23-31	MZCL	10YR51						0	0		0		M					
	31-55	HZCL	05Y62						0	0	FSST	3		M					
	55-90	HZCL	05Y61						0	0		0		M					
34	0-28	MZCL	10YR41						0	0		0							SEE 1P
	28-41	MCL	25Y51	75YR58	M	D		Y	0	0		0		M					
	41-80	C	10Y71	10YR56	M	D		Y	0	0		0		P		Y			DENSE
36	0-22	MZCL	10YR41						0	0	HR	2							1PLOCATION
	22-48	HZCL	10Y51	10YR56	C	F		Y	0	0		0		M					
	48-90	C	05GY61	75YR56	M	D		Y	0	0	ZR	3		P		Y			
	90-100	HZCL	25Y62	75YR56				Y	0	0	ZR	5		M					
38	0-22	MCL	10YR31						0	0	FSST	5							2PLOCATION
	22-80	HZCL	05Y62	10YR56	M	D		Y	0	0		0		M					
	80-100	HZCL	05Y61	10YR56	M	D		Y	0	0		0		M					
40	0-25	HZCL	10YR31						0	0	HR	1							SEE 1P
	25-70	C	25Y51	10YR56	C	D		Y	0	0		0		P		Y			DENSE
	70-85	HZCL	05GY61	75YR56	M	D		Y	0	0		0		M					
42	0-22	MZCL	10YR51						0	0	HR	2							
	22-38	MZCL	10Y51						0	0		0		M					
	38-90	ZC	05Y62	10YR56	C	D		Y	0	0		0		P		Y			
44	0-30	MZCL	10YR71						0	0		0							
	30-52	HZCL	25Y51						0	0		0		M					
	52-62	HZCL	05Y62						0	0		0		M					
	62-90	ZC	05Y62	10YR56	C	D		Y	0	0		0		P		Y			
	90-100	HZCL	05Y62	75YR56	M	D		Y	0	0		0		M					WEATHERING
45	0-25	MZCL	10YR31						2	0	FSST	3							
	25-45	HZCL	05Y42	10YR56	F	F			0	0		0		M					
	45-50	HZCL	05Y42	10YR56	C	D		Y	0	0		0		M					
	50-70	HZCL	05Y62	10YR56	C	D			0	0	FSST	50		M					IMP 70

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	
1P	0-22	MZCL	25Y41						0	0	HR	2							
	22-41	HZCL	10Y41	75YR46	C	D		Y	0	0		0	MDCSAB	FR	M				
	41-65	ZC	05GY41	75YR46	C	D		Y	0	0		0	MDCAB	FR	M	Y		Y	PIT @ASP 36
2P	0-27	MZCL	10YR41						2	0	FSST	5							
	27-42	MZCL	05Y52						0	0	FSST	2	MDCSAB	FR	M				
	42-65	MZCL	05Y53						0	0	FSST	2	MDCSAB	FR	M				
	65-120	MCL	05Y52						0	0	FSST	2	WDCPL	FM	P				PIT @ASP 38

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL ORT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SU41708840	CER			46	46	3	3A	131	26	109	13	2				WE	3A	SEE PIT 2
2	SU41508830	CER			48	48	3	3A	137	32	112	16	1				WE	3A	SEE PIT 2
3	SU41608830	CER			48	48	3	3A	108	3	111	15	3A				WE	3A	SEE PIT 2
4	SU41308820	CER			40		1	1	88	-17	88	-8	3A				DR	3A	I50 SEE IP
5	SU41408820	CER			30		2	2	158	53	122	26	1				WE	2	
6	SU41508820	CER			68	68	2	2	143	38	121	25	1				WE	2	SEE PIT 2
7	SU41708820	CER			47	47	3	3A	136	31	113	17	1				WE	3A	SEE PIT 2
8	SU41208810	PGR	N	1	30		2	3A	97	-8	103	7	3A				DR	3A	I60 ALSO WK
9	SU41408810	CER	N	1	45	45	3	3A	134	29	111	15	2				WE	3A	SEE PIT 2
10	SU41608810	CER	N	2	42	42	3	3A	135	30	112	16	2				WE	3A	SEE PIT 2
11	SU41308800	CER	N	2	45	45	3	3A	132	27	110	14	2				WE	3A	SEE PIT 2
12	SU41508800	CER	N	2			1	1	127	22	117	21	2				DR	2	I90 ZR
13	SU41708800	CER					1	1	98	-7	104	8	3A				DR	3A	I60 SST
1P	SU41508820	CER			40		1	1	96	-9	96	0	3A				DR	3A	ROOTS 50 ZR
2P	SU41608810	CER	N	2	48	48	3	3A	103	-2	112	16	3A				WE	3A	PIT TO 75

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
1	0-28	MCL	25Y 31						0	0	HR	2						
	28-46	MCL	25Y 42						0	0		0		M				
	46-120	C	05Y 5262	10YR5658	C	D		Y	0	0	HR	2		P		Y		DENSE
2	0-29	MZCL	25Y 31						0	0	HR	3						
	29-48	HZCL	05Y 52						0	0		0		M				
	48-120	ZC	05Y 5262	10YR5658	C	D		Y	0	0		0		P		Y		DENSE
3	0-32	MZCL	25Y 31						0	0		0						
	32-48	HZCL	25Y 52	10YR56	F	D			0	0		0		M				
	48-80	ZC	05Y 5262	10YR5658	C	D		Y	0	0		0		P		Y		DENSE
4	0-30	FSZL	25Y 31						0	0	HR	2						
	30-40	HZCL	05Y 5262	10YR56	F	D			0	0	ZR	2		M				LOOSE
	40-50	HZCL	05Y 5162	10YR5658	C	D		Y	0	0		0		M			Y	IMP ZR
5	0-30	MZCL	25Y 31						0	0	HR	3						
	30-82	HZCL	25Y 5262	10YR5658	C	D		Y	0	0	ZR	2		M				LOOSE
	82-120	HZCL	05Y 5262	10YR5658	M	D		Y	0	0		0		M				LOOSE
6	0-30	MZCL	25Y 31						0	0	HR	2					Y	
	30-68	HZCL	05Y 42	10YR46	F	D			0	0	HR	2		M			Y	
	68-120	C	05Y 5262	10YR58	M	D		Y	0	0		0		P		Y		DENSE
7	0-30	MZCL	25Y 31						0	0	HR	2						
	30-47	HCL	10Y 41	10YR46	F	F			0	0		0		M				
	47-120	C	10GY41	10YR5658	M	D		Y	0	0		0		P		Y		DENSE
8	0-30	HZCL	25Y 41						0	0		0						
	30-60	HZCL	05Y 52	10YR56	C	D		Y	0	0	FSST	10		M			Y	IMP ZR
9	0-32	HZCL	05Y 31						0	0	HR	2					Y	
	32-45	ZC	05Y 4143						0	0		0		M			Y	
	45-120	C	05Y 52	10YR56	C	D		Y	0	0	ZR	2		P		Y	Y	DENSE
10	0-30	MZCL	05Y 31						0	0	HR	2						
	30-42	HCL	10GY51	10YR46	F	F			0	0		0		M				
	42-120	C	10GY51	10YR4656	C	D		Y	0	0		0		P		Y		DENSE
11	0-28	MCL	25Y 31						0	0	HR	3						
	28-45	HZCL	05Y 5262						0	0		0		M			Y	
	45-120	C	05Y 41	10YR56	C	D		Y	0	0	ZR	2		P		Y	Y	DENSE
12	0-30	MZCL	25Y 31						0	0	HR	2						
	30-95	HZCL	05Y 7271						0	0	CH	10		M			Y	IMP ZR
13	0-30	MZCL	05Y 31						0	0	HR	2					Y	
	30-60	HCL	10GY51						0	0		0		M			Y	IMP SST

