

5. Listing of Properties by Soil Type

Table 28.1 Alta clay loam

Soil Type	Alta clay loam		Soil Group	5		Irrigation District	RO									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	6	33.9	14.4	23.6	62.7	26.0	29.9	31.1	6	63.8	3.0	59.5	67.3	61.8	63.6	67.0
Silt%	6	29.3	3.2	25.0	34.1	26.5	29.7	30.4	6	20.4	4.6	13.9	24.9	17.3	20.9	24.4
Sand%	6	36.9	13.1	10.9	46.5	39.3	39.9	44.8	6	15.8	3.8	11.0	20.9	12.6	15.7	19.2
Bulk density (g/cm3)	6	1.38	0.08	1.29	1.51	1.30	1.38	1.43	6	1.45	0.03	1.41	1.51	1.43	1.44	1.46
Organic matter (%)	5	5.86	1.27	4.8	8	5.03	5.5	6.43	5	2.2	0.26	1.8	2.5	2.03	2.3	2.35
Depth of horizon (mm)	6	162	16.0	130	170	160	170	170	2	140		110	170			
Soil Chemical Properties																
EC (dS/cm)	5	0.45	0.12	0.31	0.64	0.38	0.44	0.51	5	0.42	0.16	0.24	0.64	0.29	0.4	0.55
pH (H2O)	5	6.7	0.2	6.5	6.9	6.5	6.8	6.8	5	7.5	0.1	7.3	7.7	7.4	7.5	7.6
pH (CaCl2)	5	6.2	0.1	6.1	6.4	6.1	6.2	6.3	5	6.9	0.1	6.8	7.0	6.8	6.9	6.9
Ca (meq/100g)	5	8.8	1.0	7.8	9.8	7.8	9.2	9.6	5	8.7	1.2	6.7	9.9	8.4	8.9	9.4
Mg (meq/100g)	5	7.3	0.7	6.5	8.2	6.8	7.2	8.0	5	10.2	1.5	7.9	12.0	9.5	10.0	11.3
Na (meq/100g)	5	1.8	0.4	1.4	2.4	1.6	1.8	2.0	5	3.7	0.6	2.9	4.3	3.2	4.0	4.2
K (meq/100g)	5	1.1	0.3	0.8	1.4	0.9	0.9	1.3	5	2.0	0.3	1.8	2.6	1.9	1.9	2.2
ESP (%)	5	9.6	2.3	7.6	13.6	8.3	9.0	10.5	5	15.2	2.5	10.9	17.2	14.1	16.1	16.7
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	5	38.7	26.2	15.8	82.5	20.7	32.6	50.9	4	1.86	1.33	0.54	3.67	0.95	1.62	2.78
Final infiltration rate (mm/hr)									5	0.41	0.47	0.06	1.2	0.08	0.20	0.66
Available water capacity (%)	2	14.8		10.6	18.9				2	12.3		10.9	13.8			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	53.5		53.1	53.8				2	61.4		61.3	61.5			
10	2	48.0		47.3	48.7				2	48.6		45.1	52.1			
60	2	45.5		44.0	47.0				2	46.7		43.6	49.9			
1500	2	33.2		28.4	38.1				2	36.3		34.3	38.3			

Table 28.2 Boosey loam

Soil Type	Boosey loam		Soil Group	6		Irrigation District	MV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	2	24.9		17.7	32.2				2	51.8		51.3	52.3			
Silt%	2	37.4		36.7	38.1				2	28.9		28.3	29.5			
Sand%	2	37.7		31.1	44.3				2	19.3		18.2	20.5			
Bulk density (g/cm ³)	2	1.63		1.61	1.65				2	1.52		1.47	1.57			
Organic matter (%)	1	3.8							1	1.7						
Depth of horizon (mm)	2	185		180	190				2	140		120	160			
Soil Chemical Properties																
EC (dS/cm)	1	0.13							1	0.09						
pH (H ₂ O)	1	6.2							1	7.0						
pH (CaCl ₂)	1	5.5							1	6.0						
Ca (meq/100g)	1	6.2							1	7.5						
Mg (meq/100g)	1	3.2							1	5.8						
Na (meq/100g)	1	0.7							1	1.2						
K (meq/100g)	1	0.2							1	0.5						
ESP (%)	1	7.2							1	8.0						
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	2	11.6		7.10	16.2				2	0.24		0.03	0.46			
Final infiltration rate (mm/hr)									1	0.42						
Available water capacity (%)	2	6.11		5.5	6.72				2	11.5		10.4	12.5			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	40.5		39.5	41.5				2	43.3		42.7	44.0			
10	2	37.4		35.0	39.7				2	41.9		41.4	42.4			
60	2	34.3		31.5	37.1				2	39.7		39.6	39.8			
1500	2	31.2		29.5	33.0				2	30.4		29.9	31.0			

Table 28.3 Boosey loam friable phase

Soil Type	Boosey loam friable phase		Soil Group	6		Irrigation District	MV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	4	19.4	3.9	16.1	24.0	16.2	18.8	22.6	4	42.5	15.1	21.3	57.0	33.1	45.9	52.0
Silt%	4	33.8	1.7	32.5	36.3	32.7	33.2	34.9	4	28.5	4.4	24.5	33.6	24.8	27.9	32.2
Sand%	4	46.8	3.5	43.1	51.4	44.2	46.4	49.4	4	29.0	12.0	18.0	45.2	20.1	26.5	37.9
Bulk density (g/cm3)	4	1.64	0.08	1.53	1.72	1.59	1.66	1.7	4	1.68	0.13	1.55	1.86	1.6	1.65	1.75
Organic matter (%)	4	4.35	1.48	3.1	6.5	3.45	3.9	5.25	4	1.58	0.61	0.7	2.1	1.2	1.75	1.95
Depth of horizon (mm)	4	168	25	140	200	150	165	185	0							
Soil Chemical Properties																
EC (dS/cm)	4	0.08	0.03	0.04	0.12	0.06	0.08	0.1	4	0.07	0.02	0.04	0.09	0.05	0.07	0.08
pH (H2O)	4	5.6	0.2	5.4	5.9	5.5	5.6	5.8	4	6.7	0.6	6.1	7.2	6.2	6.7	7.2
pH (CaCl2)	4	4.9	0.1	4.8	5.0	4.9	4.9	5.0	4	5.6	0.6	5.1	6.1	5.1	5.6	6.1
Ca (meq/100g)	4	5.0	0.5	4.5	5.7	4.6	4.8	5.3	4	5.5	1.6	3.2	6.5	4.5	6.1	6.5
Mg (meq/100g)	4	1.4	0.4	1.0	1.8	1.1	1.4	1.7	4	4.4	2.2	1.3	6.4	3.0	4.9	5.7
Na (meq/100g)	4	0.4	0.1	0.2	0.5	0.3	0.4	0.5	4	0.8	0.5	0.2	1.3	0.5	0.9	1.1
K (meq/100g)	4	0.3	0.1	0.2	0.5	0.2	0.3	0.4	4	0.6	0.3	0.2	1.0	0.3	0.6	0.8
ESP (%)	4	5.5	1.5	3.3	6.4	4.6	6.1	6.3	4	6.7	2.1	3.7	8.6	5.5	7.3	8.0
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	4	9.66	1.46	8.28	11	8.40	9.68	10.9	0							
Final infiltration rate (mm/hr)									4	0.02	0.03	0.003	0.06	0.007	0.02	0.04
Available water capacity (%)	2	13.9		13.7	14.2				2	14.7		12.8	16.5			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	43.7		42.2	45.2				2	43.8		39.7	47.8			
10	2	39.9		38.7	41.1				2	38.3		34.2	42.5			
60	2	36.1		35.2	37.0				2	33.6		28.2	39.0			
1500	2	26.0		25.1	26.9				2	23.7		17.6	29.8			

Table 28.4 Carag clay

Soil Type	Carag clay		Soil Group	6		Irrigation District	RO									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	4	23.6	4.3	19.6	29.5	20.6	22.7	26.6	4	58.4	3.7	54.2	62.1	55.3	58.7	61.5
Silt%	4	28.8	4.7	23.9	32.9	24.7	29.2	32.8	4	17.8	1.7	15.2	18.8	16.8	18.5	18.8
Sand%	4	47.6	6.0	43.4	56.5	44.2	45.3	51.0	4	23.8	4.5	19.5	28.3	19.9	23.7	27.6
Bulk density (g/cm3)	4	1.58	0.16	1.36	1.72	1.45	1.61	1.7	4	1.47	0.06	1.41	1.56	1.42	1.45	1.51
Organic matter (%)	4	4.9	0.75	4	5.7	4.3	4.95	5.5	4	2.85	0.44	2.3	3.3	2.5	2.9	3.2
Depth of horizon (mm)	4	205	25.2	180	240	190	200	220	0							
Soil Chemical Properties																
EC (dS/cm)	4	0.1	0.01	0.08	0.11	0.09	0.1	0.11	4	0.11	0.03	0.07	0.14	0.08	0.11	0.13
pH (H2O)	4	5.8	0.4	5.5	6.4	5.6	5.7	6.1	4	7.3	0.4	7.0	7.8	7.1	7.2	7.6
pH (CaCl2)	4	5.2	0.4	4.9	5.7	5.0	5.1	5.4	4	6.4	0.3	6.1	6.8	6.2	6.3	6.6
Ca (meq/100g)	4	5.4	1.5	4.1	7.0	4.2	5.3	6.7	4	7.6	0.5	7.0	8.2	7.3	7.6	7.9
Mg (meq/100g)	4	4.2	1.2	3.2	5.7	3.3	3.9	5.1	4	9.8	1.1	8.4	11.0	9.1	9.9	10.5
Na (meq/100g)	4	0.6	0.2	0.4	0.8	0.4	0.5	0.7	4	1.6	0.6	1.0	2.2	1.1	1.7	2.2
K (meq/100g)	4	0.4	0.2	0.3	0.7	0.3	0.4	0.6	4	0.8	0.4	0.4	1.3	0.5	0.8	1.1
ESP (%)	4	5.3	1.2	4.2	6.7	4.3	5.1	6.2	4	8.0	2.6	5.3	10.4	5.8	8.2	10.2
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	4	21.0	9.56	12.8	30.1	12.8	20.7	29.3	4	0.95	0.34	0.44	1.14	0.76	1.11	1.14
Final infiltration rate (mm/hr)									4	0.03	0.02	0.01	0.05	0.01	0.03	0.05
Available water capacity (%)	2	15.7		15.0	16.3				2	15.6		15.5	15.7			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	50.2		48.0	52.4				2	59.9		59.9	60.0			
10	2	44.0		41.3	46.8				2	53.6		53.6	53.6			
60	2	40.2		36.9	43.6				2	49.5		48.3	50.6			
1500	2	28.4		24.9	31.8				2	38.0		37.9	38.1			

Table 28.5 Cobram loam

Soil Type	Cobram loam		Soil Group	2		Irrigation District	MV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	12	18.1	9.2	4.8	38.6	11.0	17.8	23.5	12	36.3	11.3	14.8	50.4	26.9	37.4	47.0
Silt%	12	32.1	6.5	24.7	48.2	27.5	31.1	35.0	12	25.0	5.6	15.4	34.0	21.2	25.3	27.6
Sand%	12	49.8	11.5	32.1	70.1	43.4	48.5	57.8	12	38.7	9.0	24.6	51.4	29.6	41.0	44.0
Bulk density (g/cm ³)	12	1.58	0.12	1.31	1.75	1.54	1.58	1.65	12	1.69	0.1	1.55	1.84	1.62	1.66	1.77
Organic matter (%)	6	3.95	0.93	2.9	5.1	3.1	4	4.6	6	1.98	0.36	1.4	2.5	1.9	2	2.1
Depth of horizon (mm)	12	192	24.4	150	220	170	200	210	8	211	62.4	100	280	170	225	260
Soil Chemical Properties																
EC (dS/cm)	6	0.16	0.07	0.07	0.25	0.08	0.16	0.21	6	0.19	0.17	0.04	0.48	0.06	0.12	0.3
pH (H ₂ O)	6	6.8	1.0	5.7	8.4	6.1	6.5	7.4	6	7.6	0.9	6.5	8.8	7.0	7.4	8.5
pH (CaCl ₂)	6	6.3	0.9	5.2	7.9	5.7	6.1	6.7	6	6.8	1.0	5.6	8.0	6.2	6.7	7.9
Ca (meq/100g)	6	6.9	1.2	5.6	8.4	6.1	6.5	8.2	6	5.9	2.3	2.9	8.6	3.7	6.2	7.6
Mg (meq/100g)	6	3.5	1.7	2.0	6.7	2.3	3.1	3.8	6	5.4	2.6	1.8	8.7	3.1	5.8	7.1
Na (meq/100g)	6	0.7	0.8	0.2	2.2	0.3	0.4	0.8	6	1.5	1.6	0.3	4.2	0.4	0.7	2.6
K (meq/100g)	6	0.8	0.8	0.2	2.2	0.2	0.6	1.2	6	1.0	0.8	0.2	2.0	0.3	0.7	2.0
ESP (%)	6	5.1	4.0	2.5	12.7	2.6	3.1	6.5	6	9.9	9.9	2.2	28.8	4.3	5.9	12.4
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	12	22.5	12.6	6.52	44.9	12.5	20.6	29.4	11	2.89	3.00	0.10	10.4	0.69	2.75	4.18
Final infiltration rate (mm/hr)									5	0.18	0.34	0.02	0.79	0.02	0.02	0.25
Available water capacity (%)	8	14.0	3.49	10.4	19.1	11.5	12.3	17.6	8	11.8	2.55	8.95	15.4	9.67	11.0	14.1
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	8	42.9	5.0	34.7	48.8	39.2	43.5	47.1	8	42.3	4.2	35.0	48.2	39.1	43.9	44.5
10	8	37.2	5.2	29.3	43.3	33.0	37.7	41.6	8	37.5	4.7	28.6	41.2	34.2	39.8	41.0
60	8	33.1	4.6	25.7	38.5	29.6	34.0	36.6	8	34.0	4.7	25.3	38.2	30.8	35.8	37.4
1500	8	23.1	3.4	17.9	29.4	21.3	23.3	24.2	8	25.7	4.3	19.4	30.3	22.3	26.2	29.5

