



Photo 21 – Site 6 Landscape (facing northeast)



Photo 22 – Landscape (facing southeast)



Photo 23 – Soil Profile



Photo 24 – Soil Profile (showing gleying of soil)

Description: Site 7 (GR07)										
Site Reference	GR07		ASC Name	Mottled-Hypernatric Mesotrophic Brown Sodosol			Coordinates			
Average Slope	Gently Inclined (2-3%)		Soil Fertility	Very low			Lat: -32.297225	Lon: 150.100494		
Land Use	Agriculture (grazing)		LSC Class	6			General observations			
Landform Element	Minimal mid slope		Micro-Relief	None			Good percentage of ground cover vegetation. No pan.			
Surface Condition	100% ground cover		Vegetation	Native and improved pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Very dark greyish brown (10YR 3/2), sandy silt with granular structure, low firmness and strength with no stickiness or plasticity. Minor fragments present and roots detected. Wet, free drainage, and loose consistency. Non-saline, sodic, slightly dispersive, slightly acid pH, and low CEC.								
A2	0.1-0.2	Munsell Colour: Brown (10YR 5/3), silty sand with granular structure, low firmness and strength, low stickiness and plasticity. Minor fragments present and roots detected. Wet, free drainage, and loose consistency. Non-saline, sodic, slightly dispersive, slightly acid pH, and low CEC.								
B1	0.35-0.4	Munsell Colour: Brown (10YR 5/3), gravely silty sand with granular structure, low firmness and strength, with low stickiness and plasticity. High level of gravel fragments present, and low level of roots detected. Wet, free drainage, and loose consistency. Non-saline, strongly sodic, slightly dispersive, slightly acid pH, and low CEC.								
B2	0.4-1.2	Munsell Colour: White (5YR 8/1) with 35% olive yellow (2.5 6/8) and 15% light brownish grey (2.5 6/2) mottling, silty clay with massive structure, high firmness and medium strength with medium stickiness and plasticity. Low level of fragments present, and nil roots detected. Moist, poor drainage, and rigid consistency. Non-saline, strongly sodic, moderately dispersive, slightly acid pH, and moderate CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.042	Non-saline	8.8	Sodic	3	Slightly dispersive	6.25	Slightly Acid	4	Low
0.1-0.2	0.017	Non-saline	13.52	Sodic	3	Slightly dispersive	6.48	Slightly Acid	1.9	Low
0.35-0.4	0.022	Non-saline	17.76	Strongly Sodic	3	Slightly dispersive	6.89	Slightly Acid	1.7	Low
0.5-0.7	0.094	Non-saline	37.5	Strongly Sodic	2	Moderately dispersive	6.84	Slightly Acid	7.9	Moderate



Photo 25 – Site 7 Landscape (facing north)



Photo 26 – Landscape (facing northeast)



Photo 27 – Soil Profile



Photo 28 – Soil Profile

Description: Site 8 (GR08)										
Site Reference	GR08		ASC Name	Leptic Eutrophic Red Ferrosols (mapped as Ferrosols)			Coordinates			
Average Slope	Flat Ridge		Soil Fertility	High			Lat: -32.305020	Lon: 150.106998		
Land Use	Agriculture (grazing)		LSC Class	6			General observations			
Landform Element	Crest		Micro-Relief	None			Native pasture grazing on an open flat ridge. Numerous surface rocks present. High percent of basalt rock throughout soil profile presenting a barrier to effective rooting depth.			
Surface Condition	100% ground cover (rocky)		Vegetation	Native pasture						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Very dark brown (7.5YR 2.5/3), silty loam with massive structure, low firmness and strength with no stickiness or plasticity. High level of various sized fragments present, and high level of roots detected. Moist, free drainage, and loose consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly acid pH, and high CEC.								
B1	0.15-0.2	Munsell Colour: dark reddish brown (2.5YR 2.5/4), silty clay with crumb structure, medium strength and firmness, sticky with medium plasticity. Rock present throughout (approx. 75%) and high level of roots detected. Moist, well drained and medium consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly alkaline pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.056	Non-saline	1.1	Non sodic	4	Negligible / aggregated	6.25	Slightly Acid	24.0	High
0.15-0.2	0.042	Non-saline	1.6	Non sodic	4	Negligible / aggregated	7.19	Slightly Alkaline	21.6	High



Photo 29 – Site 8 Landscape (facing northwest)



Photo 30 – Landscape (facing southwest)



Photo 31 – Soil Profile



Photo 32 – Excavated Soil Material (Showing High Rock Content)

Description: Site 9 (GR09)										
Site Reference	GR09		ASC Name	Leptic Eutrophic Red Ferrosols (mapped as Ferrosols)			Coordinates			
Average Slope	Flat Ridge		Soil Fertility	High			Lat: -32.301624	Lon: 150.108273		
Land Use	Agriculture (grazing)		LSC Class	6			General observations			
Landform Element	Crest		Micro-Relief	None			Conditions generally the same as site GR08. GR09 located at edge of ridge and slope drops off at a 17% decline to the north.			
Surface Condition	100% ground cover (rocky)		Vegetation	Native pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Very dark brown (10R 2/2), silty loam with massive structure, low firmness and strength with no stickiness or plasticity. High level of various sized fragments present and high level of roots detected. Moist, free drainage, and loose consistency. Slightly saline, non-sodic, negligible/aggregated dispersiveness, slightly acid pH, and high CEC.								
B1	0.1-0.2	Munsell Colour: dark reddish brown (2.5YR 2.5/4), silty clay with crumb structure, medium strength and firmness, sticky with medium plasticity. Rock present throughout (approx. 75%) and high level of roots detected. Moist, well drained, and medium consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly acid pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.319	Slightly saline	0.7	Non sodic	4	Negligible / aggregated	6.55	Slightly Acid	41.6	High
0.1-0.2	0.030	Non-saline	1.27	Non sodic	4	Negligible / aggregated	6.55	Slightly Acid	20.4	High