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	IMP	SPL	CALC	
1P	0-26	FSZL	25Y 31						0	0	HR	2							
	26-40	HZCL	05Y 52						0	0	FSST	3	MVCSAB	FR	M				
	40-50	HZCL	25Y 5262	10YR4656	C	D		Y	0	0	FSST	3	MVCSAB	FR	M				ROOTS TO 50CM
2P	0-27	MCL	05Y 31						0	0	HR	2							
	27-48	HZCL	05Y 32						0	0		0	MDCSAB	FR	M				LOOSE
	48-75	C	05Y 52	75YR45	M	D		Y	0	0		0	MDCAB	FM	P	Y		Y	DENSE

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	SU38208960	CER	S	1	26	26	4	3B		0		0					WE	3B	
3	SU38108950	CER	S	1	25	25	4	3B		0		0					WE	3B	
5	SU38308950	CER			24	24	4	3B		0		0					WE	3B	
7	SU38048940	CER			25	25	4	3B		0		0					WE	3B	
8	SU38208940	CER	S	1	25	25	4	3B	91	-16	103	4	3A				WE	3B	
10	SU38408940	CER	SW	2	26	26	4	3B		0		0					WE	3B	
11	SU38108930	CER			28	28	4	3B	87	-20	99	0	3A				WE	3B	
13	SU38308930	CER	SW	1	22	22	4	3B		0		0					WE	3B	
15	SU38508930	STB	SW	2	28	28	4	3B	124	17	101	2	2				WE	3B	
16	SU38208920	CER	SW	1	25	25	4	3B		0		0					WE	3B	
18	SU38408920	STB	W	1	30	30	4	3B		0		0					WE	3B	
21	SU38308910	STB			28	28	4	3B		0		0					WE	3B	
23	SU38508910	STB	SW	3	28	28	4	3B	89	-18	101	2	3A				WE	3B	
25	SU38708907	STB			27	27	4	3B		0		0					WE	3B	
28	SU38408900	STB			25	25	4	3B	88	-19	100	1	3A				WE	3B	
30	SU38608900	STB	S	3	22	22	4	3B		0		0					WE	3B	
32	SU39048907	PGR			25	25	4	3B	129	22	101	2	2				WE	3B	
33	SU39208900	PGR			50	50	2	3A	101	-6	105	6	3A				WE	3A	IMP 80 FLINT
34	SU39308907	PGR			55	55	2	3A	106	-1	112	13	3A				WE	3A	
36	SU38508890	STB	SW	1	28	28	4	3B		0		0					WE	3B	
38	SU38708890	STB	S	1	22	22	4	3B		0		0					WE	3B	
40	SU39108890	PGR			22	35	4	3B	96	-11	100	1	3A				WE	3B	QDIST-CANAL
42	SU39308890	PGR					1	2	117	10	117	18	2				WD	2	
44	SU38608880	STB			30	30	4	3B	91	-16	103	4	3A				WE	3B	
46	SU38798879	STB			42	42	3	3B	111	4	109	10	3A				WE	3B	
48	SU39008880	PGR	S	2	55	55	2	3A	115	8	114	15	2				WE	3A	
50	SU39208880	PGR	S	1	75	75	2	3A	134	27	113	14	2				WE	3A	
52	SU39408880	PGR					1	2	93	-14	104	5	3A				DR	3A	IMP70 CHDRIFT
54	SU38508870	STB			52	52	2	3A	101	-6	106	7	3A				WE	3A	
56	SU38708870	STB			45	45	3	3B	109	2	107	8	3A				WE	3B	
58	SU38908870	PGR			45	45	3	3B	115	8	113	14	2				WE	3B	
60	SU39108870	PGR	NW	2	55	55	2	3A	134	27	111	12	2				WE	3A	C PLAS 55+
62	SU39318872	PGR					1	2	105	-2	110	11	3A				WD	3A	I80 DR120=2
64	SU38208860	STB			55	55	2	3A	92	-15	104	5	3A				WE	3A	DR120=2
66	SU39408860	STB			56	56	2	3A	102	-5	107	8	3A				WE	3A	1P LOCATION
68	SU39608860	STB			55	55	2	3B	115	8	107	8	2				WE	3B	
70	SU39808860	PGR	NW	3	55	55	2	3A	131	24	107	8	2				WE	3A	SEE 1P
72	SU39008860	PGR	NW	3	28	28	4	3B	127	20	103	4	2				WE	3B	
75	SU38308850	STB			45	45	3	3B	99	-8	104	5	3A				WE	3B	
77	SU38508850	STB			90	90	1	1	141	34	114	15	1					1	
79	SU38708850	PGR	NW	4	85	85	1	2	140	33	120	21	1				WK	2	
81	SU38918850	PGR			30	30	4	3B	108	1	106	7	3A				WE	3B	