Table 28.6 Cobram sandy loam & Ss

Soil Type	Cobram sandy loam & Ss		Soil Group	1D		Irrigation District	MV										
Soil Properties	Horizon A						Horizon B1										
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile			
						25	50	75						25	50	75	
Soil Physical Properties																	
Particle size distribution																	
Clay%	2	26.9		26.8	26.9				2	16.3		12.6	19.9				
Silt%	2	28.2		28.0	28.3				2	31.4		24.7	38.0				
Sand%	2	45.0		44.8	45.2				2	52.4		42.1	62.7				
Bulk density (g/cm ³)	2	1.63		1.58	1.69				2	1.71		1.67	1.74				
Organic matter (%)	2	3.55		3.3	3.8				2	2.6		2.1	3.1				
Depth of horizon (mm)	2	260		200	320				0								
Soil Chemical Properties																	
EC (dS/cm)	2	0.11		0.1	0.11				2	0.08		0.07	0.08				
pH (H ₂ O)	2	6.9		6.8	7.0				2	7.2		6.6	7.7				
pH (CaCl ₂)	2	6.4		6.3	6.5				2	6.6		6.1	7.1				
Ca (meq/100g)	2	6.3		6.0	6.5				2	4.1		3.5	4.7				
Mg (meq/100g)	2	5.3		5.1	5.5				2	2.5		1.9	3.0				
Na (meq/100g)	2	0.3		0.3	0.3				2	0.2		0.2	0.2				
K (meq/100g)	2	1.2		1.0	1.3				2	0.7		0.6	0.8				
ESP (%)	2	2.4		2.2	2.6				2	2.7		2.6	2.8				
Soil Hydraulic Properties																	
Sat. hydraulic conductivity (mm/hr)	2	28.8		24.3	33.4				2	19.9		9.81	29.9				
Final infiltration rate (mm/hr)									2	21.4		20.9	22				
Available water capacity (%)	0								0								
Soil water retention characteristic																	
Volumetric water content (%) at																	
 Matric suction (kPa)																	
0	0								0								
10	0								0								
60	0								0								
1500	0								0								

Table 28.7 Congupna clay

Soil Type	Congupna clay		Soil Group	6		Irrigation District	GV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	4	25.7	9.0	17.4	38.0	19.1	23.7	32.2	4	35.0	3.6	32.0	40.2	32.9	33.9	37.1
Silt%	4	32.9	4.3	27.2	40.3	31.7	31.9	34.4	4	36.2	2.4	32.7	38.3	34.8	37.0	37.6
Sand%	4	44.1	10.2	26.7	56.6	38.9	46.7	48.7	4	28.8	4.4	22.8	33.6	25.9	29.3	31.6
Bulk density (g/cm ³)	4	1.52	0.02	1.48	1.53	1.50	1.52	1.53	4	1.58	0.08	1.47	1.67	1.53	1.59	1.65
Organic matter (%)	4	3.63	0.54	2.9	4.2	3.25	3.7	4	4	1.6	0.2	1.3	1.8	1.45	1.7	1.73
Depth of horizon (mm)	4	195	12.9	180	210	185	195	205	0							
Soil Chemical Properties																
EC (dS/cm)	4	0.08	0.008	0.07	0.09	0.08	0.08	0.09	4	0.06	0	0.06	0.06	0.06	0.06	0.06
pH (H ₂ O)	4	5.7	0.2	5.5	6.0	5.6	5.7	5.9	4	6.5	0.5	6.1	7.1	6.2	6.3	6.8
pH (CaCl ₂)	4	5.1	0.2	4.9	5.3	5.0	5.1	5.3	4	5.7	0.5	5.3	6.3	5.4	5.5	6.0
Ca (meq/100g)	4	4.6	1.1	3.8	6.2	4.0	4.2	5.3	4	3.0	0.2	2.8	3.2	2.9	3.1	3.2
Mg (meq/100g)	4	2.4	0.9	1.8	3.8	1.8	2.1	3.1	4	3.3	0.6	2.7	4.0	2.9	3.2	3.7
Na (meq/100g)	4	0.4	0.1	0.3	0.4	0.3	0.3	0.4	4	0.5	0.1	0.4	0.6	0.4	0.5	0.5
K (meq/100g)	4	0.4	0.4	0.2	0.9	0.2	0.3	0.6	4	0.4	0.2	0.2	0.5	0.2	0.3	0.5
ESP (%)	4	4.8	1.6	3.4	7.1	3.7	4.3	5.9	4	6.7	0.7	6.1	7.6	6.1	6.6	7.3
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	4	41.0	11.6	30.5	55.9	31.9	38.9	50.2	4	2.88	0.66	2.37	3.82	2.42	2.67	3.35
Final infiltration rate (mm/hr)									4	0.37	0.36	0.05	0.73	0.07	0.36	0.68
Available water capacity (%)	2	13.6		13	14.2				2	12.1		10.7	13.6			
Soil water retention characteristic																
Volumetric water content (%) at																
 Matric suction (kPa)																
0	2	48.0		47.3	48.6				2	45.6		43.9	47.2			
10	2	41.5		41.4	41.7				2	39.0		36.9	41.0			
60	2	37.2		36.6	37.8				2	35.1		31.7	38.4			
1500	2	27.9		27.2	28.7				2	26.9		23.3	30.4			

Table 28.8 Congupna clay loam

Soil Type	Congupna clay loam		Soil Group	5		Irrigation District	GV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	6	23.0	6.7	16.2	33.0	16.9	21.5	29.1	6	47.0	7.8	39.3	58.8	41.4	44.5	53.6
Silt%	6	36.7	3.4	32.2	39.4	34.2	37.7	39.2	6	30.5	4.3	23.1	36.2	29.6	31.0	31.8
Sand%	6	37.6	7.2	29.9	46.4	32.0	37.1	43.2	6	22.6	7.8	11.6	30.3	14.8	24.6	29.4
Bulk density (g/cm ³)	6	1.40	0.07	1.32	1.51	1.36	1.38	1.45	6	1.68	0.07	1.63	1.79	1.64	1.66	1.73
Organic matter (%)	5	5.04	1.71	2.5	6.7	3.78	5.5	6.4	5	1.35	0.17	1.2	1.6	1.25	1.3	1.45
Depth of horizon (mm)	6	207	12.1	200	230	200	200	210	2	180		150	210			
Soil Chemical Properties																
EC (dS/cm)	5	0.20	0.02	0.18	0.22	0.19	0.21	0.21	5	0.18	0.06	0.13	0.27	0.13	0.14	0.23
pH (H ₂ O)	5	7.2	0.4	6.9	7.8	7.0	7.1	7.3	5	7.7	0.1	7.6	7.9	7.7	7.7	7.8
pH (CaCl ₂)	5	6.7	0.2	6.5	7.1	6.6	6.6	6.7	5	7.0	0.2	6.9	7.3	6.9	6.9	7.1
Ca (meq/100g)	5	11.9	2.0	9.5	15.0	10.6	12.0	12.8	5	10.1	2.7	6.8	14.0	8.6	9.4	11.8
Mg (meq/100g)	5	6.7	2.0	5.0	10.0	5.3	6.3	7.5	5	7.9	2.8	5.4	12.0	5.9	6.6	10.1
Na (meq/100g)	5	0.8	0.3	0.5	1.3	0.6	0.8	0.9	5	1.1	0.4	0.7	1.6	0.7	1.1	1.5
K (meq/100g)	5	1.1	0.2	1.0	1.4	1.0	1.1	1.3	5	1.2	0.2	0.9	1.4	0.9	1.2	1.3
ESP (%)	5	3.9	0.9	2.9	4.8	2.9	3.9	4.8	5	5.4	1.0	3.9	6.4	4.9	5.5	6.2
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	5	37.1	20.6	23.6	72.6	24.1	28	45.9	4	2.35	2.43	0.42	5.65	0.52	1.67	4.19
Final infiltration rate (mm/hr)									5	0.12	0.17	0.02	0.42	0.03	0.05	0.15
Available water capacity (%)	2	6.68		5.98	7.38				2	13.6		13.6	13.7			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	48.6		44.2	53.0				2	48.7		48.1	49.2			
10	2	43.0		41.5	44.5				2	45.2		44.9	45.6			
60	2	41.1		40.0	42.3				2	43.3		42.6	44.0			
1500	2	36.3		35.5	37.1				2	31.6		31.2	31.9			

Table 28.9 East Shepparton fine sandy loam

Soil Type	East Shepparton fine sandy loam					Soil Group	1D			Irrigation District	GV						
Soil Properties	Horizon A									Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile			
						25	50	75						25	50	75	
Soil Physical Properties																	
Particle size distribution																	
Clay%	14	21.2	13.3	3.5	44.1	10.6	17.2	33.1	14	28.5	7.9	15.8	46.4	25.3	28.1	33.0	
Silt%	14	37.4	8.6	23.6	49.9	26.4	39.9	44.1	14	39.4	7.6	27.3	49.8	33.3	37.4	48.1	
Sand%	14	41.4	13.2	21.3	73.0	32.4	39.8	48.8	14	32.1	7.7	21.5	47.4	26.1	30.8	37.3	
Bulk density (g/cm ³)	14	1.62	0.12	1.36	1.80	1.53	1.61	1.72	14	1.70	0.09	1.53	1.83	1.65	1.72	1.76	
Organic matter (%)	11	2.71	0.74	1.6	4	2.15	2.7	3.25	11	2.01	0.76	0.9	3.8	1.58	1.9	2.1	
Depth of horizon (mm)	14	196	35.9	150	250	170	185	240	6	175	79.7	110	300	120	135	250	
Soil Chemical Properties																	
EC (dS/cm)	11	0.11	0.04	0.06	0.18	0.07	0.1	0.13	11	0.08	0.02	0.05	0.14	0.07	0.08	0.09	
pH (H ₂ O)	11	7.5	1.0	5.7	8.5	6.9	7.8	8.2	11	7.8	0.9	5.9	8.8	7.1	8.0	8.3	
pH (CaCl ₂)	11	6.6	0.7	5.1	7.3	6.3	6.8	7.1	11	6.7	0.5	5.5	7.5	6.4	6.9	7.0	
Ca (meq/100g)	11	4.0	0.7	2.9	5.8	3.7	3.9	4.0	11	3.4	1.1	2.0	5.7	2.5	3.5	4.3	
Mg (meq/100g)	11	2.5	1.3	0.4	4.1	1.2	3.2	3.4	11	1.9	1.0	0.5	3.7	1.2	1.6	2.6	
Na (meq/100g)	11	1.2	1.0	0.1	3.4	0.3	1.0	1.7	11	1.1	0.8	0.1	2.3	0.3	1.1	1.5	
K (meq/100g)	11	0.6	0.1	0.3	0.9	0.5	0.6	0.6	11	0.6	0.1	0.4	0.8	0.5	0.7	0.7	
ESP (%)	11	12.9	9.0	1.3	31.3	5.7	11.2	17.2	11	14.5	10.7	1.6	32.8	5.2	13.6	22.7	
Soil Hydraulic Properties																	
Sat. hydraulic conductivity (mm/hr)	14	58.7	38.4	10.3	143	27.2	49.0	80.9	14	12.3	23.3	1.76	91.2	2.38	4.75	8	
Final infiltration rate (mm/hr)									11	10.3	12.5	0.05	33.8	0.19	7.5	17.9	
Available water capacity (%)	6	13.3	3.38	8.66	18.5	12.2	12.5	15.8	6	9.38	4.34	4.14	15	5.76	9.09	13.2	
Soil water retention characteristic																	
Volumetric water content (%) at																	
 Matric suction (kPa)																	
0	6	38.5	3.6	35.7	43.1	35.9	36.6	43.1	6	34.3	3.7	30.6	38.8	30.7	34.0	37.9	
10	6	28.8	2.6	26.1	33.6	27.3	28.4	29.2	6	28.0	4.7	23.8	36.8	25.6	26.0	29.7	
60	6	24.9	3.3	22.5	31.2	23.3	23.5	25.8	6	25.3	5.1	20.1	34.6	23.3	23.5	27.0	
1500	6	15.5	5.2	10.4	25.0	12.1	14.2	17.0	6	18.6	7.5	11.1	29.6	12.8	17.2	24.0	