Photo 33 – Site 9 Landscape (facing east)



Photo 34 – Landscape (facing northeast)



Photo 35 – Soil Profile



Photo 36 – Soil Profile (Note high rock content)

Description: Site 10 (GR10)										
Site Reference	GR10		ASC Name	Petroferric Eutrophic Red Dermosol (mapped as Dermosols)			Coordinates			
Average Slope	Gently Undulating (3%)		Soil Fertility	High			Lat: -32.293631	Lon: 150.106510		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Simple slope		Micro-Relief	None			Gently undulating hillslope along ridge with surface rock visible.			
Surface Condition	100% ground cover		Vegetation	Native pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Very dark brown (7.5YR 2.5/2), silty loam with massive structure, low firmness and strength with no stickiness or plasticity. High level of various sized fragments present, and high level of roots detected. Moist and free drainage. Non-saline, non-sodic, slightly dispersive, slightly acid pH, high CEC and loose.								
A2	0.1-0.2	Munsell Colour: Very dark brown (7.5YR 2.5/2), silty loam with crumb structure, low firmness and strength, and sticky. 20% gravel to cobble fragments present and low level of roots detected (approx. 10%). Moist, well drained, and loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC.								
B1	0.2-0.6	Munsell Colour: Dark reddish brown (5YR 3/4), silty clay with crumb structure, medium firmness and strength, sticky with high plasticity. 20% gravel to cobble fragments present and high level of roots detected (approx. 75%). Moist, well drained, and loose consistency. No sample.								
B2	0.6-0.7	Red with black flecks, gravelly clay with crumb structure, firm and medium strength, and sticky. 20% gravel to cobble and weathered basalt fragments present and weathered basalt concentration increasing with depth. Nil roots detected. Moist, poor to medium drainage, and rigid consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly alkaline pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.063	Non-saline	0.9	Non sodic	3	Slightly dispersive	6.42	Slightly Acid	20.5	High
0.1-0.2	0.041	Non-saline	1.3	Non sodic	3	Slightly dispersive	6.57	Slightly Acid	17.4	High
0.6-0.7	0.034	Non-saline	2.5	Non sodic	4	Negligible / aggregated	7.47	Slightly Alkaline	23.3	High



Photo 37 – Site 10 Landscape (facing east)



Photo 38 – Landscape (facing north)



Photo 39 – Soil Profile



Photo 40 – Soil Profile (top view)

Description: Site 11 (GR11)										
Site Reference	GR11		ASC Name		Leptic Eutrophic Red Ferrosols			Coordinates		
Average Slope	Flat Ridge		Soil Fertility		High			Lat: -32.290382	Lon: 150.099332	
Land Use	Agriculture (cropping)		LSC Class		4			General observations		
Landform Element	Crest		Micro-Relief		None			Pasture used for oat crops. Flat sample site in the centre of ridge. Numerous surface rocks.		
Surface Condition	Tilled surface with ground cover at 50%.		Vegetation		Stubble and early oat crop					
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Very dark brown (7.5YR 2.5/2), clay loam with crumb structure, weak firmness and strength, moderately sticky and moderate plasticity. 30% gravel, pebbles and cobbly fragment present and high level (approx. 75%) of fine roots detected. Moist, well drained. and loose consistency. Non-saline, non-sodic, slightly dispersive, moderately acid pH, and high CEC.								
B1	0.15-0.25	Munsell Colour: Dark reddish brown (2.5YR 2.5/4), silty clay with massive structure, moderate firmness and strength, moderately sticky and high plasticity. Nil course fragment present and high level (approx. 75%) of fine roots detected. Moist and moderately to well drained. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly acid pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.053	Non-saline	1.6	Non sodic	3	Slightly dispersive	5.96	Moderately Acid	19.0	High
0.15-0.25	0.027	Non-saline	2.17	Non sodic	4	Negligible / aggregated	7.00	Slightly Acid	20.1	High



Photo 41 – Site 11 Landscape (facing east)



Photo 42 – Landscape (facing south)



Photo 43 – Soil Profile



Photo 44 – Vegetation Cover (Showing Floating Rock)

Description: Site 12 (GR12)										
Site Reference	GR12		ASC Name	Petroferric Eutrophic Red Dermosol			Coordinates			
Average Slope	Gently Inclined (5%)		Soil Fertility	Moderate			Lat: -32.288538	Lon: 150.106195		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Simple slope		Micro-Relief	None			Undulating hillslope with good ground cover (100%).			
Surface Condition	100% ground cover		Vegetation	Native pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Very dark brown (7.5YR 2.5/2), clay loam with crumb structure, weak firmness and strength, moderately sticky and moderate plasticity. Gravel to cobbly fragment present and high level (approx. 75%) of fine roots detected. Moist, well drained, and loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC.								
B1	0.15-0.25	Munsell Colour: Brown (7.5YR 4/4), silty clay with massive structure, moderate firmness and strength, moderately sticky and high plasticity. Nil course fragment present and high level (approx. 75%) of fine roots detected. Moist and moderately to well drained. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly alkaline pH, and high CEC.								
B2	0.55-0.6	Munsell Colour: Dark reddish brown (5YR 3/4), gravelly clay with crumb structure, firm and medium strength, and sticky. 20% gravel to cobble and weathered basalt fragments present, weathered basalt concentration increasing with depth. Nil roots detected. Moist, poor to medium drainage, and rigid consistency. Large basalt fragments and over 200mm cave in at approx. 1 meter depth. Non-saline, non-sodic, negligible/aggregated dispersiveness, moderately alkaline pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.075	Non-saline	1.3	Non sodic	3	Slightly dispersive	6.05	Slightly Acid	16.8	High
0.15-0.25	0.040	Non-saline	2.0	Non sodic	4	Negligible / aggregated	7.10	Slightly Alkaline	16.7	High
0.55-0.6	0.150	Non-saline	1	Non sodic	4	Negligible / aggregated	8.14	Moderately Alkaline	37.7	High