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
83	SU38398844	STB			75	75	2	3A	141	34	121	22	1				WE	3A	
87	SU38808840	PGR					1	1	153	46	119	20	2						
88	SU38298825	CER	N	2			1	2	125	18	115	16	2				WK	2	
90	SU38508830	PGR	NW	4			1	2	143	36	119	20	1				WK	2	4P LOCATION
92	SU38708830	PGR	N	1	35		2	3A	135	28	117	18	2				WD	2	2P LOCATION
94	SU38208820	CER	N	2			1	2	143	36	119	20	1				WK	2	
96	SU38408820	PGR	N	5			1	2	125	18	117	18	2				WK	2	
98	SU38608820	PGR					1	2	102	-5	113	14	3A				DR	3A	IMP 70 - ZR
99	SU38728814	PGR					1	2	133	26	119	20	2				WD	2	DR1 TO 120
100	SU38108810	CER	N	3	60	60	2	2	126	19	119	20	2				WE	2	DR1 TO 120
102	SU38308810	CER			50	50	2	2	104	-3	111	12	3A				WE	2	IMP75 CHDRIFT
103	SU38548809	PGR					1	2	138	31	122	23	1				WK	2	
104	SU38208800	CER	N	4	65		1	2	140	33	122	23	1				WK	2	3P LOCATION
1P	SU39408860	STB			54	54	2	3A	107	0	112	13	3A				WE	3A	PIT60 AUG120
2P	SU38708830	PGR	NW	2	42		1	2	154	47	123	24	1				WK	2	PIT85 AUG120
3P	SU38208800	CER	N	4			1	2	99	-8	107	8	3A				DR	3A	ROOTS 75 PIT9(
4P	SU38508830	PGR					1	2	154	47	119	20	1				WK	2	PIT80 AUG120

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	STRUCT/ TOT	CONSIST	SUBS STR	POR	IMP	SPL	CALC
1	0-26	HCL	10YR42						0	0	HR	2						
	26-70	C	25Y 51	10YR58	C	D		Y	0	0		0		P		Y		PLASTIC
3	0-25	C	25Y 42	10YR46	F	D			0	0	HR	2						
	25-60	C	25Y 51 52	10YR58	C	D		Y	0	0		0		P		Y		PLASTIC
5	0-24	HZCL	10YR42						0	0	HR	1						
	24-60	ZC	25Y 61	10YR58	M	D		Y	0	0		0		P		Y		PLASTIC
7	0-25	C	25Y 41						0	0	HR	2						
	25-60	C	25Y 51 52	10YR58	M	D		Y	0	0		0		P		Y		PLASTIC
8	0-25	HCL	10YR42						0	0	HR	2						
	25-70	C	25Y 51	10YR58	M	D		Y	0	0		0		P		Y		PLASTIC
10	0-26	HZCL	10YR42				FEW MN		0	0	HR	1						
	26-60	ZC	25Y 61	10YR58	M	D		Y	0	0		0		P		Y		PLASTIC
11	0-28	C	25Y 42						1	0	HR	5						
	28-70	C	05Y 51	10YR58	C	D		Y	0	0	HR	2		P		Y		PLASTIC
13	0-22	HZCL	10YR42	10YR46	F	D			0	0	HR	1						
	22-60	ZC	25Y 61	10YR56	M	D		Y	0	0		0		P		Y		PLASTIC
15	0-28	C	25Y 42						0	0	HR	2						
	28-60	C	05Y 51	10YR56	C	F		Y	0	0	CH	2		P		Y	Y	
	60-120	C	05Y 61	10YR56	C	D		Y	0	0	CH	5		P		Y	Y	
16	0-25	HZCL	10YR42	10YR46	F	D			0	0	HR	1						
	25-60	ZC	25Y 52	10YR56	C	D	FEW MN	Y	0	0		0		P		Y		PLASTIC
18	0-30	C	10YR42	10YR46	F	D			0	0	HR	2						
	30-60	C	05Y 51	10YR58	C	D	FEW MN	Y	0	0	HR	2		P		Y		PLASTIC
21	0-28	C	10YR42						0	0	HR	2						
	28-60	C	05Y 52	10YR58	M	D		Y	0	0	HR	2		P		Y		PLASTIC
23	0-28	C	25Y 42						0	0	HR	2						
	28-70	C	05Y 51	10YR58	M	D		Y	0	0		0		P		Y		PLASTIC
25	0-27	HCL	10YR42						0	0	HR	3						
	27-40	C	05Y 52	10YR56	C	F		Y	0	0		0		P		Y		PLASTIC
	40-60	C	05Y 52	10YR56	C	D		Y	0	0		0		P		Y		PLASTIC
28	0-25	C	25Y 41						0	0	HR	2						
	25-70	C	05Y 51 53	10YR58	M	D	FEW MN	Y	0	0		0		P		Y		PLASTIC
30	0-22	HCL	10YR42				FEW MN		0	0	HR	1						
	22-60	C	25Y 61	10YR66	C	D		Y	0	0		0		P		Y		PLASTIC