Table 28.10 Goulburn clay loam

Soil Type	Goulburn clay loam		Soil Group	4		Irrigation District	GV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	4	13.6	2.1	11.5	16.3	12.0	13.4	15.3	4	30.7	4.1	27.3	36.5	27.8	29.4	33.5
Silt%	4	40.3	0.8	39.3	41.3	39.7	40.3	40.9	4	37.9	3.4	33.6	41.5	35.2	38.2	40.5
Sand%	4	46.0	2.9	42.5	49.1	43.8	46.3	48.3	4	31.5	5.8	24.1	38.1	27.6	31.9	35.3
Bulk density (g/cm3)	4	1.65	0.01	1.64	1.66	1.64	1.65	1.66	4	1.69	0.05	1.63	1.74	1.65	1.7	1.74
Organic matter (%)	4	3.3	0.71	2.5	4.2	2.8	3.25	3.8	4	1.5	0.29	1.2	1.8	1.25	1.5	1.75
Depth of horizon (mm)	4	283	22.2	260	310	265	280	300	0							
Soil Chemical Properties																
EC (dS/cm)	4	0.05	0.02	0.04	0.07	0.04	0.04	0.06	4	0.06	0.02	0.04	0.09	0.04	0.06	0.08
pH (H2O)	4	6.0	0.2	5.8	6.2	5.9	6.1	6.2	4	6.7	0.4	6.2	7.0	6.4	6.7	7.0
pH (CaCl2)	4	5.2	0.2	4.9	5.4	5.1	5.3	5.4	4	5.8	0.2	5.5	6.0	5.7	5.9	6.0
Ca (meq/100g)	4	5.2	0.8	4.0	5.9	4.7	5.5	5.8	4	6.2	1.7	3.8	7.7	4.9	6.6	7.5
Mg (meq/100g)	4	1.1	0.4	0.6	1.6	0.8	1.1	1.4	4	3.4	1.3	1.5	4.3	2.5	3.8	4.2
Na (meq/100g)	4	0.1	0.1	0.1	0.2	0.1	0.1	0.2	4	0.4	0.2	0.2	0.7	0.3	0.4	0.6
K (meq/100g)	4	0.8	0.4	0.5	1.4	0.5	0.6	1.1	4	0.4	0.2	0.2	0.7	0.3	0.4	0.6
ESP (%)	4	1.9	0.5	1.5	2.6	1.5	1.7	2.2	4	4.0	1.3	2.6	5.4	3.0	4.1	5.1
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	4	11.6	3.17	8.01	14.9	8.96	11.7	14.2	4	1.19	0.04	1.14	1.24	1.16	1.18	1.21
Final infiltration rate (mm/hr)									4	0.14	0.03	0.1	0.17	0.12	0.14	0.16
Available water capacity (%)	0								0							
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	0								0							
10	0								0							
60	0								0							
1500	0								0							

Table 28.11 Goulburn loam

Soil Type	Goulburn loam		Soil Group	4		Irrigation District	GV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	20	17.7	9.6	4.2	36.5	9.0	16.9	24.1	20	33.0	13.1	6.5	50.5	26.3	35.6	40.6
Silt%	20	38.6	5.7	29.0	49.2	33.9	39.1	42.3	20	37.2	6.1	29.1	53.4	33.3	35.7	39.4
Sand%	20	43.7	8.2	31.3	57.7	35.3	46.0	50.2	20	29.8	11.0	17.0	57.7	21.3	25.3	36.4
Bulk density (g/cm ³)	20	1.50	0.12	1.33	1.78	1.41	1.48	1.58	20	1.64	0.13	1.41	1.91	1.55	1.63	1.72
Organic matter (%)	17	4.63	0.79	3.4	6.7	4.15	4.6	5.1	17	2.17	1.00	1	5	1.5	2.1	2.4
Depth of horizon (mm)	20	187	64.1	130	340	150	155	200	6	152	27.1	120	200	140	145	160
Soil Chemical Properties																
EC (dS/cm)	17	0.17	0.18	0.05	0.73	0.07	0.1	0.13	17	0.13	0.15	0.04	0.52	0.06	0.08	0.12
pH (H ₂ O)	17	6.4	0.8	5.5	8.4	5.8	6.1	6.6	17	7.1	0.4	6.4	7.8	6.8	7.1	7.5
pH (CaCl ₂)	17	5.8	1.1	4.9	8.3	5.2	5.4	5.9	17	6.3	0.5	5.5	7.4	5.9	6.3	6.6
Ca (meq/100g)	17	5.6	1.4	3.5	9.4	4.6	5.5	6.3	17	5.7	2.0	2.6	9.6	4.0	5.8	7.1
Mg (meq/100g)	17	3.1	1.3	1.8	6.5	2.2	2.9	4.1	17	4.1	1.4	1.4	6.4	3.1	4.4	5.2
Na (meq/100g)	17	0.8	1.2	0.2	4.2	0.3	0.3	0.6	17	1.1	1.1	0.2	3.8	0.5	0.7	1.1
K (meq/100g)	17	0.7	0.4	0.2	1.3	0.3	0.7	1.1	17	0.6	0.3	0.2	1.4	0.4	0.6	0.9
ESP (%)	17	6.3	5.8	1.9	23.0	3.1	4.2	6.4	17	8.4	6.2	2.0	26.0	5.0	6.7	8.4
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	20	28.7	15.2	4.98	64.4	17.1	27.1	33.3	18	3.77	6.28	0.44	27.4	0.95	1.88	2.69
Final infiltration rate (mm/hr)									16	0.43	0.59	0.005	1.92	0.07	0.23	0.44
Available water capacity (%)	6	13.6	6.67	4.21	22.0	8.28	14.4	18.3	6	14.9	4.01	8.23	19.2	13.6	14.8	18.6
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	6	41.8	5.8	37.1	50.1	37.5	38.9	48.1	6	42.9	4.9	38.9	52.0	39.5	41.3	44.8
10	6	38.6	6.0	32.6	46.5	34.7	35.8	45.9	6	39.6	6.1	33.0	50.3	36.0	38.1	42.5
60	6	35.5	5.9	28.8	43.4	32.2	33.3	42.0	6	36.2	7.7	25.7	48.8	32.8	35.0	40.0
1500	6	24.9	5.2	17.9	32.1	20.6	25.4	28.3	6	24.8	8.0	13.8	34.6	17.3	26.4	30.2

Table 28.12 Goulburn loam friable phase

Soil Type	Goulburn loam friable phase		Soil Group	3		Irrigation District	GV										
Soil Properties	Horizon A								Horizon B1								
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile			
						25	50	75						25	50	75	
Soil Physical Properties																	
Particle size distribution																	
Clay%	4	17.1	4.3	12.0	21.0	13.6	17.7	20.6	4	54.1	4.8	48.2	59.8	50.9	54.3	57.3	
Silt%	4	31.1	2.9	28.2	33.7	28.6	31.2	33.5	4	20.7	3.9	17.5	26.0	17.8	19.7	23.7	
Sand%	4	51.9	7.1	45.7	59.8	45.9	51.0	57.8	4	25.1	5.2	19.1	30.5	20.9	25.5	29.3	
Bulk density (g/cm ³)	4	1.75	0.06	1.68	1.81	1.71	1.76	1.8	4	1.57	0.03	1.52	1.6	1.55	1.58	1.59	
Organic matter (%)	4	2.93	0.59	2.5	3.8	2.6	2.7	3.25	4	1.6	0.14	1.4	1.7	1.5	1.65	1.7	
Depth of horizon (mm)	4	195	17.3	180	220	185	190	205	0								
Soil Chemical Properties																	
EC (dS/cm)	4	0.07	0.03	0.04	0.1	0.05	0.07	0.1	4	0.11	0.11	0.06	0.27	0.06	0.06	0.17	
pH (H ₂ O)	4	6.0	0.5	5.3	6.4	5.6	6.1	6.4	4	7.6	0.7	7.1	8.6	7.2	7.4	8.1	
pH (CaCl ₂)	4	5.3	0.4	4.8	5.6	5.0	5.4	5.6	4	6.7	0.8	6.2	7.8	6.2	6.4	7.2	
Ca (meq/100g)	4	3.9	0.2	3.6	4.1	3.7	3.9	4.1	4	6.6	0.6	6.0	7.4	6.2	6.6	7.1	
Mg (meq/100g)	4	2.3	0.6	1.9	3.1	2.0	2.1	2.6	4	7.6	1.7	5.2	9.4	6.5	7.8	8.7	
Na (meq/100g)	4	0.5	0.3	0.3	0.9	0.3	0.4	0.7	4	1.4	1.3	0.6	3.3	0.7	1.0	2.2	
K (meq/100g)	4	0.3	0.1	0.2	0.4	0.2	0.3	0.4	4	1.1	0.2	0.9	1.2	0.9	1.1	1.2	
ESP (%)	4	6.9	2.6	5.3	10.8	5.4	5.8	8.4	4	8.1	5.9	4.2	16.8	4.4	5.7	11.7	
Soil Hydraulic Properties																	
Sat. hydraulic conductivity (mm/hr)	4	33.0	8.62	20.8	40.6	27.2	35.3	38.9	4	4.22	2.85	2.17	8.41	2.49	3.15	5.96	
Final infiltration rate (mm/hr)									4	1.27	1.25	0.49	3.12	0.52	0.74	2.02	
Available water capacity (%)	2	12.3		11.2	13.5				2	12.0		11.7	12.3				
Soil water retention characteristic																	
Volumetric water content (%) at																	
 Matric suction (kPa)																	
0	2	37.8		37.3	38.3				2	50.7		50.0	51.5				
10	2	34.2		34.2	34.2				2	43.6		41.9	45.3				
60	2	30.5		29.6	31.4				2	39.1		37.6	40.6				
1500	2	21.8		20.7	23.0				2	31.6		30.2	33.0				