Photo 45 – Site 12 Landscape (facing north)



Photo 46 – Landscape (facing northeast)



Photo 47 – Soil Profile



Photo 48 – Soil Profile showing Rock at Total Depth

Description: Site 13 (GR13)										
Site Reference	GR13		ASC Name	Petroferric Eutrophic Red Dermosol			Coordinates			
Average Slope	Gently Inclined (5%)		Soil Fertility	Low			Lat: -32.285019	Lon: 150.096648		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Simple slope		Micro-Relief	None			Sample site is on a flat area however site has a 5% slop then to a gentle slope. 100% ground cover.			
Surface Condition	100% ground cover		Vegetation	Native and improved pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Very dark brown (7.5YR 2.5/2), clay loam with crumb structure, weak firmness and strength, moderately sticky and moderate plasticity. 30% gravel, pebbles and cobbly fragment present and high level (approx. 75%) of fine roots detected. Moist, well drained, and loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC.								
B1	0.2-0.3	Munsell Colour: Dark red (2.5YR 3/6), silty clay with crumb structure, weak firmness and strength, moderately sticky and high plasticity. High level (75%) of gravel, pebbly, and cobbly fragments present and low level (approx. 25%) of fine roots detected. Moist and loose consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly acid pH, and moderate CEC.								
B2	0.55-0.65	Munsell Colour: Dark red (2.5YR 3/6), silty clay with crumb structure, weak firmness and strength, moderately sticky and high plasticity. No course fragments present and low level (approx. 25%) of fine roots detected. Moist and loose consistency. Non-saline, slightly sodic and dispersion can only occur under raindrop impact in surface soils, negligible/aggregated dispersiveness, slightly alkaline pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.115	Non-saline	1.3	Non sodic	3	Slightly dispersive	6.49	Slightly Acid	20.3	High
0.2-0.3	0.044	Non-saline	1.6	Non sodic	4	Negligible / aggregated	6.80	Slightly Acid	14.5	Moderate
0.55-0.65	0.044	Non-saline	3	Slightly sodic	4	Negligible / aggregated	7.23	Slightly Alkaline	17	High



Photo 49 – Site 13 Landscape (facing east)



Photo 50 – Landscape (facing northwest)



Photo 51 – Soil Profile



Photo 52 – Excavated Soil Profile showing Rock Throughout

Description: Site 14 (GR14)										
Site Reference	GR14		ASC Name		Leptic Eutrophic Red Ferrosols)			Coordinates		
Average Slope	Flat Ridge		Soil Fertility		High			Lat: -32.284133	Lon: 150.101261	
Land Use	Agriculture (grazing)		LSC Class		4			General observations		
Landform Element	Crest		Micro-Relief		None			Generally same site conditions as GR11, however sample site is located at near top of ridge. Large rocks throughout soil profile.		
Surface Condition	100% Ground cover		Vegetation		Native and improved pastures					
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Dark brown (7.5YR 3/2) with 3% yellow (2.5Y 8/6) mottling, clay loam with crumb structure, weak firmness and strength, moderately sticky and moderate plasticity. 30% gravel, pebbles and cobbly fragment present and high level (approx. 75%) of fine roots detected. Moist, well drained. and loose consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, moderately acid pH, and high CEC.								
B1	0.15-0.25	Munsell Colour: Dark reddish brown (2.5YR 2.5/4), silty clay with crumb structure, weak firmness and strength, moderately sticky and high plasticity. High level (75%) of gravel, pebbly, and cobbly fragments present and low level (approx. 25%) of fine roots detected. Moist and loose consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly acid pH, and high CEC.								
B2	0.65-0.75	Munsell Colour: Dark reddish brown (5YR 3/4), silty clay with crumb structure, weak firmness and strength, moderately sticky and high plasticity. No course fragments present and low level (approx. 25%) of fine roots detected. Moist and loose consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly alkaline pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.192	Non-saline	1.3	Non sodic	4	Negligible / aggregated	5.95	Moderately Acid	18.7	High
0.15-0.25	0.034	Non-saline	1.53	Non sodic	4	Negligible / aggregated	6.98	Slightly Acid	20.6	High
0.65-0.75	0.057	Non-saline	2.1	Non sodic	4	Negligible / aggregated	7.46	Slightly Alkaline	30	High



Photo 53 – Site 14 Landscape (facing east)



Photo 54 – Landscape (facing southwest)