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
32	0-25	HCL	10YR42						0	0	HR	2							
	25-45	C	25Y 41	10YR56	C	F		Y	0	0		0		P			Y		
	45-65	C	05Y 52	10YR58	M	D	COM MN	Y	0	0	HR	5		P			Y		PLASTIC
	65-85	C	05G 61	10YR58	C	D		Y	0	0	HR	5		P			Y	Y	+5% ZR
	85-120	HZCL	05G 62	10YR68	C	F		Y	0	0	ZR	20		M				Y	+10% CH
33	0-25	C	25Y 42						0	0	CH	5						Y	
	25-35	C	25Y 42						0	0	CH	20		M				Y	
	35-50	C	25Y 51	10YR56	F	D			0	0	CH	5		M				Y	
	50-80	C	05Y 51	10YR58	C	D		Y	0	0	CH	20		P			Y	Y	IMPFLINTS 80 CM
34	0-28	HCL	10YR42						0	0	HR	2							
	28-55	C	05Y 52	10YR56	F	D			0	0		0		M					
	55-80	C	05Y 62	10YR58	M	D		Y	0	0		0		P			Y		PLASTIC
36	0-28	HCL	10YR42				FEW MN		0	0	HR	1							
	28-60	C	25Y 61	10YR66	C	D		Y	0	0		0		P			Y		PLASTIC
38	0-22	HCL	10YR42	10YR56	F	F	FEW MN		0	0	HR	1							
	22-60	ZC	25Y 61	10YR66	C	D		Y	0	0		0		P			Y		PLASTIC
40	0-22	HCL	10YR42	10YR46	F	D			0	0	HR	2						Y	
	22-35	C	10YR44	10YR58	C	D	FEW MN	Y	0	0	CH	5		M				Y	
	35-80	C	25Y 61	10YR58	M	D		Y	0	0	HR	10		P			Y	Y	+5%CH PLASTIC
42	0-27	HCL	10YR32						0	0	HR	1							
	27-60	ZC	05Y 52						0	0		0		M					PLASTIC
	60-90	ZC	05Y 62						0	0		0		M					PLASTIC
44	0-30	C	25Y 32						0	0		0							
	30-70	C	05Y 41	10YR46 56	C	F		Y	0	0		0		P			Y		PLASTIC
46	0-28	HCL	25Y 41						0	0		0							
	28-42	C	25Y 51	10YR56	F	D	FEW MN		0	0		0		M					
	42-90	C	05Y 51 61	10YR58	M	F		Y	0	0		0		P			Y		PLASTIC
48	0-25	HZCL	25Y 42						0	0	HR	2							
	25-55	C	25Y 52	10YR56	F	D			0	0		0		M					
	55-90	C	05Y 51	10YR58	M	D		Y	0	0		0		P			Y		PLASTIC
50	0-27	HCL	10YR32						0	0	HR	1							
	27-37	C	10YR42						0	0		0		M					
	37-75	C	05Y 53						0	0	CH	20		M				Y	
	75-120	ZC	05Y 62	10YR58	C	D		Y	0	0	CH	5		P			Y	Y	PLASTIC
52	0-28	HCL	10YR32						0	0	HR	1							
	28-55	ZC	05Y 52						0	0		0		M					
	55-70	HZCL	05Y 62						0	0	CH	40		M				Y	IMP70 CHDRIFT

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	
54	0-26	HZCL	10YR32						0	0	HR	1							
	26-52	C	05Y 61	10YR66	F	D			0	0		0		M			Y	Y	PLASTIC
	52-80	C	05Y 62	10YR58	C	D		Y	0	0		0		P			Y	Y	PLASTIC
56	0-28	C	25Y 41						0	0		0							
	28-45	C	25Y 52	10YR56	F	D			0	0		0		M					
	45-90	C	25Y 51, 52	10YR58	C	D		Y	0	0		0		P			Y		PLASTIC
58	0-28	HZCL	10YR41						0	0		0							
	28-45	C	25Y 51	10YR56	F	D			0	0		0		M					PLASTIC
	45-90	C	05Y 51	10YR58	M	D		Y	0	0		0		P			Y		PLASTIC
60	0-28	HCL	10YR42						0	0	HR	2							
	28-45	C	25Y 42	10YR46	F	F	FEW MN		0	0		0		M					
	45-55	HZCL	25Y 52	10YR56	F	D			0	0	CH	25		M				Y	
	55-120	C	05Y 62	10YR58	C	D		Y	0	0	CH	5		P			Y	Y	PLASTIC
62	0-27	HCL	10YR32						0	0	HR	1							
	27-55	C	10YR42						0	0	HR	3		M					
	55-80	ZC	05Y 62						0	0		0		M					IMP80 FLINTS
64	0-22	HZCL	10YR42						0	0	HR	1							
	22-55	C	05Y 52				FEW MN		0	0		0		M				Y	
	55-70	C	05Y 52	10YR66	C	D		Y	0	0		0		P			Y	Y	PLASTIC
66	0-27	HZCL	10YR32	10YR46	F	D	FEW MN		0	0	HR	1							1P LOCATION
	27-56	C	05Y 62				FEW MN		0	0		0		M				Y	
	56-80	C	05Y 61	10YR58	C	D		Y	0	0		0		P			Y	Y	PLASTIC
68	0-30	C	25Y 32						0	0		0							
	30-55	C	25Y 41	10YR46	F	D			0	0	ZR	10		M					
	55-100	C	05Y 51	10YR58	C	D		Y	0	0	ZR	5		P			Y		PLASTIC
70	0-22	HCL	10YR41						0	0		0							
	22-55	ZC	05Y 52	10YR58	F	F			0	0		0		M					PLASTIC
	55-120	ZC	05Y 62	10YR58	C	D		Y	0	0		0		P			Y		PLASTIC
72	0-28	HCL	10YR42	10YR46	F	D			0	0		0							
	28-75	C	05Y 52	10YR58	C	D		Y	0	0	ZR	5		P			Y		PLASTIC
	75-120	ZC	05Y 41	10YR58	C	D		Y	0	0		0		P			Y		PLASTIC
75	0-22	HZCL	10YR42						0	0	HR	1							
	22-45	C	05Y 61				FEW MN		0	0		0		M					PLASTIC
	45-80	C	05Y 61	10YR58	M	D	FEW MN	Y	0	0		0		P			Y	Y	PLASTIC
77	0-33	MZCL	25Y 42						0	0	HR	2						Y	Q.DISTURBED
	33-55	HZCL	05Y 63						0	0	CH	25		M				Y	+5% HR
	55-90	HZCL	05Y 62						0	0	CH	40		M				Y	+10% HR
	90-120	C	05Y 51	10YR58	M	D	FEW MN	Y	0	0	CH	10		P			Y	Y	