Table 28.13 Katamatite loam

Soil Type	Katamatite loam		Soil Group	2		Irrigation District	GV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	4	11.7	2.0	10.2	14.6	10.4	10.9	12.9	4	20.9	11.3	11.6	37.3	13.8	17.4	28.0
Silt%	4	28.9	3.6	26.1	34.0	26.5	27.7	31.3	4	28.1	1.8	26.0	30.0	26.8	28.2	29.5
Sand%	4	59.5	3.2	55.3	63.0	57.3	59.8	61.6	4	51.0	9.7	36.7	58.4	45.2	54.4	56.7
Bulk density (g/cm ³)	4	1.62	0.12	1.44	1.70	1.54	1.66	1.69	4	1.84	0.14	1.64	1.95	1.74	1.89	1.94
Organic matter (%)	4	4.25	1.87	2.5	6.8	2.9	3.85	5.6	4	1.43	0.32	1.1	1.7	1.15	1.45	1.7
Depth of horizon (mm)	4	220	21.6	200	250	205	215	235	0							
Soil Chemical Properties																
EC (dS/cm)	4	0.12	0.06	0.06	0.18	0.06	0.11	0.17	4	0.09	0.04	0.04	0.14	0.05	0.08	0.12
pH (H ₂ O)	4	5.9	0.5	5.5	6.5	5.6	5.8	6.2	4	7.3	0.8	6.3	8.2	6.7	7.4	8.0
pH (CaCl ₂)	4	5.3	0.5	4.9	6.0	5.0	5.2	5.7	4	6.4	0.8	5.4	7.3	5.7	6.4	7.1
Ca (meq/100g)	4	5.2	3.2	3.2	10.0	3.3	3.8	7.1	4	3.4	1.6	2.4	5.8	2.5	2.7	4.3
Mg (meq/100g)	4	2.1	1.6	0.9	4.3	1.0	1.6	3.1	4	2.3	1.7	1.1	4.7	1.2	1.7	3.4
Na (meq/100g)	4	0.5	0.3	0.2	0.9	0.3	0.4	0.6	4	0.8	0.4	0.4	1.3	0.4	0.8	1.2
K (meq/100g)	4	0.4	0.4	0.1	1.0	0.2	0.3	0.7	4	0.3	0.2	0.1	0.6	0.1	0.3	0.5
ESP (%)	4	5.5	0.3	5.2	6.0	5.3	5.5	5.8	4	11.8	3.8	8.2	17.0	9.3	11.1	14.4
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	4	26.6	16	9.53	46.1	14.1	25.4	39.1	2	7.56		5.52	9.59			
Final infiltration rate (mm/hr)									4	3.99	3.8	1.63	9.6	1.66	2.36	6.31
Available water capacity (%)	2	13.5		12.4	14.5				2	14		14	14			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	49.0		40.6	57.5				2	42.8		37.9	47.8			
10	2	45.1		36.9	53.3				2	37.6		31.9	43.3			
60	2	42.6		33.9	51.2				2	33.8		28.1	39.5			
1500	2	31.7		24.5	38.8				2	23.6		17.9	29.3			

Table 28.14 Koga clay loam

Soil Type	Koga clay loam		Soil Group	4		Irrigation District	RO									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	4	29.6	11.8	21.7	47.0	22.4	24.9	36.9	4	39.7	12.8	23.1	54.0	31.0	40.9	48.5
Silt%	4	41.3	11.0	28.5	54.5	32.9	41.1	49.6	4	40.1	9.8	33.2	54.5	34.2	36.3	46.0
Sand%	4	29.1	17.0	8.3	44.7	15.4	31.7	42.8	4	20.2	8.3	8.5	28.0	15.2	22.1	25.2
Bulk density (g/cm ³)	4	1.52	0.09	1.41	1.63	1.46	1.52	1.59	4	1.54	0.04	1.49	1.57	1.52	1.56	1.56
Organic matter (%)	2	4		3.4	4.6				2	1.95		1.8	2.1			
Depth of horizon (mm)	4	173	20.6	150	200	160	170	185	4	228	20.6	200	250	215	230	240
Soil Chemical Properties																
EC (dS/cm)	2	0.18		0.13	0.23				2	0.29		0.27	0.3			
pH (H ₂ O)	2	6.3		5.9	6.7				2	7.6		7.5	7.6			
pH (CaCl ₂)	2	5.7		5.3	6.1				2	6.8		6.7	6.8			
Ca (meq/100g)	2	7.8		7.5	8.1				2	8.1		7.4	8.7			
Mg (meq/100g)	2	4.3		3.5	5.1				2	8.8		8.2	9.3			
Na (meq/100g)	2	1.1		0.7	1.5				2	3.1		2.1	4.0			
K (meq/100g)	2	0.6		0.4	0.7				2	0.5		0.4	0.5			
ESP (%)	2	7.8		5.9	9.7				2	14.7		11.5	17.9			
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	4	18.1	11.6	9.84	35.0	10.6	13.8	25.6	4	2.14	1.83	0.82	4.8	0.95	1.47	3.32
Final infiltration rate (mm/hr)									2	0.75		0.7	0.79			
Available water capacity (%)	4	12.2	1.69	10.0	14.0	10.9	12.3	13.4	4	15.8	2.82	13.1	18.5	13.4	15.8	18.2
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	4	42.0	5.3	35.3	47.8	38.0	42.4	46.0	4	51.7	6.4	43.7	58.6	46.7	52.2	56.7
10	4	37.6	3.7	32.7	41.1	34.9	38.4	40.4	4	45.2	6.1	37.6	52.1	40.7	45.5	49.6
60	4	32.7	3.0	28.6	35.6	30.6	33.4	34.9	4	40.7	6.0	33.3	47.7	36.3	41.0	45.2
1500	4	25.5	4.8	19.9	29.6	21.5	26.2	29.5	4	29.4	3.7	24.5	33.6	26.9	29.7	31.9

Table 28.15 Koyuga clay loam

Soil Type	Koyuga clay loam		Soil Group	4		Irrigation District	RO									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	4	20.9	5.8	13.4	27.4	16.7	21.3	25.0	4	51.9	4.1	47.5	57.3	49.1	51.5	54.7
Silt%	4	39.4	5.0	34.2	45.3	35.4	39.0	43.3	4	29.2	5.7	24.2	37.3	25.6	27.5	32.7
Sand%	4	39.8	3.2	36.0	43.2	37.3	39.9	42.2	4	18.9	2.9	15.2	22.2	16.8	19.1	21.0
Bulk density (g/cm ³)	4	1.64	0.10	1.51	1.74	1.57	1.66	1.72	4	1.5	0.05	1.43	1.55	1.46	1.51	1.54
Organic matter (%)	2	3.4		3.4	3.4				2	2.2		1.9	2.5			
Depth of horizon (mm)	4	135	17.3	120	160	125	130	145	4	205	77.2	160	320	160	170	250
Soil Chemical Properties																
EC (dS/cm)	2	0.22		0.21	0.23				2	0.31		0.17	0.45			
pH (H ₂ O)	2	5.7		5.4	6.0				2	6.7		6.6	6.7			
pH (CaCl ₂)	2	5.2		5.0	5.4				2	6.1		5.9	6.2			
Ca (meq/100g)	2	3.6		3.1	4.0				2	6.2		4.4	7.9			
Mg (meq/100g)	2	4.1		3.9	4.2				2	8.6		7.5	9.6			
Na (meq/100g)	2	1.2		1.0	1.4				2	2.0		1.7	2.2			
K (meq/100g)	2	0.4		0.2	0.6				2	0.7		0.4	1.0			
ESP (%)	2	13.1		10.6	15.6				2	11.3		10.9	11.7			
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	3	23.4		15.8	37.0				3	3.63		2.63	4.46			
Final infiltration rate (mm/hr)									2	1.21		1.16	1.26			
Available water capacity (%)	4	10.3	2.61	8.15	14.1	8.74	9.54	11.9	4	13.2	2.22	11.4	16.2	11.5	12.6	14.9
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	4	40.0	3.5	35.2	43.6	37.6	40.5	42.3	4	49.8	4.9	46.1	56.7	46.3	48.2	53.3
10	4	35.5	4.3	29.0	38.1	32.9	37.3	38.0	4	46.5	4.3	41.5	51.3	43.1	46.6	49.8
60	4	31.5	4.9	24.7	35.4	27.9	33.0	35.1	4	42.7	4.5	36.3	46.3	39.5	44.1	45.8
1500	4	25.1	4.7	19.7	29.7	21.2	25.5	29.1	4	33.3	2.3	30.1	35.0	31.6	34.0	35.0

Table 28.16 Lemnos loam

Soil Type	Lemnos loam		Soil Group	3		Irrigation District	GV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	38	18.0	8.3	7.4	41.7	11.6	16.2	21.9	37	42.6	13.9	14.5	70.4	32.4	43.6	51.3
Silt%	38	36.4	9.0	23.6	65.0	30.3	35.9	40.9	37	29.4	7.3	15.4	44.7	24.6	29.9	34.4
Sand%	38	45.6	12.5	16.7	65.1	43.0	47.2	53.6	37	28.0	11.6	4.2	63.5	20.4	26.3	35.7
Bulk density (g/cm3)	38	1.51	0.19	1	1.77	1.4	1.56	1.62	37	1.65	0.10	1.48	1.94	1.59	1.63	1.73
Organic matter (%)	20	4.71	1.6	2.7	8.2	3.45	4.3	5.6	20	2.02	0.71	1.1	3.8	1.55	1.7	2.5
Depth of horizon (mm)	38	166	33.6	100	290	150	165	180	21	151	46.1	60	250	128	140	170
Soil Chemical Properties																
EC (dS/cm)	20	0.21	0.15	0.06	0.67	0.13	0.17	0.24	20	0.14	0.08	0.05	0.3	0.08	0.11	0.21
pH (H2O)	20	6.9	0.6	5.8	8.6	6.5	6.9	7.1	20	7.3	0.6	6.3	8.8	7.0	7.3	7.7
pH (CaCl2)	20	6.3	0.7	5.4	8.6	5.9	6.3	6.6	20	6.5	0.8	5.5	8.3	6.1	6.3	6.8
Ca (meq/100g)	20	6.8	2.2	3.9	12.0	5.3	6.1	8.6	20	5.1	2.5	1.9	14.0	3.8	4.9	5.7
Mg (meq/100g)	20	3.8	1.5	1.4	7.1	2.9	3.5	4.4	20	4.3	1.8	1.6	7.5	2.8	4.0	5.7
Na (meq/100g)	20	1.1	1.0	0.2	4.6	0.5	0.7	1.3	20	1.5	1.1	0.3	4.8	0.8	1.3	2.0
K (meq/100g)	20	0.7	0.4	0.1	1.5	0.4	0.7	1.1	20	0.6	0.4	0.2	1.4	0.3	0.6	0.9
ESP (%)	20	8.9	6.7	2.3	25.5	3.7	6.5	12.2	20	13.1	6.8	2.9	28.2	7.2	12.5	17.6
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	38	45.2	30.6	4.25	127	21.0	41.8	67.0	37	6.05	5.37	0.14	29.4	2.79	5.11	8.21
Final infiltration rate (mm/hr)									19	1.41	1.27	0.23	4.85	0.66	1.11	1.74
Available water capacity (%)	15	13.2	5.04	3.72	22.1	9.33	13.4	16.7	18	11.9	3.70	4.33	18.2	9.28	12.1	14.1
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	15	46.1	7.0	36.0	61.5	41.4	45.1	50.4	18	42.7	4.8	33.7	50.4	40.2	42.5	46.9
10	15	38.4	7.3	29.3	50.5	31.7	37.0	43.8	18	39.0	5.8	26.4	47.0	35.7	38.9	45.0
60	15	34.5	7.0	25.2	46.0	27.4	32.9	40.6	18	35.2	6.2	24.0	44.9	32.4	34.0	40.6
1500	15	25.2	5.0	15.4	33.3	23.8	25.2	29.0	18	27.1	6.1	15.1	39.0	23.2	27.8	29.7

Table 28.17 Lemnos loam friable phase

Soil Type	Lemnos loam friable phase		Soil Group	3		Irrigation District	GV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	8	19.9	5.8	14.3	32.3	15.9	18.3	22.2	8	46.6	9.9	31.9	60.1	38.7	47.4	54.5
Silt%	8	40.8	7.3	28.0	48.7	36.2	40.8	47.7	8	32.1	6.6	23.0	42.9	26.3	33.0	36.1
Sand%	8	39.3	7.7	29.8	49.5	31.2	40.9	45.5	8	21.3	5.7	14.6	31.7	17.0	19.6	25.3
Bulk density (g/cm ³)	8	1.67	0.09	1.53	1.79	1.58	1.68	1.74	8	1.69	0.09	1.58	1.81	1.63	1.66	1.79
Organic matter (%)	8	3.28	0.79	2.1	4.6	2.8	3.25	3.7	8	1.8	0.21	1.4	2.1	1.7	1.85	1.9
Depth of horizon (mm)	8	179	57.2	100	280	135	190	200	0							
Soil Chemical Properties																
EC (dS/cm)	8	0.08	0.03	0.04	0.13	0.06	0.07	0.1	8	0.06	0.02	0.04	0.09	0.05	0.06	0.08
pH (H ₂ O)	8	6.0	0.5	5.3	6.8	5.7	5.9	6.4	8	6.7	0.6	5.8	7.5	6.4	6.8	7.2
pH (CaCl ₂)	8	5.3	0.6	4.7	6.1	4.9	5.2	5.9	8	5.8	0.5	5.1	6.5	5.4	5.7	6.1
Ca (meq/100g)	8	4.0	1.0	3.1	6.1	3.3	3.7	4.4	8	3.9	0.7	2.6	4.7	3.6	3.8	4.5
Mg (meq/100g)	8	1.9	0.3	1.4	2.3	1.7	1.9	2.1	8	4.1	1.3	2.2	5.9	3.1	4.1	5.4
Na (meq/100g)	8	0.3	0.1	0.2	0.4	0.2	0.3	0.4	8	0.7	0.4	0.2	1.4	0.3	0.5	1.0
K (meq/100g)	8	0.6	0.5	0.3	1.6	0.3	0.3	0.9	8	0.7	0.5	0.3	1.4	0.4	0.4	1.1
ESP (%)	8	4.5	1.4	2.8	6.4	3.3	4.5	5.8	8	6.6	3.3	3.3	11.5	3.5	6.1	9.4
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	8	46.1	21.9	16.0	80.9	29.8	42.4	63.7	8	8.54	14.8	0.30	43.3	0.40	2.74	9.22
Final infiltration rate (mm/hr)									8	3.85	9.01	0.1	25.9	0.12	0.21	2.06
Available water capacity (%)	4	16.4	3.57	12.9	20.8	13.6	16.0	19.3	4	14.6	2.79	11.2	17.8	12.5	14.7	16.7
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	4	43.7	4.7	39.4	50.3	40.4	42.6	47.0	4	45.5	4.9	41.5	52.4	42.0	44.0	48.9
10	4	37.9	5.1	33.1	44.8	34.2	36.8	41.6	4	38.2	5.8	34.8	46.8	34.9	35.5	41.4
60	4	33.7	4.9	28.9	39.9	29.9	33.1	37.6	4	34.2	5.5	30.0	42.3	30.9	32.2	37.5
1500	4	21.4	3.3	17.4	24.2	18.8	22.1	24.1	4	23.5	4.3	19.4	29.0	20.2	22.9	26.9