Photo 55 – Soil Profile



Photo 56 – Soil Profile showing Large Rock at Total Depth

Description: Site 15 (GR15)											
Site Reference	GR15		ASC Name	Petroferric Eutrophic Red Dermosol			Coordinates				
Average Slope	Gently Inclined (5%)		Soil Fertility	High			Lat:	--32.282419		Lon:	150.108671
Land Use	Agriculture (grazing)		LSC Class	4			General observations				
Landform Element	Mid slope		Micro-Relief	None			Undulating hill with no pan. Increasing rock size with depth.				
Surface Condition	100% Ground cover		Vegetation	Native and improved pastures							
Soil Horizon:	Depth (m)	Description									
A1	0.0-0.15	Munsell Colour: Reddish brown (5YR 4/4), silty loam with massive structure, low firmness and strength with no stickiness or plasticity. High level of various sized fragments present and high level of roots detected. Moist, free drainage, and loose consistency. Non-saline, non-sodic, negligible/aggregate dispersiveness, slightly acid pH, and high CEC.									
B1	0.15-0.25	Munsell Colour: Yellowish red (5YR 4/6), silty clay with crumb structure, medium firmness and strength, sticky with high plasticity. 20% gravel to cobble fragments present and high level of roots detected (approx. 75%). Moist, well drained, and loose consistency. Non-saline, non-sodic, negligible/aggregate dispersiveness, slightly alkaline pH, and high CEC.									
B2	0.6-0.7	Munsell Colour: Dark reddish brown (5YR 3/4), gravelly clay with crumb structure, firm and medium strength, and sticky. 20% gravel to cobble and weathered basalt fragments present, weathered basalt concentration increasing with depth. Nil roots detected. Moist, poor to medium drainage, and rigid consistency. Non-saline, non-sodic, negligible/aggregate dispersiveness, slightly alkaline pH, and high CEC.									
Key Results of Analysis											
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC		
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating	
0.0-0.15	0.082	Non-saline	2.4	Non sodic	4	Negligible / aggregated	6.28	Slightly Acid	23	High	
0.15-0.25	0.039	Non-saline	1.3	Non sodic	4	Negligible / aggregated	7.08	Slightly Alkaline	20	High	
0.6-0.7	0.042	Non-saline	2.4	Non sodic	4	Negligible / aggregated	7.30	Slightly Alkaline	29	High	



Photo 57 – Site 15 Landscape (facing east)



Photo 58 – Landscape (facing west)



Photo 59 – Soil Profile



Photo 60 – Excavated Soil Profile showing Large Rock throughout Profile

Description: Site 16 (GR16)											
Site Reference	GR16		ASC Name	Petroferric Eutrophic Red Dermosol			Coordinates				
Average Slope	Gently Inclined (5%)		Soil Fertility	High			Lat:	--32.283579		Lon:	150.116828
Land Use	Agriculture (grazing)		LSC Class	4			General observations				
Landform Element	Mid slope		Micro-Relief	None			Generally, the same conditions as sample site GR15. Sample site located on ridge.				
Surface Condition	100% Ground cover		Vegetation	Native and improved pastures							
Soil Horizon:	Depth (m)	Description									
A1	0.0-0.15	Munsell Colour: Very dark brown (7.5YR 2.5/3), silty loam with massive structure, low firmness, and strength with no stickiness or plasticity. High level of various sized fragments present, and high level of roots detected. Moist, free drainage, and loose consistency. Non-saline, non-sodic, negligible / aggregated dispersiveness, slightly acid pH, and high CEC.									
B1	0.2-0.3	Munsell Colour: Dark reddish brown (2.5YR 2.5/4), silty clay with crumb structure, medium firmness and strength, sticky with high plasticity. 20% rock fragments present, and high level of roots detected (approx. 75%). Moist, well drained, and loose consistency. Non-saline, non-sodic, negligible / aggregated dispersiveness, slightly alkaline pH, and high CEC.									
B2	0.85-0.95	Munsell Colour: Dark reddish brown (5YR 3/4), gravelly clay with crumb structure, firm and medium strength, and sticky. 20% gravel to cobble and weathered basalt fragments present, weathered basalt concentration increasing with depth. Nil roots detected. Moist, poor to medium drainage, and rigid consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, moderately alkaline pH, and high CEC.									
Key Results of Analysis											
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC		
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating	
0.0-0.15	0.096	Non-saline	0.9	Non sodic	4	Negligible / aggregated	6.30	Slightly Acid	25	High	
0.2-0.3	0.058	Non-saline	1.3	Non sodic	4	Negligible / aggregated	7.49	Slightly Alkaline	19	High	
0.85-0.95	0.084	Non-saline	1.0	Non sodic	4	Negligible / aggregated	8.13	Moderately Alkaline	37	High	



Photo 61 – Site 16 Landscape (facing east)



Photo 62 – Landscape (facing south)



Photo 63 – Soil Profile



Photo 64 – Excavated Soil Profile showing rock throughout Profile

Description: Site 17 (GR17)										
Site Reference	GR17		ASC Name	Brown Petroferic Eutrophic Dermosol			Coordinates			
Average Slope	Gently Inclined (6%)		Soil Fertility	High			Lat: -32.278773	Lon: 150.116800		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Upper slope		Micro-Relief	None			Generally, the same conditions as sample site GR18.			
Surface Condition	100% Ground cover		Vegetation	Native and improved pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Very dark brown (7.5YR 2.5/3), silty loam with massive structure, low firmness, and strength with weak stickiness and non-plastic. Moderate (~50%) level of gravel, cobbles, and stone fragments present, and high level of roots detected. Dry, well drained, and loose consistency. Non-saline, non-sodic, slightly dispersive, moderately acid pH, and high CEC.								
B1	0.2-0.3	Munsell Colour: Very dark brown (7.5YR 2.5/3), silty clay with massive structure, high strength but poor firmness and moderate stickiness and high plasticity. Moderate (~50%) level of gravel, cobbles, and stone fragments present and low level of roots detected (approx. 10%). Dry, well drained, and loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.048	Non-saline	0.41	Non sodic	3	Slightly dispersive	5.91	Moderately Acid	18	High
0.2-0.3	0.034	Non-saline	0.47	Non sodic	3	Slightly dispersive	6.36	Slightly Acid	18	High