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	
79	0-28	HZCL	10YR42						0	0		0							
	28-85	C	05Y 42 52	10YR56	F	D			0	0		0		M					
	85-120	ZC	05Y 52 62	10YR58	C	D	FEW MN	Y	0	0	ZR	5		P		Y			PLASTIC
81	0-30	HCL	10YR42						0	0	HR	2							
	30-60	C	25Y 63	10YR58	M	D		Y	0	0		0		P		Y			PLASTIC
	60-85	ZC	05Y 53 62	10YR58	F	D			0	0	ZR	5		M					PLASTIC
	85-90	ZC	05Y 53 62	10YR58	C	D		Y	0	0	ZR	30		P		Y			WEATHERED ZR
83	0-35	HZCL	25Y 31						0	0		0							
	35-50	C	05Y 42						0	0	CH	8		M				Y	
	50-75	C	05Y 52	10YR56	F	F			0	0	CH	5		M				Y	
	75-120	C	05Y 52	10YR56	C	D		Y	0	0	CH	5		P		Y		Y	
87	0-23	MZCL	10YR32						0	0	HR	1							
	23-35	HCL	10YR42						0	0		0		M					
	35-65	C	05Y 63						0	0		0		M					
	65-100	HZCL	05Y 62						0	0		0		M					
88	0-28	HZCL	10YR32						0	0	ZR	1							+1% HR
	28-100	ZC	05Y 52	10YR66	F	F			0	0		0		M					PLASTIC
90	0-28	HZCL	10YR42						0	0		0							4P LOCATION
	28-50	C	05Y 42						0	0		0		M					
	50-120	C	05Y 52 62	10YR56	F	D			0	0	ZR	5		M					PLASTIC
92	0-18	HZCL	10YR43						0	0	HR	1							2P LOCATION
	18-35	C	10YR41				FEW MN		0	0		0		M					
	35-70	HCL	05Y 63	10YR68	C	D		Y	0	0		0		M					
	70-100	HZCL	05Y 62	10YR68	F	D			0	0		0		M					
94	0-28	HZCL	10YR31						2	0	ZR	4						Y	
	28-70	C	25Y 52						0	0		0		M				Y	
	70-120	C	25Y 52	10YR66	F	F			0	0		0		M				Y	PLASTIC
96	0-27	HCL	10YR41						0	0	HR	1							
	27-45	C	05Y 52						0	0		0		M					
	45-100	C	05Y 62	10YR58	F	D			0	0		0		M				Y	PLASTIC
98	0-27	HCL	10YR32				FEW MN		0	0	HR	1							
	27-45	C	05Y 62						0	0		0		M					
	45-70	HCL	05Y 63						0	0	ZR	20		M					IMPZR 70
99	0-25	HZCL	10YR32						0	0	HR	1							
	25-55	HCL	10YR41				FEW MN		0	0		0		M					
	55-75	C	05Y 63						0	0		0		M					
	75-100	HZCL	05Y 62						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	
100	0-35	MZCL	10YR31						0	0	ZR	2						Y	
	35-45	HZCL	05Y 53						0	0		0		M				Y	
	45-60	C	05Y 72	10YR66	F	F			0	0	CH	3		M				Y	
	60-100	C	05Y 72	10YR66	C	F		Y	0	0	CH	3		P		Y		Y	PLASTIC
102	0-25	MZCL	10YR32						0	0	HR	1							+1% ZR
	25-50	HCL	25Y 52	10YR58	F	F			0	0	ZR	2		M					
	50-65	HCL	05Y 52	10YR66	C	D		Y	0	0		0		P		Y			
	65-75	C	05Y 52	10YR66	C	D		Y	0	0		0		P		Y			IMP75 CHDRIFT
103	0-25	HZCL	10YR31						0	0	HR	1							
	25-45	HCL	10YR41						0	0		0		M					
	45-65	HZCL	05Y 63						0	0		0		M					
	65-100	MZCL	05Y 62						0	0		0		M					+WEATHERED ZR
104	0-35	HZCL	10YR31						0	0	ZR	2						Y	3P LOCATION
	35-50	HZCL	25Y 52						0	0		0		M				Y	
	50-65	HCL	05Y 72						0	0	CH	20		M				Y	
	65-100	HCL	05Y 72	10YR66	C	D		Y	0	0	CH	20		M				Y	FRIABLE
1P	0-25	HZCL	25Y 32						0	0		0							PIT @ ASP66
	25-44	C	05Y 52	10YR56	F	F	FEW MN		0	0		0	MDCAB	FM M	N			Y	COMPOUND MDMAB
	44-54	C	05Y 61	10YR58	F	D			0	0		0	MDCAB	FM M	N			Y	PLASTIC
	54-80	C	05Y 61	10YR58	C	D	FEW MN	Y	0	0		0	MDCAB	FM P	Y		Y	Y	PIT60 AUG120
2P	0-28	HZCL	10YR42						0	0		0							PIT @ ASP92
	28-42	C	05Y 52				05Y 41		0	0		0	WKCSAB	FR M	N				
	42-71	HZCL	25Y 53	10YR68	C	D	25Y 51 41	Y	0	0		0	MDCAB	FR M	N				BORDER ZC
	71-120	HZCL	25Y 72	10YR68	F	D			0	0	ZR	15	WKCAB	FR M	N				PIT85 AUG120
3P	0-25	HZCL	10YR32						0	0	HR	2						Y	+2%ZR @ASP104
	25-42	HZCL	25Y 52						0	0	HR	2	MDCAB	FR M				Y	+2% ZR
	42-75	MZCL	25Y 63						0	0	CH	23	WKVCPL	FR P				Y	ROOTS STOP @75
	75-120	MZCL	25Y 72						0	0	CH	23	WKVCPL	FR P				Y	PIT90 AUG120
4P	0-25	HCL	10YR41						0	0		0							PIT @ ASP90
	25-55	C	05Y 42						0	0		0	MDCAB	FR M					PLASTIC
	55-120	HZCL	05Y 52						0	0		0	MDCAB	FR M					PIT80 AUG120