Table 28.18 Lemnos loam semi friable phase

Soil Type	Lemnos loam semi friable phase		Soil Group	3		Irrigation District	GV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	4	9.1	1.9	7.6	11.9	8.0	8.5	10.2	4	45.3	3.5	40.9	49.4	42.8	45.4	47.8
Silt%	4	33.6	1.2	31.8	34.4	32.9	34.2	34.4	4	25.9	3.7	23.0	31.4	23.8	24.6	28.0
Sand%	4	57.2	2.4	54.1	59.7	55.6	57.5	58.9	4	28.8	2.7	26.0	32.2	26.8	28.5	30.8
Bulk density (g/cm3)	4	1.61	0.03	1.58	1.64	1.6	1.62	1.63	4	1.66	0.12	1.49	1.73	1.6	1.72	1.73
Organic matter (%)	4	4.05	0.57	3.6	4.8	3.6	3.9	4.5	4	2.53	0.54	1.8	3.1	2.15	2.6	2.9
Depth of horizon (mm)	4	203	18.9	190	230	190	195	215	0							
Soil Chemical Properties																
EC (dS/cm)	4	0.16	0.06	0.08	0.22	0.11	0.16	0.21	4	0.10	0.04	0.06	0.15	0.07	0.1	0.14
pH (H2O)	4	5.0	0.3	4.7	5.3	4.8	5.0	5.2	4	6.2	0.4	5.9	6.8	6.0	6.1	6.5
pH (CaCl2)	4	4.6	0.2	4.4	4.8	4.5	4.6	4.7	4	5.5	0.6	5.0	6.3	5.2	5.4	5.9
Ca (meq/100g)	4	3.7	0.4	3.1	4.0	3.5	3.9	4.0	4	6.0	2.4	4.2	9.5	4.5	5.1	7.4
Mg (meq/100g)	4	1.2	0.2	0.9	1.3	1.0	1.2	1.3	4	3.8	1.0	2.5	4.9	3.1	3.8	4.5
Na (meq/100g)	4	0.1	0.0	0.1	0.1	0.1	0.1	0.1	4	0.5	0.2	0.3	0.8	0.3	0.4	0.6
K (meq/100g)	4	0.3	0.1	0.2	0.3	0.3	0.3	0.3	4	0.5	0.4	0.2	1.1	0.3	0.4	0.8
ESP (%)	4	1.8	0.5	1.5	2.5	1.5	1.6	2.1	4	4.4	1.8	2.4	6.7	3.2	4.3	5.7
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	4	91.4	56.9	31.8	143	42.8	95.2	140	4	5.38	7.14	1.19	16	1.21	2.16	9.54
Final infiltration rate (mm/hr)									4	0.64	0.56	0.18	1.44	0.25	0.47	1.03
Available water capacity (%)	2	12.5		12.2	12.7				2	8.31		8.15	8.47			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	40.9		40.4	41.4				2	43.6		39.5	47.8			
10	2	29.9		28.7	31.1				2	36.5		31.1	41.9			
60	2	25.5		23.8	27.1				2	32.8		27.0	38.7			
1500	2	17.4		16.5	18.4				2	28.2		22.9	33.4			

Table 28.19 Moira loam

Soil Type	Moira loam		Soil Group	3		Irrigation District	MV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	2	11.1		7.2	15.0				2	32.5		22.0	43.0			
Silt%	2	30.8		27.6	34.1				2	25.7		20.4	30.9			
Sand%	2	58.1		57.4	58.7				2	41.8		36.6	47.1			
Bulk density (g/cm ³)	2	1.64		1.55	1.73				2	1.73		1.62	1.84			
Organic matter (%)	1	2.9							1	1.4						
Depth of horizon (mm)	2	210		190	230				2	175		140	210			
Soil Chemical Properties																
EC (dS/cm)	1	0.08							1	0.07						
pH (H ₂ O)	1	5.8							1	6.9						
pH (CaCl ₂)	1	5.1							1	6.1						
Ca (meq/100g)	1	3.8							1	6.4						
Mg (meq/100g)	1	1.8							1	4.7						
Na (meq/100g)	1	0.3							1	0.5						
K (meq/100g)	1	0.9							1	0.9						
ESP (%)	1	3.7							1	4.2						
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	2	16.1		12.8	19.4				2	0.94		0.76	1.13			
Final infiltration rate (mm/hr)									1	2.95						
Available water capacity (%)	2	18.7		16.9	20.5				2	12.1		11.6	12.7			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	42.0		36.4	47.6				2	40.1		37.8	42.5			
10	2	34.6		31.0	38.2				2	34.8		30.1	39.5			
60	2	31.5		29.0	34.0				2	32.1		27.1	37.1			
1500	2	15.9		14.1	17.7				2	22.7		18.5	26.8			

Table 28.20 Moira loam friable phase

Soil Type	Moira loam friable phase		Soil Group	2		Irrigation District	MV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	10	17.2	7.2	9.6	32.0	11.5	14.6	22.1	10	46.5	9.4	31.2	58.3	37.5	49.4	52.3
Silt%	10	31.0	3.3	26.2	36.4	27.7	31.3	32.9	10	23.3	4.1	18.0	30.0	20.3	22.6	25.6
Sand%	10	51.7	6.3	40.3	61.8	47.4	52.2	56.4	10	30.2	6.3	22.3	41.4	25.8	29.9	32.5
Bulk density (g/cm3)	10	1.65	0.08	1.49	1.76	1.61	1.66	1.71	10	1.59	0.07	1.44	1.66	1.57	1.61	1.63
Organic matter (%)	7	4.69	1.03	3.1	5.9	3.8	5	5.25	7	2.59	0.28	2.3	3.1	2.35	2.5	2.7
Depth of horizon (mm)	10	205	37.5	150	280	190	200	230	4	203	42.7	150	250	170	205	235
Soil Chemical Properties																
EC (dS/cm)	7	0.11	0.06	0.06	0.21	0.06	0.08	0.17	7	0.16	0.08	0.04	0.26	0.08	0.18	0.23
pH (H2O)	7	6.3	0.9	5.3	7.9	5.9	5.9	7.1	7	6.9	1.0	6.0	8.5	6.2	6.4	7.8
pH (CaCl2)	7	5.6	1.1	4.8	7.4	4.9	5.1	6.5	7	6.0	1.3	4.9	7.8	5.1	5.5	7.3
Ca (meq/100g)	7	5.7	2.8	4.1	12.0	4.3	4.7	5.4	7	5.7	4.7	2.0	16.0	3.3	3.9	6.2
Mg (meq/100g)	7	2.7	1.7	1.0	5.3	1.8	1.9	4.4	7	4.6	1.8	2.6	7.2	2.9	4.9	5.7
Na (meq/100g)	7	0.6	0.2	0.4	1.1	0.5	0.5	0.7	7	1.4	1.0	0.5	2.9	0.6	0.9	2.2
K (meq/100g)	7	0.5	0.4	0.2	1.1	0.2	0.3	0.9	7	0.5	0.4	0.2	1.1	0.2	0.3	0.8
ESP (%)	7	6.9	2.0	2.8	8.8	6.2	7.1	8.5	7	12.8	7.9	2.1	23.8	6.5	13.7	19.3
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	10	16.5	9.03	4.44	30.3	10.5	14.4	25.3	6	2.83	3.47	0.78	9.86	1.19	1.5	2.18
Final infiltration rate (mm/hr)									6	0.25	0.43	0.005	1.09	0.01	0.04	0.33
Available water capacity (%)	4	15.4	3.73	12.8	20.9	13.0	14.1	17.8	4	12.2	2.85	8.59	14.5	9.92	12.8	14.5
Soil water retention characteristic																
Volumetric water content (%) at																
 Matric suction (kPa)																
0	4	38.2	5.2	33.5	44.2	33.9	37.6	42.6	4	43.5	2.1	40.6	45.6	42.0	43.8	44.9
10	4	35.7	4.6	31.1	40.4	31.8	35.7	39.6	4	41.7	1.4	39.9	43.3	40.8	41.8	42.5
60	4	32.7	3.9	28.7	36.5	29.3	32.8	36.0	4	39.5	1.3	38.2	41.2	38.6	39.2	40.4
1500	4	20.3	2.7	17.8	24.1	18.7	19.6	21.9	4	29.5	2.5	27.2	32.0	27.3	29.3	31.6

Table 28.21 Muckatah clay loam

Soil Type	Muckatah clay loam		Soil Group	6		Irrigation District	MV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	6	31.0	7.3	21.3	41.5	25.6	31.0	35.8	6	43.8	12.0	33.9	60.9	35.5	37.8	57.0
Silt%	6	39.5	8.7	27.4	50.9	31.8	40.6	45.8	6	32.3	10.4	18.8	45.1	22.9	32.3	42.7
Sand%	6	29.4	6.6	21.0	39.4	23.4	30.2	32.4	6	23.8	7.6	16.2	33.4	17.3	21.8	32.7
Bulk density (g/cm ³)	6	1.54	0.09	1.38	1.64	1.54	1.55	1.57	6	1.63	0.08	1.52	1.71	1.57	1.63	1.71
Organic matter (%)	3	1.7		1.4	2.1				3	1.2		1.1	1.3			
Depth of horizon (mm)	6	217	16.3	200	240	200	215	230	6	205	21.7	180	240	190	200	220
Soil Chemical Properties																
EC (dS/cm)	3	0.08		0.06	0.12				3	0.11		0.06	0.2			
pH (H ₂ O)	3	7.0		6.4	7.6				3	7.4		7.0	8.0			
pH (CaCl ₂)	3	6.2		5.8	6.7				3	6.5		6.2	7.2			
Ca (meq/100g)	3	6.4		5.2	8.4				3	6.9		5.4	9.7			
Mg (meq/100g)	3	4.5		1.7	8.0				3	5.8		3.0	10.0			
Na (meq/100g)	3	0.8		0.1	1.5				3	1.2		0.2	2.6			
K (meq/100g)	3	1.1		0.5	1.9				3	1.0		0.5	1.2			
ESP (%)	3	5.2		1.8	7.6				3	6.8		2.1	11.1			
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	6	18.1	13	4.82	42.7	12.6	14.4	20	6	0.64	0.30	0.35	1.17	0.44	0.56	0.76
Final infiltration rate (mm/hr)									3	0.32	0.15	0.17	0.46			
Available water capacity (%)	6	7.90	2.18	5.55	11.5	5.80	7.84	8.92	6	12.2	3.99	6.48	16.7	9.15	12.2	16.2
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	6	39.9	4.6	35.2	46.7	36.7	38.1	44.5	6	46.9	8.6	38.1	57.9	41.6	43.1	57.5
10	6	36.9	5.3	31.8	45.3	33.3	34.6	41.6	6	43.6	7.3	35.4	53.8	39.3	40.8	51.5
60	6	34.3	5.6	29.6	43.1	30.5	31.6	39.5	6	40.7	6.7	33.7	50.6	36.7	38.1	47.2
1500	6	29.0	4.9	23.9	36.0	25.6	27.2	33.8	6	31.4	4.0	26.9	37.6	28.9	30.2	34.7