Photo 65 – Site 28 Landscape (facing southeast)



Photo 66 – Landscape (facing west)



Photo 67 – Soil Profile



Photo 68 – Soil Profile

Description: Site 18 (GR18)										
Site Reference	GR18		ASC Name		Mottled Red Petroferric Eutrophic Dermosols		Coordinates			
Average Slope	Gently Inclined (6%)		Soil Fertility		High		Lat: --32.278630		Lon: 150.110574	
Land Use	Agriculture (grazing)		LSC Class		4		General observations			
Landform Element	Upper slope		Micro-Relief		None		Sample site located on upper slope f single slope. 100% ground cover observed and some surface rock.			
Surface Condition	100% Ground cover		Vegetation		Native and improved pastures					
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.15	Munsell Colour: Very dark brown (7.5YR 2.5/3), silty loam with massive structure, low firmness and strength, weak stickiness, and non-plastic. Approx. 15% cobble fragments and 50% fine roots detected. Moist, well drained, and loose consistency Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly acidic pH, and high CEC.								
B1	0.15-0.25	Munsell Colour: Dark reddish brown (2.5YR 2.5/4), silty clay with granular structure, high strength but poor firmness and moderate stickiness and high plasticity. Approx. 50% gravel, cobble and stone fragments and 15% fine roots detected. Moist and well drained. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly acidic pH, and moderate CEC.								
B2	0.6-0.7	Munsell Colour: Dark red (2.5YR 3/6) with 10% red (10YR 5/8) mottling, gravely, silty clay with granular structure, poor firmness and moderate strength with moderates stickiness and plasticity. Over 50% gravel, cobble, stone, and rock fragments and only 5% fine roots detected. Moist, well drained, and loose consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly alkaline pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.15	0.090	Non-saline	1.2	Non sodic	4	Negligible / aggregated	6.04	Slightly Acid	18	High
0.15-0.25	0.037	Non-saline	2.2	Non sodic	4	Negligible / aggregated	6.92	Slightly Acid	15	Moderate
0.6-0.7	0.048	Non-saline	2.2	Non sodic	4	Negligible / aggregated	7.43	Slightly Alkaline	26	High



Photo 69 – Site 18 Landscape (facing west)



Photo 70 – Landscape (facing southeast)



Photo 71 – Soil Profile



Photo 72 – Soil Test Pit

Description: Site 19 (GR19)										
Site Reference	GR19		ASC Name	Petroferric Eutrophic Red Dermosol			Coordinates			
Average Slope	Flat ridge		Soil Fertility	Moderate to High			Lat: -32.278712	Lon: 150.101964		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Crest		Micro-Relief	None			Sample site located on flat top of a flat ridge. 100% groundcover observed on native and introduced pastures with minor surface rocks.			
Surface Condition	100% ground cover		Vegetation	Native and introduced pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Dark reddish brown (2.5YR 2.5/3), silty loam with angular structure and weak boundary, low firmness and strength, weak stickiness, and non-plastic. 10% gravel fragments and 50% fine roots detected. Moist, well drained, and loose consistency. Non saline, non-sodic, slightly dispersive, slightly acidic pH, and high CEC.								
B1	0.2-0.3	Munsell Colour: Dusky red (7.5YR 3/4), silty clay with crumb structure and weak boundary, weak strength and firmness, moderately sticky and high plasticity. Over 5% fine gravel fragments and fine to moderate roots detected. Moist, well drained with looser (3) consistency. Non saline, non-sodic, negligible/aggregated dispersiveness, slightly alkaline pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.085	Non-saline	2.1	Non sodic	3	Slightly dispersive	6.14	Slightly Acid	17	High
0.2-0.3	0.155	Non-saline	1.0	Non sodic	4	Negligible / aggregated	7.94	Slightly Alkaline	26	High



Photo 73 – Site 19 Landscape (facing north)



Photo 74 – Landscape (facing east)



Photo 75 – Soil Profile



Photo 76 – Soil Clod

Description: Site 20 (GR20)										
Site Reference	GR20		ASC Name	Petroferric Eutrophic Red Dermosol			Coordinates			
Average Slope	Gently Inclined (3%)		Soil Fertility	High			Lat: -32.280547	Lon: 150.095474		
Land Use	Agriculture (grazing)		LSC Class	6			General observations			
Landform Element	Edge of crest		Micro-Relief	None			Sample site located at edge of ridge and dropping to a 10% slope to the south. 100% groundcover of native grasses with numerous surface rocks.			
Surface Condition	100% ground cover		Vegetation	Native grasses						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Very dusky red (5YR 2.5/2), silty clay with blocky structure, weak strength and firmness, moderately sticky and poor plasticity. 50% gravel and boulder fragments and over 50% fine roots detected. Moist, well drained, and loose consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly acid pH, and high CEC.								
B1	0.2-0.3	Munsell Colour: Dusky red (7.5YR 3/4), silty clay with crumb structure, moderately firm and strong, moderately sticky and high plasticity. Over 50% gravel and boulder fragments and only over 5% fine roots detected. Moist and moderate consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly acid pH, and moderate CEC.								
Key Results of Analysis										
Sample Depth (m)	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.125	Non-saline	0.7	Non sodic	4	Negligible / aggregated	6.54	Slightly Acid	26	High
0.2-0.3	0.030	Non-saline	1.9	Non sodic	4	Negligible / aggregated	6.80	Slightly Acid	14	Moderate



Photo 77 – Site 20 Landscape (facing north)