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	SU38709000	PGR			28	28	4	3B	82	-24	88	-10	3B				WE	3B	
3	SU38909000	CER			30	30	4	3B	81	-25	86	-12	3B				WE	3B	
5	SU39108998	PLO			20	20	4	3B	82	-24	88	-10	3B				WE	3B	PLASTIC 20+
7	SU39208998	PLO			27	27	4	3B	92	-14	104	6	3A				WE	3B	
9	SU38808990	PGR					1	3A	92	-14	101	3	3A				WD	3A	IMP80 CHDRIFT
11	SU38988991	CER			24	24	4	3B	86	-20	92	-6	3A				WE	3B	
13	SU39208990	PLO					1	2	101	-5	107	9	3A				DR	3A	IMP80 CHDRIFT
15	SU38708980	PGR			28	28	4	3B	82	-24	88	-10	3B				WE	3B	
17	SU38868978	CER					1	2	92	-14	104	6	3A				DR	3A	IMP70 CHDRIFT
19	SU39108980	PLO			28	28	4	3B	112	6	104	6	2				WE	3B	PLASTIC 28+
21	SU39308980	PGR			55	55	2	3A	135	29	113	15	2				WE	3A	
23	SU38808970	CER			26	26	4	3B	90	-16	102	4	3A				WE	3B	
25	SU39058970	PLO					1	2	92	-14	102	4	3A				DR	3A	IMP90 CHDRIFT
27	SU39208970	PLO					1	2	99	-7	110	12	3A				DR	3A	GWATER 100
29	SU39358970	PGR			55	55	2	3A	128	22	105	7	2				WE	3A	
31	SU38708960	CER			30	30	4	3B	90	-16	102	4	3A				WE	3B	
33	SU38908960	PLO					1	2	93	-13	102	4	3A				DR	3A	
35	SU39108960	PLO	E	1			1	2	92	-14	101	3	3A				DR	3A	IMP60 1P LOC
37	SU39308960	PLO			27	27	4	3B	110	4	107	9	3A				WE	3B	
39	SU38608950	CER			28	28	4	3B	123	17	101	3	2				WE	3B	2P LOC
41	SU38808950	PLO					1	2	93	-13	102	4	3A				DT	3A	OLD RUNWAY
43	SU39008950	PLO					1	2	97	-9	106	8	3A				DR	3A	1P ROOTDEP
45	SU39208950	PLO	E	1			1	2	128	22	106	8	2				WD	2	GWATER 90
47	SU39408950	PLO	E	1			1	2	111	5	105	7	3A				WD	3A	IMP100 CHDRIF
50	SU38708940	CER					1	2	104	-2	113	15	3A				DR	3A	
52	SU38908940	PLO					1	2	97	-9	102	4	3A				DR	3A	
54	SU39108940	PLO					1	1	98	-8	107	9	3A				DR	3A	IMP90 CHDRIFT
55	SU39208940	PGR			20		2	3B	45	-61	45	-53	4				DR	4	IMP30 CONCRETE
58	SU39508937	STB			45	45	3	3B	115	9	104	6	2				WE	3B	
59	SU38608930	CER			35	35	4	3B	119	13	93	-5	2				WE	3B	
61	SU38808930	PLO			38	38	4	3B	129	23	107	9	2				WE	3B	
63	SU39008930	PLO					1	2	95	-11	105	7	3A				DR	3A	IMP70 CHDRIFT
67	SU39408930	STB					1	2	99	-7	110	12	3A				DR	3A	IMP85 4P LOC
69	SU38708920	PLO					1	2	112	6	118	10	2				DW	2	C PLASTIC 70+
71	SU38908920	PLO					1	3A	108	2	112	14	3A				DW	3A	IMP100 CHDRIF
73	SU39108920	PLO			28	28	4	3B	127	21	105	7	2				WE	3B	
74	SU39208920	PLO			55	55	2	3A	134	28	111	13	2				WE	3A	
75	SU39348922	STB					1	2	112	6	112	14	2				WD	2	IMP100 CHDRIFT
1P	SU39108960	PLO					2	3A	88	-18	96	-2	3A				WD	3A	ROOTS VIS 64
2P	SU38608950	CER			33	33	4	3B	89	-17	95	-3	3A				WE	3B	PIT60 GWATER35
3P	SU39808940	PLO			30	30	4	3B	75	-31	81	-17	3B				WE	3B	PIT IMP 60
4P	SU39408930	STB					1	2	95	-11	107	9	3A				DR	3A	ROOTS VIS 70

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	0-28	C	25Y 42	10YR46	F	D	FEW MN		0	0	HR	2							
	28-60	C	25Y 62	10YR58	M	D		Y	0	0	HR	2		P			Y		
3	0-30	C	25Y 42						0	0	HR	3						Y	
	30-60	C	25Y 52	10YR58	M	D	COM MN	Y	0	0	HR	5		P			Y		
5	0-20	HCL	10YR42						0	0	HR	1							
	20-45	C	05Y 52	10YR56	C	D		Y	0	0		0		P			Y		PLASTIC
	45-60	C	25Y 51	10YR46	M	D		Y	0	0		0		P			Y		PLASTIC
7	0-27	HCL	10YR42						0	0	HR	1							
	27-55	C	05Y 52	10YR56	C	D	FEW MN	Y	0	0		0		P			Y		PLASTIC
	55-70	C	25Y 51	10YR46	M	D		Y	0	0		0		P			Y		PLASTIC
9	0-28	C	25Y 42						0	0	HR	3							
	28-45	C	05Y 52						0	0	HR	10		M				Y	
	45-80	HZCL	05Y 72						0	0	CH	40		M				Y	IMP80 CHDRIFT
11	0-24	HZCL	10YR42						0	0	HR	1							
	24-40	C	05Y 52	10YR46	C	D		Y	0	0		0		P			Y		
	40-60	C	25Y 51	10YR46	M	D		Y	0	0		0		P			Y		
13	0-20	HCL	10YR42						0	0	HR	2							
	20-55	ZC	05Y 52	10YR46	F	F			0	0	HR	5		P					PLASTIC
	55-80	MZCL	05Y 52						0	0	CH	40		M				Y	
15	0-28	C	25Y 41	10YR46	F	D			0	0	HR	2							
	28-60	C	25Y 61	10YR58	M	D	FEW MN	Y	0	0		0		P			Y		PLASTIC
17	0-30	HZCL	25Y 42						4	0	HR	15						Y	
	30-60	C	25Y 43	10YR46	F	F			0	0	HR	10		M				Y	
	60-70	HZCL	05Y 52						0	0	CH	40		M				Y	IMP70 CHDRIFT
19	0-28	HCL	10YR42						0	0	HR	2						Y	
	28-65	C	05Y 62	10YR56	C	D		Y	0	0		0		P			Y	Y	PLASTIC
	65-100	C	25Y 62	10YR58	M	D		Y	0	0	HR	5		P			Y	Y	PLASTIC
21	0-22	HZCL	25Y 3242						0	0	HR	2							
	22-55	C	25Y 42	10YR46	F	F			0	0		0		M					
	55-85	C	05Y 42	10YR46	C	D		Y	0	0		0		P			Y		
	85-120	C	05Y 5262	10YR58	M	D		Y	0	0	CH	2		P			Y	Y	
23	0-26	HCL	10YR42						0	0	HR	2							
	26-70	C	25Y 5152	10YR58	M	D		Y	0	0	HR	2		P			Y		PLASTIC
25	0-22	HZCL	10YR31						0	0	HR	5						Y	
	22-55	ZC	05Y 52						0	0	HR	10		M				Y	
	55-90	MZCL	05Y 52						0	0	HR	40		M				Y	IMP90 CHDRIFT