Table 28.22 Nanneella fine sandy loam

Soil Type	Nanneella fine sandy loam		Soil Group	1D		Irrigation District	RO									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	54	9.5	3.7	3.1	22.1	6.9	8.9	11.2	54	30.5	9.0	11.5	52.3	24.6	31.0	35.9
Silt%	54	38.2	7.7	19.5	54.0	32.7	38.5	43.4	54	42.5	10.5	18.0	57.2	38.9	44.9	49.3
Sand%	54	52.3	9.2	35.0	76.6	46.2	51.6	60.5	54	27.1	11.5	9.4	59.8	19.4	24.6	32.3
Bulk density (g/cm ³)	54	1.43	0.16	0.96	1.8	1.37	1.44	1.5	54	1.68	0.08	1.46	1.93	1.63	1.68	1.72
Organic matter (%)	44	7.73	2.10	1.9	12	6.8	7.8	8.9	44	2.58	0.57	1	3.8	2.3	2.5	2.9
Depth of horizon (mm)	14	186	37.2	140	260	150	175	220	14	193	48.7	110	320	170	180	220
Soil Chemical Properties																
EC (dS/cm)	44	0.16	0.08	0.06	0.45	0.11	0.14	0.17	44	0.09	0.04	0.04	0.3	0.07	0.08	0.1
pH (H ₂ O)	44	5.7	0.3	5.2	6.7	5.6	5.6	5.8	44	6.8	0.5	5.9	8.3	6.6	6.8	7.1
pH (CaCl ₂)	44	5.1	0.3	4.6	6.3	4.9	5.0	5.2	44	6.0	0.5	5.1	7.7	5.7	5.9	6.1
Ca (meq/100g)	44	6.9	1.6	2.0	11.0	6.2	7.1	8.0	44	6.5	1.6	2.0	10.0	5.8	6.6	7.4
Mg (meq/100g)	44	4.0	0.7	2.3	5.6	3.6	4.0	4.5	44	4.4	1.0	1.9	6.5	3.8	4.3	4.9
Na (meq/100g)	44	0.5	0.2	0.2	1.2	0.4	0.5	0.6	44	0.7	0.3	0.3	1.7	0.5	0.6	0.8
K (meq/100g)	44	0.7	0.5	0.1	2.1	0.3	0.5	1.1	44	0.4	0.3	0.1	1.5	0.2	0.4	0.5
ESP (%)	44	4.8	2.6	1.5	19.4	3.6	4.3	5.5	44	5.7	1.8	3.1	12.8	4.5	5.3	6.6
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	52	46.4	27.5	10.3	131	28.1	38.2	60.9	12	9.59	6.64	0.65	20.4	3.47	10.1	13.9
Final infiltration rate (mm/hr)									43	3.98	7.17	0.005	36.2	0.2	1.23	3.28
Available water capacity (%)	8	20.4	6.72	12.9	31.1	15.3	18.1	26.3	8	15.4	6.57	10.1	30.8	11.7	13.9	15.4
Soil water retention characteristic																
Volumetric water content (%) at																
 Matric suction (kPa)																
0	8	41.5	4.7	34.8	49.7	38.9	40.6	44.4	8	39.8	3.9	32.3	45.4	38.2	40.3	41.8
10	8	36.3	6.1	29.2	46.2	32.7	34.4	40.4	8	35.7	4.2	26.3	39.7	34.5	37.1	38.2
60	8	30.2	7.8	23.7	43.1	25.5	26.0	35.7	8	29.9	5.6	20.6	36.0	25.6	31.8	34.1
1500	8	15.9	4.1	7.6	21.8	14.9	16.4	17.5	8	20.3	6.7	7.8	26.8	16.0	22.5	25.4

Table 28.23 Naring loam

Soil Type	Naring loam		Soil Group	3		Irrigation District	MV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	8	21.1	6.6	13.9	32.3	15.9	19.5	25.9	8	34.6	19.1	16.9	66.4	18.0	31.1	47.7
Silt%	8	31.2	5.2	24.7	38.4	25.7	33.0	34.6	8	27.8	7.5	15.3	37.6	22.5	28.5	33.7
Sand%	8	47.7	6.8	41.2	61.3	43.0	45.9	50.7	8	37.6	12.8	18.3	51.4	27.2	40.0	48.4
Bulk density (g/cm3)	8	1.68	0.07	1.57	1.77	1.64	1.67	1.73	8	1.66	0.13	1.42	1.84	1.59	1.68	1.74
Organic matter (%)	4	4.05	0.19	3.8	4.2	3.9	4.1	4.2	4	2.15	0.77	1.1	2.9	1.6	2.3	2.7
Depth of horizon (mm)	8	160	18.5	130	180	145	165	175	6	192	31.3	160	230	170	180	230
Soil Chemical Properties																
EC (dS/cm)	4	0.11	0.03	0.08	0.16	0.09	0.1	0.13	4	0.07	0.02	0.05	0.1	0.06	0.07	0.09
pH (H2O)	4	5.9	0.7	5.0	6.6	5.4	6.1	6.5	4	7.4	0.9	6.3	8.3	6.7	7.6	8.2
pH (CaCl2)	4	5.3	0.7	4.5	6.0	4.8	5.4	5.9	4	6.4	0.9	5.1	7.3	5.7	6.6	7.1
Ca (meq/100g)	4	4.8	0.5	4.3	5.5	4.5	4.6	5.1	4	4.8	2.6	2.5	7.1	2.6	4.9	7.1
Mg (meq/100g)	4	3.3	0.5	2.8	4.0	2.9	3.2	3.7	4	5.2	3.9	1.5	9.7	1.9	4.7	8.4
Na (meq/100g)	4	0.6	0.1	0.4	0.7	0.5	0.6	0.7	4	1.1	0.7	0.5	2.0	0.6	1.0	1.7
K (meq/100g)	4	0.4	0.2	0.2	0.6	0.2	0.3	0.5	4	0.5	0.5	0.1	1.1	0.1	0.3	0.8
ESP (%)	4	6.5	1.2	4.9	7.9	5.7	6.7	7.4	4	10.5	2.5	6.8	12.3	8.9	11.5	12.1
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	8	20.7	12.1	6.55	39.4	12.1	17.7	30.2	8	1.9	1.36	0.22	4.48	0.97	1.65	2.62
Final infiltration rate (mm/hr)									3	0.18	0.29	0.005	0.52			
Available water capacity (%)	5	12.1	3.36	6.62	14.7	10.0	13.2	14.7	6	10.8	3.27	5.9	15.7	9.57	10.6	12.5
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	5	39.9	4.9	34.4	47.0	36.8	38.0	43.6	6	40.3	8.5	32.3	51.6	32.7	39.0	47.1
10	5	34.0	6.1	26.4	42.9	30.1	33.1	37.7	6	36.8	10.0	25.8	48.2	28.2	36.4	45.6
60	5	30.5	5.7	22.9	38.5	27.5	29.4	34.1	6	33.9	10.5	23.1	44.4	24.2	33.9	44.1
1500	5	21.9	4.9	15.2	28.2	18.7	21.4	25.6	6	26.0	8.1	17.1	35.7	19.6	24.9	33.7

Table 28.24 Rochester clay

Soil Type	Rochester clay		Soil Group	5		Irrigation District	RO									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	2	45.8		41.4	50.2				2	59.5		56.8	62.3			
Silt%	2	24.7		22.9	26.4				2	16.7		16.3	17.2			
Sand%	2	29.6		26.9	32.2				2	23.7		20.5	26.9			
Bulk density (g/cm ³)	2	1.51		1.5	1.53				2	1.47		1.46	1.48			
Organic matter (%)	1	2.9							1	1.8						
Depth of horizon (mm)	2	160		150	170				2	170		140	200			
Soil Chemical Properties																
EC (dS/cm)	1	0.13							1	0.24						
pH (H ₂ O)	1	6.6							1	7.7						
pH (CaCl ₂)	1	5.7							1	6.9						
Ca (meq/100g)	1	5.9							1	8.1						
Mg (meq/100g)	1	7.2							1	13.0						
Na (meq/100g)	1	1.7							1	3.4						
K (meq/100g)	1	0.4							1	0.5						
ESP (%)	1	11.2							1	13.6						
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	2	19.5		14.4	24.6				2	1.73		1.64	1.83			
Final infiltration rate (mm/hr)									1	0.51						
Available water capacity (%)	2	9.87		7.18	12.6				2	11.4		11.2	11.7			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	45.5		45.2	45.9				2	49.4		49.0	49.8			
10	2	43.0		43.0	43.1				2	47.7		47.5	47.9			
60	2	40.1		39.5	40.7				2	45.9		45.9	46.0			
1500	2	33.2		30.5	35.8				2	36.2		36.2	36.3			

Table 28.25 Sandmount sand

Soil Type	Sandmount sand		Soil Group	1S		Irrigation District	MV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	4	1.1	0.5	0.3	1.5	0.7	1.2	1.4	4	2.6	2.5	1.2	6.4	1.2	1.5	4.1
Silt%	4	7.9	3.4	5.8	13.0	6.0	6.4	9.8	4	8.4	7.3	2.8	18.9	3.5	6.1	13.3
Sand%	4	91.1	3.7	85.6	93.9	89.0	92.3	93.2	4	88.9	9.7	74.7	96.0	82.6	92.5	95.2
Bulk density (g/cm3)	4	1.59	0.07	1.52	1.66	1.53	1.58	1.64	4	1.65	0.10	1.54	1.74	1.56	1.66	1.74
Organic matter (%)	4	1.43	0.13	1.3	1.6	1.35	1.4	1.5	4	1.18	0.24	1	1.5	1	1.1	1.35
Depth of horizon (mm)	0								0							
Soil Chemical Properties																
EC (dS/cm)	4	0.04	0	0.04	0.04	0.04	0.04	0.04	4	0.04	0	0.04	0.04	0.04	0.04	0.04
pH (H2O)	4	6.3	0.3	5.8	6.5	6.1	6.4	6.5	4	5.4	0.2	5.2	5.7	5.3	5.4	5.6
pH (CaCl2)	4	5.7	0.5	5.0	6.0	5.4	5.9	6.0	4	4.7	0.2	4.5	5.0	4.6	4.7	4.9
Ca (meq/100g)	4	1.7	0.5	1.0	2.0	1.4	1.9	2.0	4	1.0	0.5	0.7	1.7	0.8	0.9	1.3
Mg (meq/100g)	4	0.3	0.1	0.2	0.5	0.3	0.3	0.4	4	0.2	0.1	0.1	0.4	0.2	0.2	0.3
Na (meq/100g)	4	0.1	0.0	0.0	0.1	0.0	0.1	0.1	4	0.1	0.0	0.0	0.1	0.1	0.1	0.1
K (meq/100g)	4	0.3	0.1	0.2	0.4	0.2	0.3	0.4	4	0.2	0.2	0.1	0.5	0.1	0.2	0.3
ESP (%)	4	2.8	1.6	1.8	5.2	1.9	2.2	3.8	4	4.5	2.0	2.3	6.5	2.9	4.7	6.1
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	4	254	141	57.2	367	154	296	355	4	57.1	33.5	11.4	83.2	31.9	66.8	82.2
Final infiltration rate (mm/hr)									4	244	177	40.3	420	98.2	258	390
Available water capacity (%)	2	15.6		12.8	18.5				2	12.1		8.96	15.2			
Soil water retention characteristic																
Volumetric water content (%) at																
 Matric suction (kPa)																
0	2	42.7		41.3	44.2				2	39.7		37.3	42.0			
10	2	19.8		16.8	22.9				2	16.1		12.2	20.0			
60	2	12.4		10.7	14.1				2	10.0		7.7	12.3			
1500	2	4.2		4.0	4.3				2	4.0		3.2	4.7			