Photo 78 – Landscape (facing east)



Photo 79 – Soil Profile



Photo 80 – Excavated Boulders

Description: Site 21 (GR21)										
Site Reference	GR21		ASC Name		Mottled Red Petroferric Eutrophic Dermosols			Coordinates		
Average Slope	Gentle Slope (2%)		Soil Fertility		High			Lat: -32.276355	Lon: 150.096298	
Land Use	Agriculture (grazing)		LSC Class		6			General observations		
Landform Element	Edge of crest		Micro-Relief		None			Sample site land used for cattle grazing. 100% ground cover observed with low surface rock and no pan.		
Surface Condition	100% ground cover		Vegetation		Native and improved pastures					
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.05	Pale brown, silty loam with blocky structure, weak strength and firmness, moderately sticky and poor plasticity. 10% pebble fragments and over 50% fine roots detected. Moist and well drained with loose consistency. Non-sodic, slightly dispersive, and slightly acid pH.								
B1	0.1-0.2	Munsell Colour: Dark red (2.5YR 3/6), silty clay with lenticular structure, moderately firm and strong, high stickiness and plasticity. One boulder fragment and 10% fine roots detected. Moist and moderate drainage with loose consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly alkaline pH, and high CEC.								
B2	0.5-0.6	Munsell Colour: Yellowish Red (5 YR 5/6) with 15% reddish yellow (7.5YR 6/8) mottling, gravely clay with massive structure. Weak firmness and strength, moderate stickiness and plasticity. Over 50% weathered basalt coarse fragments and 100% weathered basalt recorded at 1.1m and nil roots detected. Moist and moderate drainage with loose consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, moderately alkaline pH, and high CEC.								
Key Results of Analysis										
Sample Depth (m)	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.05	-	-	0.8	Non sodic	3	Slightly dispersive	6.23	Slightly Acid	-	-
0.1-0.2	0.056	Non-saline	0.8	Non sodic	4	Negligible / aggregated	7.60	Slightly Alkaline	36	High
0.5-0.6	0.130	Non-saline	1.4	Non sodic	4	Negligible / aggregated	8.52	Moderately Alkaline	41	High



Photo 81 – Site 21 Landscape (facing west)



Photo 82 – Landscape (facing south)



Photo 83 – Soil Profile



Photo 84 – Facing Northeast

Description: Site 22 (GR22)										
Site Reference	GR22		ASC Name	Eutrophic Petroferic Brown Dermosol			Coordinates			
Average Slope	Gently Inclined (5%)		Soil Fertility	High			Lat: -32.274501	Lon: 150.102714		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Simple slope		Micro-Relief	None			Site gently sloping to the north. 100% vegetation cover with moderate surface rock and rocky outcrop 50m to the north.			
Surface Condition	100% ground cover		Vegetation	Native pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.15	Munsell Colour: Very Dark Brown (7.5 YR 2.5/2), silty loam with massive structure, low firmness and strength, weak stickiness, and non-plastic with loose consistency. Approx. 50% gravel, cobble, and stone fragments and 50% fine roots detected. Moist and well drained. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC.								
B1	0.15-0.25	Munsell Colour: Dark Brown (7.5 YR 3/4), silty clay with granular structure, moderate firmness and strength, moderate stickiness and high plasticity. 20% gravel fragments and 10% fine roots detected. Moist and well drained with loose consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly alkaline pH, and high CEC.								
C	0.5-0.6	Munsell Colour: Dark Brown (7.5 YR 3/4) with 3% reddish yellow (7.5YR 6/8) mottling. Silty clay with granular structure, low firmness and strength, poor stickiness, and moderate plasticity. Over 50% weathers rock (gravel, cobble, and stone) fragments and minor fine roots detected. Moist and well drained with loose consistency. Non-saline, slightly sodic and dispersion can only occur under raindrop impact in surface soils, slightly dispersive, slightly alkaline pH and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.15	0.208	Non-saline	1.4	Non sodic	3	Slightly dispersive	6.62	Slightly Acid	25	High
0.15-0.25	0.052	Non-saline	1.5	Non sodic	4	Negligible / aggregated	7.16	Slightly Alkaline	25	High
0.5-0.6	0.061	Non-saline	3.8	Slightly sodic	3	Slightly dispersive	7.52	Slightly Alkaline	30	High



Photo 85 – Site 22 Landscape (facing)



Photo 86 – Landscape (facing)



Photo 87 – Soil Profile



Photo 88 – Excavated Soil

Description: Site 23 (GR23)										
Site Reference	GR23		ASC Name		Petroferric Eutrophic Red Dermosol			Coordinates		
Average Slope	Gently Inclined (5%)		Soil Fertility		High			Lat: -32.268281	Lon: 150.100103	
Land Use	Agriculture (grazing)		LSC Class		4			General observations		
Landform Element	Simple slope		Micro-Relief		None			Undulating slope. No surface rock and good groundcover. Site located at Mid slope near road and sloping south-west.		
Surface Condition	100% ground cover		Vegetation		Native pastures					
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Dark Reddish Brown (5 YR 3/4), clayey silt with blocky structure, moderately firm and poor strength, moderate plasticity and stickiness. Over 10% cobble fragments and over 50% fine roots detected. Moist with loose consistency. Non-saline, non-sodic, moderately dispersive, slightly acid pH, and high CEC.								
B1	0.15-0.25	Munsell Colour: Dark Reddish Brown (5 YR 3/4), silty clay with massive structure, moderate firmness and strength, moderate stickiness, and high plasticity. Nil coarse fragments and over 5% fine roots detected. Moist and moderate consistency. Non-saline-non-sodic, negligible/aggregated dispersiveness, slightly alkaline pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.069	Non-saline	1.2	Non sodic	2	Moderately dispersive	6.66	Slightly Acid	32	High
0.15-0.25	0.073	Non-saline	2.5	Non sodic	4	Negligible / aggregated	7.97	Slightly Alkaline	40	High