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	0-24	HZCL	10YR31						1	0	HR	5						Y	
	24-60	C	10YR41						0	0	HR	10		M				Y	
	60-100	MZCL	05Y 52						0	0	CH	40		M				Y	GWATER 100
29	0-30	C	25Y 32						0	0	HR	3						Y	
	30-45	C	25Y 42						0	0	HR	3		M				Y	
	45-55	C	05Y 42						0	0	CH	25		M				Y	
	55-75	C	05Y 4252	10YR58	C	F	FEW MN	Y	0	0	CH	5		P		Y		Y	
	75-120	C	05Y 52	10YR58	M	D		Y	0	0	CH	5		P		Y		Y	
31	0-30	C	10YR42						0	0	HR	2							
	30-70	C	25Y 4252	10YR58	M	D		Y	0	0		0		P		Y			
33	0-25	C	25Y 42						1	0	HR	3						Y	
	25-45	C	05Y 52						0	0	CH	5		M				Y	
	45-90	MZCL	05Y 73						0	0	CH	45		M				Y	SAT'D 60+
35	0-22	HZCL	10YR31						0	0	HR	5							
	22-45	ZC	05Y 52						0	0	HR	10		M					
	45-60	MZCL	05Y 52						0	0	CH	40		M				Y	IMP60 CHDRIFT
37	0-27	HZCL	10YR31						0	0	HR	3						Y	
	27-60	C	25Y 52	10YR66	C	D		Y	0	0		0		P		Y		Y	
	60-75	ZC	05Y 62						0	0	CH	10		M				Y	
	75-120	MZCL	05Y 62	10YR66	C	D		Y	0	0	CH	20		M				Y	
39	0-28	C	25Y 42						0	0	HR	2							
	28-50	C	05Y 52	10YR58	C	D	FEW MN	Y	0	0		0		P		Y			
	50-75	C	05Y 52	10YR58	M	D	COM MN	Y	0	0		0		P		Y			
	75-120	C	05Y 62	10YR58	M	D		Y	0	0	HR	5		P		Y		Y	
41	0-28	HZCL	25Y 42						6	2	HR	15						Y	
	28-33	HCL	10YR56						0	0	HR	25		M				Y	
	33-60	C	05GY61	10YR58	F	D			0	0	CH	20		M				Y	
	60-100	CH	05GY71						0	0	HR	2		P				Y	OLD RUNWAY
43	0-25	HZCL	25Y 32						1	0	HR	5							
	25-45	C	25Y 42						0	0	HR	5		M					
	45-90	MZCL	05GY61						0	0	CH	40		M				Y	IMP90 CHDRIFT
45	0-26	HCL	10YR32						0	0	HR	5							
	26-45	C	05Y 52						0	0		0		P					
	45-90	ZC	05Y 63						0	0	CH	10		M					
	90-120	MZCL	05Y 63						0	0	CH	40		M				Y	GWATER 90
47	0-26	HCL	10YR32						0	0	HR	3							
	26-50	C	05Y 52				FEW MN		0	0		0		P					
	50-80	ZC	05Y 63	10YR46	F	D			0	0	CH	20		M				Y	
	80-100	MZCL	05Y 63						0	0	CH	40		M				Y	IMP100 CHDRIFT

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	
50	0-30	HZCL	25Y 42						0	0	HR	5							
	30-50	C	05Y 53						0	0	CH	3		M				Y	
	50-75	HZCL	05Y 63						0	0	CH	50		M				Y	
	75-120	CH	05Y 72						0	0	HR	2		P				Y	
52	0-25	C	25Y 32						1	0	HR	8						Y	
	25-35	C	25Y 42						0	0	CH	5		M				Y	
	35-75	MZCL	05Y 63						0	0	CH	50		M				Y	
	75-120	CH	05Y 82						0	0		0		P				Y	
54	0-25	MZCL	25Y 42						1	0	HR	3						Y	
	25-45	C	05Y 52	10YR46	F	D			0	0	HR	3		M				Y	
	45-90	MZCL	05Y 72						0	0	CH	40		M				Y	IMP90 CHDRIFT
55	0-20	C	25Y 32						0	0	HR	10						Y	RUNWAY'S EDGE
	20-30	C	05Y 53	10YR58	C	F		Y	0	0	HR	10		M				Y	IMP CONCRETE
58	0-25	C	10YR32						0	0	HR	2							
	25-45	C	10YR41						0	0		0		M					
	45-65	ZC	10YR41	10YR66	C	D	FEW MN	Y	0	0		0		P		Y			PLASTIC
	65-100	ZC	05Y 52	10YR46	C	D	FEW MN	Y	0	0	CH	15		P		Y	Y		
59	0-25	C	25Y 42						1	0	HR	5						Y	
	25-35	C	25Y 4252	10YR56	F	D			0	0		0		M				Y	
	35-65	C	25Y 53	10YR58	C	D		Y	0	0		0		P		Y			
	65-100	C	25Y 52	10YR58	M	D		Y	0	0		0		P		Y			
	100-120	C	05Y 62						0	0		0		P					
61	0-25	HZCL	25Y 42						0	0	HR	3						Y	
	25-38	C	25Y 42				FEW MN		0	0	CH	5		M				Y	
	38-75	C	05Y 41	10YR58	C	D		Y	0	0	HR	3		P		Y	Y		
	75-120	C	05Y 51	10YR58	M	D		Y	0	0	HR	3		P		Y			
63	0-26	C	25Y 42						1	0	HR	5						Y	
	26-48	C	05Y 4151						0	0	CH	15		M				Y	
	48-70	HZCL	05Y 5253						0	0	CH	40		M				Y	IMP70 CHDRIFT
67	0-25	C	10YR32						0	0	HR	2							
	25-45	C	10YR41						0	0		0		M					
	45-60	ZC	05Y 52	10YR66	F	F			0	0	CH	10		M					
	60-85	HZCL	05Y 52						0	0	CH	40		M				Y	IMP85 CHDRIFT
69	0-30	HZCL	25Y 42						1	0	HR	3						Y	
	30-50	C	05Y 41	10YR46	F	D			0	0		0		M				Y	
	50-70	C	05Y 42	10YR46	F	F			0	0	CH	10		M				Y	
	70-120	ZC	05Y 5253						0	0	CH	35		P				Y	PLASTIC
71	0-25	C	25Y 42						0	0	HR	2							
	25-55	C	25Y 4252	10YR46	F	D			0	0		0		M					
	55-70	ZC	05Y 53	10YR56	F	D			0	0	CH	5		M				Y	
	70-100	MZCL	05GY61						0	0	CH	40		M				Y	IMP100 CHDRIFT