Table 28.26 Sandmount sand phase

Soil Type	Sandmount sand phase		Soil Group	1S		Irrigation District		MV								
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	4	2.0	0.2	1.8	2.2	1.8	2.0	2.2	4	5.7	1.9	3.0	7.3	4.5	6.2	6.8
Silt%	4	21.1	1.8	19.7	23.7	20.0	20.5	22.2	4	20.1	2.5	17.6	23.0	18.1	19.9	22.2
Sand%	4	76.9	1.7	74.4	78.2	75.9	77.5	77.9	4	74.2	2.0	71.4	76.0	72.7	74.7	75.7
Bulk density (g/cm3)	4	1.71	0.05	1.67	1.79	1.67	1.7	1.75	4	1.83	0.07	1.73	1.88	1.79	1.85	1.86
Organic matter (%)	4	2.08	0.31	1.8	2.5	1.85	2	2.3	4	0.98	0.5	0.6	1.7	0.65	0.8	1.3
Depth of horizon (mm)	0								0							
Soil Chemical Properties																
EC (dS/cm)	4	0.12	0.02	0.1	0.14	0.1	0.12	0.14	4	0.1	0.006	0.09	0.1	0.09	0.1	0.1
pH (H2O)	4	8.5	0.5	7.9	9.0	8.2	8.6	8.9	4	8.7	0.1	8.6	8.8	8.7	8.8	8.8
pH (CaCl2)	4	7.5	0.4	6.9	7.9	7.2	7.6	7.8	4	7.7	0.1	7.5	7.8	7.6	7.7	7.8
Ca (meq/100g)	4	4.2	0.4	3.9	4.7	4.0	4.1	4.4	4	2.8	0.7	2.2	3.8	2.3	2.5	3.3
Mg (meq/100g)	4	2.6	0.3	2.3	2.9	2.4	2.6	2.8	4	1.9	0.2	1.7	2.2	1.8	1.9	2.1
Na (meq/100g)	4	0.7	0.1	0.6	0.8	0.7	0.7	0.8	4	0.5	0.0	0.5	0.6	0.5	0.5	0.6
K (meq/100g)	4	0.7	0.1	0.6	0.7	0.6	0.7	0.7	4	0.7	0.1	0.6	0.8	0.6	0.7	0.7
ESP (%)	4	8.8	1.0	8.2	10.3	8.2	8.4	9.4	4	9.0	1.2	7.5	10.4	8.2	9.2	9.9
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	4	26.7	10.3	17.8	39.4	18.3	24.8	35.1	4	15.9	7.49	6.13	23.2	10.2	17.2	21.6
Final infiltration rate (mm/hr)									4	13.3	3.61	8.52	16.9	10.6	13.9	16
Available water capacity (%)	2	17.1		17	17.3				2	16.3		16.2	16.5			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	35.4		35.1	35.7				2	32.7		30.7	34.6			
10	2	27.3		25.9	28.7				2	25.3		24.2	26.3			
60	2	22.5		20.8	24.2				2	20.8		18.3	23.3			
1500	2	10.2		8.6	11.7				2	9.0		7.8	10.1			

Table 28.27 Shepparton fine sandy loam

Soil Type	Soil Group 2					Irrigation District GV										
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	54	12.9	4.6	4.4	25.6	9.5	11.9	16.2	54	37.6	11.2	11.5	57.7	31.0	39.6	44.9
Silt%	54	37.9	7.3	21.0	63.4	33.4	35.3	42.3	54	36.4	7.0	10.1	48.6	32.9	36.3	41.6
Sand%	54	49.2	10.3	23.2	74.7	45.3	50.6	57.0	54	26.1	9.1	10.3	49.8	20.2	24.7	31.2
Bulk density (g/cm ³)	54	1.53	0.12	1.01	1.76	1.49	1.53	1.57	54	1.64	0.06	1.51	1.81	1.59	1.63	1.67
Organic matter (%)	48	5.44	1.11	2.3	7.6	4.6	5.5	6.3	48	2.8	0.63	1.3	4.2	2.5	2.9	3.3
Depth of horizon (mm)	14	176	25.3	140	220	150	175	190	10	211	61.5	120	310	180	215	240
Soil Chemical Properties																
EC (dS/cm)	48	0.12	0.09	0.04	0.71	0.09	0.11	0.13	48	0.11	0.11	0.04	0.84	0.08	0.09	0.1
pH (H ₂ O)	48	6.0	0.5	5.0	8.3	5.9	5.9	6.1	48	6.8	0.5	6.1	8.7	6.5	6.7	6.9
pH (CaCl ₂)	48	5.3	0.5	4.5	7.9	5.2	5.3	5.4	48	5.9	0.5	5.2	8.2	5.6	5.8	6.1
Ca (meq/100g)	48	5.3	0.9	3.2	7.5	4.7	5.5	6.0	48	5.4	1.1	3.5	7.5	4.6	5.5	6.4
Mg (meq/100g)	48	3.4	0.8	1.3	6.3	3.3	3.5	3.8	48	3.8	1.3	2.1	8.5	2.8	3.5	4.4
Na (meq/100g)	48	0.9	0.5	0.1	3.9	0.8	0.9	1.0	48	1.1	0.8	0.2	5.6	0.8	1.0	1.2
K (meq/100g)	48	0.3	0.2	0.1	1.0	0.2	0.3	0.4	48	0.5	0.3	0.1	1.8	0.3	0.4	0.6
ESP (%)	48	8.6	3.2	2.0	22.3	7.5	8.6	9.5	48	10.1	3.9	2.3	28.4	8.7	10.1	11.4
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	54	27.4	16.1	3.88	67.4	14.5	24.5	34.6	14	4.82	5.3	0.11	18.3	0.52	2.8	7.22
Final infiltration rate (mm/hr)									48	0.54	1.61	0.01	10.9	0.07	0.13	0.33
Available water capacity (%)	10	12.6	5.15	5.33	19.6	7.38	14.0	17.3	10	12.2	2.64	6.96	16.6	11.2	12.3	12.7
Soil water retention characteristic																
Volumetric water content (%) at																
 Matric suction (kPa)																
0	10	39.7	2.7	34.4	44.1	38.5	39.2	41.5	10	45.2	5.0	38.7	52.3	39.6	45.6	49.2
10	10	34.7	2.5	29.5	37.2	34.4	35.3	36.9	10	43.3	4.9	35.4	49.8	38.6	43.3	47.3
60	10	31.3	2.8	25.8	34.6	29.2	31.7	33.1	10	40.7	5.0	33.6	47.3	36.0	39.2	45.5
1500	10	22.1	5.7	13.6	30.2	17.4	21.2	28.5	10	31.1	4.7	26.0	37.8	26.5	29.5	35.3

Table 28.28 Timmering loam

Soil Type	Timmering loam		Soil Group	2		Irrigation District	RO									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	18	12.3	5.9	4.4	28.5	8.5	11.3	13.4	18	40.6	14.6	8.2	61.5	34.3	43.4	50.5
Silt%	18	36.0	7.0	26.8	51.6	29.3	35.3	38.0	18	31.6	6.9	17.0	43.4	26.7	34.2	36.3
Sand%	18	51.8	10.6	25.6	66.9	45.5	53.7	59.1	18	27.8	15.8	7.1	61.2	15.9	21.5	38.3
Bulk density (g/cm3)	18	1.43	0.18	1.09	1.77	1.28	1.44	1.58	18	1.62	0.10	1.48	1.81	1.55	1.59	1.68
Organic matter (%)	11	4.97	1.78	1.9	8.4	3.95	5.3	6.05	11	2.29	0.34	1.8	2.9	2.1	2.3	2.5
Depth of horizon (mm)	18	191	42.4	130	290	160	185	210	10	166	29.5	120	230	160	170	170
Soil Chemical Properties																
EC (dS/cm)	11	0.25	0.27	0.07	0.98	0.09	0.12	0.29	11	0.21	0.21	0.08	0.81	0.10	0.13	0.27
pH (H2O)	11	6.3	0.7	5.3	7.6	6.0	6.2	6.7	11	7.6	0.5	6.8	8.4	7.4	7.7	7.9
pH (CaCl2)	11	5.7	0.8	4.9	7.2	5.2	5.4	6.0	11	6.7	0.5	5.8	7.8	6.5	6.6	7.0
Ca (meq/100g)	11	6.7	2.2	3.4	10.0	5.4	6.8	8.3	11	6.5	1.4	3.9	9.1	5.8	6.7	7.2
Mg (meq/100g)	11	4.2	2.0	2.3	9.1	2.8	3.4	5.3	11	6.2	1.3	4.9	8.1	5.3	5.5	7.7
Na (meq/100g)	11	1.0	1.1	0.4	4.4	0.5	0.6	0.8	11	2.0	1.1	1.0	5.0	1.6	1.8	2.1
K (meq/100g)	11	0.5	0.4	0.1	1.4	0.2	0.4	0.6	11	0.6	0.5	0.2	1.9	0.3	0.4	0.7
ESP (%)	11	7.5	4.4	3.0	19.0	4.6	6.4	9.2	11	12.9	4.2	7.4	22.8	10.3	11.7	15.1
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	18	40.1	30.3	9.42	109	19.2	29.5	45	18	2.96	3.48	0.16	13.8	0.81	1.27	4.12
Final infiltration rate (mm/hr)									8	1.29	1.5	0.08	3.92	0.18	0.41	2.57
Available water capacity (%)	6	15.9	3.63	11.4	20.1	13.4	15.6	19.3	6	11.6	2.99	8.44	16.4	9.41	10.7	14
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	6	48.0	9.9	36.7	66.0	43.0	46.5	49.4	6	47.1	5.6	35.8	51.2	48.6	48.7	49.7
10	6	40.5	7.4	30.5	52.8	37.7	39.3	43.7	6	43.7	6.8	30.6	50.0	44.1	45.4	46.9
60	6	35.2	7.0	25.7	46.2	30.4	35.2	38.8	6	40.0	6.9	26.1	44.3	41.1	42.6	43.5
1500	6	24.6	6.5	17.1	33.5	18.4	24.2	30.3	6	32.1	6.2	19.6	36.1	32.9	34.2	35.7

Table 28.29 Ulupna clay

Soil Type	Ulupna clay		Soil Group	5		Irrigation District	MV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	2	43.8		33.7	53.8				2	49.1		26.8	71.3			
Silt%	2	33.9		27.6	40.1				2	31.1		20.2	41.9			
Sand%	2	22.4		18.5	26.2				2	19.9		8.5	31.2			
Bulk density (g/cm ³)	2	1.56		1.47	1.65				2	1.55		1.42	1.69			
Organic matter (%)	1	4							1	1.7						
Depth of horizon (mm)	2	140		130	150				2	170		150	190			
Soil Chemical Properties																
EC (dS/cm)	1	0.1							1	0.09						
pH (H ₂ O)	1	6.0							1	6.3						
pH (CaCl ₂)	1	5.1							1	5.3						
Ca (meq/100g)	1	7.2							1	3.4						
Mg (meq/100g)	1	6.8							1	3.7						
Na (meq/100g)	1	1.1							1	1.0						
K (meq/100g)	1	0.8							1	0.2						
ESP (%)	1	6.9							1	12.0						
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	2	44.8		37.2	52.5				2	1.66		1.03	2.29			
Final infiltration rate (mm/hr)									1	1.14						
Available water capacity (%)	2	9.36		8.5	10.2				2	11.8		10.1	13.5			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	46.0		43.8	48.2				2	45.2		36.7	53.7			
10	2	44.3		41.9	46.7				2	42.4		32.5	52.3			
60	2	42.6		40.0	45.2				2	40.1		29.8	50.4			
1500	2	34.9		31.7	38.2				2	30.6		22.4	38.8			