Photo 89 – Site 23 Landscape (facing)



Photo 90 – Landscape (facing)



Photo 91 – Soil Profile



Photo 92 –

Description: Site 24 (GR24)										
Site Reference	GR24		ASC Name	Petroferric Eutrophic Red Dermosol (mapped as Dermosols)			Coordinates			
Average Slope	Gently Inclined (3%)		Soil Fertility	High			Lat: -32.267808	Lon: 150.098289		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Simple slope		Micro-Relief	None			Condition as per site GR23. Sample site located on south facing lower-mid slope			
Surface Condition	100% ground cover		Vegetation	Native pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Very Dusky Red (2.5YR 2.5/2) with 2% red (2.5YR 5/6) mottling. Clayey silt with blocky structure, moderately firm and poor strength, moderate plasticity and stickiness. Over 10% cobble fragments and over 50% fine roots detected. Moist with loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC.								
B1	0.3-0.4	Munsell Colour: Dark Reddish Brown (2.5YR 2.5/3), clay with massive structure, moderately firm and high strength. High stickiness and plasticity. Nil to 10% gravel to cobble fragments (with depth) and 5% fine roots detected. Moist and moderate to fair drainage with rigid consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, moderately alkaline pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.139	Non-saline	1.1	Non sodic	3	Slightly dispersive	6.57	Slightly Acid	41	High
0.3-0.4	0.093	Non-saline	2.4	Non sodic	4	Negligible / aggregated	8.01	Moderately Alkaline	46	High



Photo 93 – Site 24 Landscape (facing northeast)



Photo 94 – Landscape (facing northwest)



Photo 95 – Soil Profile



Photo 96 – Soil Profile (Top View)

Description: Site 25 (GR25)										
Site Reference	GR25		ASC Name		Red Petroferic Eutrophic Dermosol			Coordinates		
Average Slope	Gently Inclined (5%)		Soil Fertility		Low			Lat: -32.269786	Lon: 150.109836	
Land Use	Agriculture (grazing)		LSC Class		4			General observations		
Landform Element	Simple slope		Micro-Relief		None			Surface recently cultivated with some surface rock across the surface.		
Surface Condition	90% ground cover		Vegetation		Native pastures					
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Dark reddish brown (2.5YR 2.5/3), sandy silty loam massive structure, weak strength and firmness, low stickiness and plasticity. Minor gravel fragments. Dry and free draining with moderate rigidity and. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and low CEC.								
B2	0.3-0.4	Munsell Colour: Dark red (2.5YR 3/6), clay loam with massive structure, moderate firmness and strength and moderate stickiness and plasticity. Nil coarse fragments detected. Slightly moist and moderate to well drainage. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and moderate CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.036	Non-saline	1.3	Non sodic	3	Slightly dispersive	6.09	Slightly Acid	4.8	Low
0.3-0.4	0.032	Non-saline	1.5	Non sodic	3	Slightly dispersive	6.57	Slightly Acid	8.2	Moderate



Photo 97 – Site 25 Landscape (facing southeast)



Photo 98 – Landscape (facing west)



Photo 99 – Soil Profile



Photo 100 – Soil Profile

Description: Site 26 (GR26)										
Site Reference	GR26		ASC Name	Mottled Red Petroferric Eutrophic Dermosols			Coordinates			
Average Slope	Gently Inclined (6%)		Soil Fertility	Low			Lat: -32.264575	Lon: 150.113004		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Waning lower slope		Micro-Relief	None			Rock outcrop and high erosion area ~ 100m west. Good ground cover and high percentage of surface rock.			
Surface Condition	100% ground cover		Vegetation	Native and improved pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Dark Reddish Brown (2.5YR 2.5/3, silty with blocky structure, moderately firm and poor strength, moderate plasticity and stickiness. Over 10% cobble fragments and high level (over 50%) of fine roots detected. Moist with loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and moderate CEC.								
B1	0.1-0.2	Munsell Colour: Dark Red (2.5YR 3/6) with 1% reddish black (2.5YR 2.5/1) mottling. Sandy clay with granular structure, medium firmness and strength, medium stickiness and plasticity 5% coarse fragments and approx. 15% roots detected. Moist with loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and moderate CEC.								
B2	0.3-0.4	Munsell Colour: Red (2.5YR 4/8) with 15% light red (2.5YR 6/8) mottling. Sandy clay with granular structure, high firmness and strength, medium plasticity and stickiness. 50% weathered basalt in form of sand to cobbles and nil roots detected. Moist and loose consistency approaching bedrock. Non-saline, non-sodic, slightly dispersive, slightly alkaline pH, and moderate CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.045	Non-saline	2.4	Non sodic	3	Slightly dispersive	6.28	Slightly Acid	7	Moderate
0.1-0.2	0.023	Non-saline	2.6	Non sodic	3	Slightly dispersive	6.76	Slightly Acid	6	Moderate
0.3-0.4	0.021	Non-saline	2.3	Non sodic	3	Slightly dispersive	7.06	Slightly Alkaline	6	Moderate



Photo 101 – Site 26 Landscape (facing northeast)



Photo 102 – Landscape (facing northwest)



Photo 103 – Soil Profile



Photo 104 – Vegetation (Previously Cropped)