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
73	0-28	HZCL	25Y 42						0	0	HR	3							
	28-55	C	25Y 51	10YR58	C	D		Y	0	0		0		P			Y		
	55-120	C	05Y 51	10YR58	C	D		Y	0	0	HR	5		P			Y	Y	
74	0-25	HZCL	25Y 42						0	0	HR	3							
	25-35	C	25Y 41						0	0	HR	5		M					
	35-55	C	05Y 52	10YR58	C	D			0	0	HR	3		M					
	55-120	C	05Y 61	10YR58	C	D		Y	0	0	CH	20		P			Y	Y	
75	0-28	C	10YR32						0	0	HR	2						Y	
	28-55	C	10YR41	10YR46	F	D	FEW MN		0	0		0		M				Y	
	55-75	ZC	05Y 52	10YR46	F	F	FEW MN		0	0		0		M					
	75-100	MZCL	05Y 63						0	0	CH	40		M				Y	IMP100 CHDRIFT
1P	0-23	HZCL	10YR32						1	0	HR	5							
	23-43	ZC	05Y 52						0	0	HR	19	MDCSAB	FR	M				
	43-64	HZCL	05Y 62						0	0	CH	22	WKCSAB	FR	M			Y	ROOTS VIS 64
2P	0-33	HCL	10YR42						0	0	HR	1							
	33-60	C	05Y 52	10YR56	M	D		Y	0	0		0	MDCAB	FM	P	Y	Y		PIT60 GWATER35
3P	0-25	C	25Y 32						5	1	HR	12						Y	
	25-30	HCL	10YR58						0	0	HR	30			M			Y	
	30-60	C	25Y 42	10YR58	M	D		Y	0	0	HR	5	MDCAB	FM	P	Y	Y	Y	PIT IMP 60
4P	0-28	C	25Y 32						0	0	CH	2						Y	
	28-48	C	25Y 41						0	0	CH	3	MDVCAB	FR	M			Y	
	48-58	ZC	05Y 53	10YR46	F	D			0	0	CH	8	MDCAB	FR	M			Y	
	58-70	HZCL	05Y 63						0	0	CH	32			P			Y	ROOTS VIS 70

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SAMPLE NO.	GRID REF	ASPECT USE	GRDNT	GLEY	SPL	WETNESS CLASS	WETNESS GRADE	WHEAT AP	WHEAT MB	POTS AP	POTS MB	M.REL DRT	EROSN FLOOD	FROST EXP	CHEM DIST	ALC LIMIT	COMMENTS
1	SU39608960	PGR		30	30	4	3B	94	-12	105	6	3A				WE	3B SEE PIT 1P
14	SU39708920	PLO		27	27	2	2	117	11	111	12	2				WD	2 NOT SPL DEPTH
16	SU39908920	PLO		28	28	4	3B	93	-13	104	5	3A				WE	3B SEE PIT 1P
19	SU39608910	PLO		28	28	4	3B	141	35	107	8	2				WE	3B SEE PIT 1P
21	SU39808910	PLO		35	35	4	3B	116	10	107	8	2				WE	3B SEE PIT 1P
23	SU40028902	PGR W	3	20	20	4	3B	124	18	102	3	2				WE	3B SEE PIT 1P
24	SU39708900	PLO		50	50	2	2	99	-7	111	12	3A				WD	2 N/GLEY U/SS
26	SU39908900	PLO		30	30	4	3B	112	6	104	5	2				WE	3B SEE PIT 1P
1P	SU39808910	PLO		25	36	4	3B	85	-21	89	-10	3B				WE	3B AT ASP 21

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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	0-30	HZCL	10YR41						0	0	SLST	2						Y	
	30-70	C	25Y 42	10YR46	C	F		Y	0	0	SLST	2		P		Y	Y	Y	DENSE SEE 1P
14	0-27	HZCL	10YR41						0	0	HR	2						Y	
	27-45	C	25Y 42	10YR46	C	D		Y	0	0	HR	2		P		Y	Y	Y	NOT SPL DEPTH
	45-90	HZCL	05Y 62	10YR56	C	D		Y	0	0	HR	2		M				Y	FRIABLE M'STONE?
16	0-28	HZCL	10YR41						0	0	HR	2						Y	
	28-70	C	25Y 42	10YR46	C	F		Y	0	0	SLST	2		P		Y	Y	Y	DENSE SEE 1P
19	0-28	HZCL	10YR41						0	0	HR	2						Y	
	28-60	C	25Y 42	10YR46	C	D		Y	0	0	HR	2		P		Y	Y	Y	DENSE SEE 1P
	60-120	HZCL	05Y 62	10YR56	C	D		Y	0	0	SLST	8		M				Y	FRIABLE M'STONE?
21	0-35	HZCL	10YR41						0	0	HR	4						Y	
	35-60	C	25Y 42	10YR46	C	F		Y	0	0	HR	2		P		Y	Y	Y	DENSE SEE 1P
	60-100	C	05Y 52	10YR56	58 C	D		Y	0	0	HR	2		P		Y	Y	Y	DENSE+PLASTIC
23	0-20	HZCL	10YR32						0	0		0						Y	
	20-80	C	25Y 31	10YR56	C	D		Y	0	0	SLST	2		P		Y	Y	Y	DENSE SEE 1P
	80-120	C	05Y 52	10YR56	58 C	D		Y	0	0	SLST	5		P		Y	Y	Y	DENSE+PLASTIC
24	0-28	HZCL	10YR41						0	0	HR	2						Y	+2% SLST
	28-50	C	25Y 52						0	0	HR	2		M				Y	+2% SLST
	50-70	C	25Y 42	10YR46	56 C	D		Y	0	0	HR	2		P		Y	Y	Y	DENSE SEE 1P
26	0-30	HZCL	10YR41						0	0	SLST	4							
	30-55	C	25Y 42	10YR46	C	D		Y	0	0	SLST	2		P		Y	Y	Y	DENSE SEE 1P
	55-100	C	05Y 52	10YR56	58 C	D		Y	0	0	SLST	6		P		Y	Y	Y	DENSE+PLASTIC
1P	0-25	HZCL	10YR41						1	0	SLST	2						Y	
	25-36	C	25Y 52	10YR58	C	D		Y	0	0	HR	2	MDCSAB FM	M				Y	
	36-56	C	25Y 42	10YR56	M	D		Y	0	0	SLST	1	MDCAB FM	P	Y	Y	Y	Y	DENSE