Table 28.30 Waaia loam

Soil Type	Waaia loam		Soil Group	2		Irrigation District	MV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	10	14.5	5.8	7.3	26.4	10.6	13.2	19.4	10	40.4	14.2	3.3	53.6	39.7	43.9	47.6
Silt%	10	31.9	5.5	23.8	39.6	27.3	31.9	36.6	10	25.4	6.5	14.0	32.4	20.6	27.5	29.8
Sand%	10	53.6	7.3	43.9	68.9	49.1	51.3	57.9	10	34.2	17.5	20.2	81.3	26.4	27.7	36.4
Bulk density (g/cm3)	10	1.57	0.13	1.26	1.74	1.53	1.59	1.61	10	1.6	0.07	1.49	1.69	1.56	1.58	1.67
Organic matter (%)	4	3.93	0.84	2.7	4.6	3.45	4.2	4.4	4	2.58	0.7	1.9	3.4	2	2.5	3.15
Depth of horizon (mm)	10	151	27.3	130	200	130	140	160	8	174	60.9	110	280	120	165	215
Soil Chemical Properties																
EC (dS/cm)	4	0.14	0.08	0.05	0.24	0.09	0.14	0.2	4	0.19	0.05	0.15	0.25	0.16	0.17	0.22
pH (H2O)	4	6.6	0.8	5.6	7.3	5.9	6.7	7.3	4	7.6	0.8	6.4	8.3	7.1	7.8	8.1
pH (CaCl2)	4	5.9	0.8	5.0	6.5	5.2	6.0	6.5	4	6.9	1.0	5.5	7.8	6.3	7.1	7.5
Ca (meq/100g)	4	5.8	0.8	4.7	6.7	5.2	5.9	6.4	4	9.9	5.3	4.3	17.0	6.6	9.1	13.2
Mg (meq/100g)	4	4.0	1.7	1.9	5.4	2.6	4.3	5.4	4	5.2	2.3	3.2	7.7	3.3	5.0	7.2
Na (meq/100g)	4	1.1	0.7	0.3	2.1	0.7	1.1	1.6	4	1.4	0.8	0.3	2.1	0.9	1.6	1.9
K (meq/100g)	4	0.5	0.5	0.2	1.2	0.2	0.2	0.7	4	0.7	0.8	0.3	1.9	0.3	0.4	1.2
ESP (%)	4	10.1	7.4	3.4	20.7	5.5	8.2	14.7	4	9.9	8.3	1.5	21.3	4.6	8.4	15.2
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	10	25.3	12.6	13.6	49.9	15	20.9	35.7	8	1.6	1.03	0.42	2.88	0.59	1.54	2.62
Final infiltration rate (mm/hr)									3	0.36	0.37	0.1	0.78			
Available water capacity (%)	4	18.2	3.87	13.3	22.8	15.8	18.4	20.6	4	16	3.79	11.3	20.1	13.0	16.2	18.9
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	4	43.6	3.1	39.6	46.9	41.3	44.0	45.9	4	48.2	5.0	43.7	55.3	45.2	46.8	51.2
10	4	40.2	3.1	37.0	43.6	37.6	40.1	42.8	4	44.6	4.4	40.6	50.7	41.6	43.6	47.6
60	4	32.7	1.9	30.7	34.9	31.2	32.6	34.3	4	37.9	3.3	34.4	40.9	35.0	38.1	40.7
1500	4	22.0	2.8	19.3	25.1	19.6	21.8	24.4	4	28.6	4.0	24.9	33.3	25.3	28.2	31.9

Table 28.31 Waaia loam phase

Soil Type	Waaia loam phase		Soil Group	2		Irrigation District	MV									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	4	9.3	1.9	6.9	11.4	8.1	9.5	10.5	4	47.7	3.8	42.0	50.4	45.3	49.1	50.1
Silt%	4	23.5	2.9	19.5	26.2	21.5	24.2	25.6	4	28.5	3.4	25.7	33.3	26.1	27.5	30.9
Sand%	4	67.2	4.4	64.1	73.6	64.6	65.4	69.7	4	23.8	1.8	21.1	24.9	22.8	24.6	24.8
Bulk density (g/cm3)	4	1.33	0.05	1.26	1.37	1.3	1.35	1.37	4	1.64	0.04	1.6	1.7	1.61	1.63	1.67
Organic matter (%)	4	6.18	0.69	5.7	7.2	5.8	5.9	6.55	4	2.88	0.67	2.3	3.8	2.4	2.7	3.35
Depth of horizon (mm)	4	175	20.8	150	200	160	175	190	0							
Soil Chemical Properties																
EC (dS/cm)	4	0.22	0.07	0.14	0.31	0.17	0.21	0.26	4	0.22	0.07	0.17	0.33	0.18	0.2	0.27
pH (H2O)	4	6.9	0.1	6.8	7.0	6.8	6.9	7.0	4	7.1	0.4	6.6	7.6	6.8	7.2	7.5
pH (CaCl2)	4	6.2	0.1	6.0	6.3	6.1	6.2	6.3	4	6.5	0.3	6.0	6.8	6.3	6.6	6.7
Ca (meq/100g)	4	7.3	1.2	5.8	8.7	6.4	7.3	8.2	4	8.0	0.7	7.4	8.9	7.5	7.8	8.4
Mg (meq/100g)	4	3.9	0.6	3.4	4.7	3.4	3.7	4.4	4	5.4	0.5	5.0	6.1	5.1	5.2	5.7
Na (meq/100g)	4	1.1	0.2	0.8	1.2	1.0	1.2	1.2	4	1.0	0.3	0.5	1.2	0.8	1.2	1.2
K (meq/100g)	4	1.8	0.7	0.7	2.2	1.4	2.1	2.2	4	1.7	0.8	1.0	2.8	1.1	1.6	2.4
ESP (%)	4	7.8	1.6	5.8	9.3	6.4	8.0	9.1	4	6.2	2.0	3.4	8.1	4.7	6.7	7.7
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	4	16	14.9	6.82	38.2	7.67	9.41	24.2	4	7.53	3.61	2.49	11	5.21	8.32	9.85
Final infiltration rate (mm/hr)									4	3.14	4.95	0.42	10.6	0.58	0.79	5.7
Available water capacity (%)	2	15.6		10.6	20.6				2	12.5		11.5	13.5			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	52.2		48.9	55.5				2	49.1		48.4	49.8			
10	2	49.5		47.0	52.0				2	45.7		44.5	46.8			
60	2	46.1		45.9	46.3				2	43.1		40.8	45.4			
1500	2	33.9		31.4	36.4				2	33.2		31.0	35.4			

Table 28.32 Wallenjoe clay

Soil Type	Wallenjoe clay					Soil Group	6			Irrigation District	RO						
Soil Properties	Horizon A								Horizon B1								
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile			
						25	50	75						25	50	75	
Soil Physical Properties																	
Particle size distribution																	
Clay%	2	65.0		59.1	70.8					2	61.0		58.3	63.7			
Silt%	2	26.1		21.5	30.6					2	31.6		28.8	34.4			
Sand%	2	9.0		7.6	10.3					2	7.4		7.3	7.5			
Bulk density (g/cm ³)	2	1.42		1.23	1.61					2	1.49		1.41	1.57			
Organic matter (%)	1	2.5								1	1.3						
Depth of horizon (mm)	2	120		100	140					2	235		200	270			
Soil Chemical Properties																	
EC (dS/cm)	1	0.21								1	0.21						
pH (H ₂ O)	1	7.1								1	7.8						
pH (CaCl ₂)	1	6.6								1	7.3						
Ca (meq/100g)	1	16.0								1	15.0						
Mg (meq/100g)	1	8.6								1	9.9						
Na (meq/100g)	1	0.6								1	1.2						
K (meq/100g)	1	2.9								1	2.2						
ESP (%)	1	2.1								1	4.2						
Soil Hydraulic Properties																	
Sat. hydraulic conductivity (mm/hr)	2	26.8		4.02	49.6					1	3.12						
Final infiltration rate (mm/hr)										0							
Available water capacity (%)	2	9.09		8.53	9.65					2	10.8		10.2	11.4			
Soil water retention characteristic																	
Volumetric water content (%) at																	
Matric suction (kPa)																	
0	2	62.4		57.0	67.8					2	62.5		59.3	65.7			
10	2	47.5		43.4	51.6					2	51.0		50.2	51.8			
60	2	44.6		40.2	49.0					2	47.8		47.5	48.2			
1500	2	38.4		33.7	43.0					2	40.2		38.8	41.6			

Table 28.33 Wana loam

Soil Type	Soil Group				Irrigation District				RO							
Wana loam	4				RO											
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	2	45.1		42.3	47.9				2	59.1		58.1	60.1			
Silt%	2	34.7		33.3	36.2				2	28.5		26.4	30.6			
Sand%	2	20.2		18.8	21.5				2	12.4		11.3	13.5			
Bulk density (g/cm ³)	2	1.4		1.34	1.45				2	1.5		1.47	1.52			
Organic matter (%)	1	5.3							1	1.5						
Depth of horizon (mm)	2	120		120	120				2	205		200	210			
Soil Chemical Properties																
EC (dS/cm)	1	0.27							1	0.37						
pH (H ₂ O)	1	6.3							1	8.0						
pH (CaCl ₂)	1	6.0							1	7.7						
Ca (meq/100g)	1	13.0							1	17.0						
Mg (meq/100g)	1	5.5							1	13.0						
Na (meq/100g)	1	0.1							1	0.9						
K (meq/100g)	1	0.6							1	0.8						
ESP (%)	1	0.5							1	2.8						
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	2	49.0		23.2	74.8				0							
Final infiltration rate (mm/hr)									1	1.98						
Available water capacity (%)	2	10.8		10.7	10.8				2	7.27		5.89	8.65			
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	2	51.7		51.1	52.2				2	48.4		48.3	48.6			
10	2	46.4		46.1	46.7				2	44.6		44.4	44.7			
60	2	42.7		42.6	42.8				2	42.1		42.1	42.1			
1500	2	35.6		35.4	35.9				2	37.3		36.1	38.5			

Table 28.34 Wanalta loam

Soil Type	Wanalta loam		Soil Group	3		Irrigation District	RO									
Soil Properties	Horizon A								Horizon B1							
	Sampling Points	Mean	Std	Min	Max	Percentile			Sampling Points	Mean	Std	Min	Max	Percentile		
						25	50	75						25	50	75
Soil Physical Properties																
Particle size distribution																
Clay%	22	25.5	9.9	9.1	46.2	17.4	22.6	33.7	22	41.1	15.5	17.7	60.1	22.6	47.9	53.7
Silt%	22	35.6	9.3	17.2	53.4	27.9	36.4	42.5	22	35.7	15.2	12.0	73.3	23.7	32.8	47.3
Sand%	22	38.9	11.1	18.5	57.4	30.9	38.0	46.5	22	23.2	10.2	7.9	46.6	15.2	22.7	30.8
Bulk density (g/cm ³)	22	1.5	0.15	1.19	1.73	1.38	1.54	1.61	22	1.53	0.11	1.29	1.71	1.47	1.52	1.59
Organic matter (%)	16	4.95	1.70	2.5	7.4	3.6	4.75	6.4	16	2.2	0.24	1.7	2.5	2.1	2.2	2.4
Depth of horizon (mm)	22	162	37.9	100	262	140	160	180	10	160	39.4	80	210	140	155	200
Soil Chemical Properties																
EC (dS/cm)	16	0.25	0.21	0.07	0.72	0.11	0.16	0.36	16	0.3	0.28	0.07	1.1	0.11	0.22	0.37
pH (H ₂ O)	16	6.4	0.7	5.5	8.4	5.8	6.5	6.7	16	7.3	0.8	5.8	9.1	6.8	7.3	7.7
pH (CaCl ₂)	16	5.8	0.8	4.9	7.9	5.1	6.0	6.3	16	6.6	0.9	5.4	8.5	6.0	6.6	7.2
Ca (meq/100g)	16	7.7	3.2	4.8	18.0	5.6	7.2	9.0	16	7.8	3.2	4.2	18.0	6.0	6.9	8.6
Mg (meq/100g)	16	6.1	2.0	3.0	8.7	4.1	6.3	7.7	16	7.9	1.9	4.0	10.0	6.9	8.4	9.6
Na (meq/100g)	16	1.1	0.7	0.3	2.9	0.6	1.0	1.5	16	1.8	1.0	0.3	3.7	1.1	1.5	2.9
K (meq/100g)	16	0.6	0.4	0.2	1.4	0.3	0.4	1.0	16	0.7	0.3	0.2	1.2	0.4	0.7	1.0
ESP (%)	16	7.0	3.0	2.8	14.6	4.9	7.5	8.7	16	9.7	4.8	2.8	17.2	4.8	9.4	14.0
Soil Hydraulic Properties																
Sat. hydraulic conductivity (mm/hr)	18	46.8	29.1	12	121	26.3	36.4	72.6	17	6.30	4.38	0.19	14.9	2.86	6.03	9.59
Final infiltration rate (mm/hr)									16	2.48	3.66	0.01	10.3	0.25	0.74	3.07
Available water capacity (%)	7	11.8	2.13	9.55	15.0	9.88	11.7	13.5	8	12.5	2.48	9.08	16.2	10.5	12.7	14.2
Soil water retention characteristic																
Volumetric water content (%) at																
Matric suction (kPa)																
0	7	45.1	4.5	38.1	53.2	43.5	44.7	46.2	8	47.4	9.8	32.9	60.5	40.1	46.3	56.5
10	7	40.5	3.4	34.3	43.5	38.7	41.0	43.3	8	40.7	8.3	27.1	51.2	34.9	40.7	48.1
60	7	35.4	4.4	30.0	40.3	30.8	36.9	39.3	8	36.5	8.7	22.2	47.4	30.7	36.6	43.8
1500	7	28.8	3.2	24.4	33.0	26.1	29.7	31.0	8	28.2	7.4	13.8	36.0	23.6	30.5	33.7