Description: Site 27 (GR27)										
Site Reference	GR27		ASC Name		Petroferric Eutrophic Red Dermosol			Coordinates		
Average Slope	Gently Inclined (9%)		Soil Fertility		High			Lat: -32.262112	Lon: 150.117667	
Land Use	Agriculture (grazing)		LSC Class		4			General observations		
Landform Element	Ridge		Micro-Relief		None			Sample site located on grazing and fodder cropping land use. Number of rock outcrops and surface rocks present. 100% ground cover, predominantly weeds.		
Surface Condition	100% ground cover		Vegetation		Native and improved pastures (and weed)					
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Black (5YR 2.5/1), clayey silt with blocky structure, low firmness and strength and sticky with low plasticity. No coarse fragment noting surface rocks and high level of roots detected. Moist, free draining, and loose consistency. Non saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC.								
B1	0.2-0.3	Munsell Colour: Reddish black (7.5YR 2.5/1), silty clay with crumb structure, firm with moderate strength, medium stickiness and medium plasticity. Some gravel (5%) fragments and low level of roots detected. Moist, well drained, and loose consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly alkaline pH, and high CEC.								
B2	0.4-0.5	Munsell Colour: Very dusky red (10YR 2.5/2), sandy clay with granular, very firm with low strength, low plasticity, and low stickiness. High level (50%) gravel fragments with high level of weathered basalt and nil roots detected. Moist, well drained and loose consistency. Non-saline, non-sodic, slightly dispersive, slightly alkaline pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.051	Non-saline	0.9	Non sodic	3	Slightly dispersive	6.34	Slightly Acid	27	High
0.2-0.3	0.051	Non-saline	0.4	Non sodic	4	Negligible / aggregated	7.22	Slightly Alkaline	66	High
0.4-0.5	0.079	Non-saline	0.4	Non sodic	3	Slightly dispersive	7.34	Slightly Alkaline	69	High



Photo 105 – Site 27 Landscape (facing southeast)



Photo 106 – Landscape (facing west)



Photo 107 – Soil Profile



Photo 108 – Rock outcrop near sample site

Description: Site 28 (GR28)										
Site Reference	GR28		ASC Name	Mottled Red Petroferric Eutrophic Dermosols (mapped as Dermosols)			Coordinates			
Average Slope	Gently Inclined (5%)		Soil Fertility	Low			Lat: -32.267288	Lon: 150.116909		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Minimal Mid-Slope		Micro-Relief	None			Sample site surrounded by basalt rock outcrop to the south and east. Low ground cover and high percent of weeds with numerous floating rocks.			
Surface Condition	~ 70 % ground cover		Vegetation	Native and exotic pastures + weeds						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Very dusky red (10YR 2.5/2), silty loam with blocky structure, low firmness and strength and sticky with low plasticity. No coarse fragment noting surface rocks and high level of roots detected. Moist, free draining, and loose consistency. Non-saline, non-sodic, slightly dispersive, moderately acid pH, and high CEC.								
B1	0.1-0.2	Munsell Colour: Dark reddish brown (2.5YR 3/4), silty clay with crumb structure, very firm and medium strength. No coarse fragments and low level (5%) of roots detected. Moist, well drained, and medium rigid consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly acid pH, and high CEC.								
B2	0.55-0.65	Munsell Colour: Dark reddish brown (5YR 3/4) with 1% reddish yellow (5YR 6/8) mottling. Gravely clay with crumb, medium firmness and strength, medium stickiness, and medium plasticity. 40% gravel to cobble fragments and nil roots detected. Moist, well drained and rigid consistency. Non-saline, non-sodic, negligible/aggregated dispersiveness, slightly alkaline pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.148	Non-saline	0.7	Non sodic	3	Slightly dispersive	5.95	Moderately Acid	18	High
0.1-0.2	0.069	Non-saline	0.6	Non sodic	4	Negligible / aggregated	6.80	Slightly Acid	38	High
0.55-0.65	0.060	Non-saline	0.8	Non sodic	4	Negligible / aggregated	7.83	Slightly Alkaline	59	High



Photo 109 – Site 28 Landscape (facing southeast)



Photo 110 – Landscape (facing west)



Photo 111 – Soil Profile



Photo 112 – Soil Profile

Description: Site 29 (GR29)										
Site Reference	GR29		ASC Name	Red Petroferic Eutrophic Ferric Dermosol			Coordinates			
Average Slope	Gently Inclined (7%)		Soil Fertility	Moderate			Lat: -32.295742	Lon: 150.090662		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Rolling, undulating hill		Micro-Relief	None			Good vegetation cover with some surface rock.			
Surface Condition	100% ground cover		Vegetation	Native and improved pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Dark brown (7.5YR 3/4), silty, sandy loam with massive structure. When wet low firmness and strength with no stickiness or plasticity. No coarse fragment and moderate (~30%) level of roots detected. Dry, when wet free draining, and loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and moderate CEC.								
B1	0.3-0.5	Munsell Colour: Dark red (2.5YR 3/6), friable, sandy clay with massive structure. When wet firm and moderate strength with low plasticity and low stickiness. No coarse fragments and low level (<5%) of roots detected. Dry and free draining. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and moderate CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.047	Non-saline	0.67	Non sodic	3	Slightly dispersive	6.49	Slightly Acid	8.1	Moderate
0.3-0.5	0.015	Non-saline	1.0	Non sodic	3	Slightly dispersive	6.65	Slightly Acid	5.6	Moderate



Photo 113 – Site 28 Landscape (facing south)



Photo 114 – Landscape (facing northwest)



Photo 115 – Soil Profile



Photo 116 – Soil Profile

Description: Site 30 (GR30)										
Site Reference	GR30		ASC Name	red Leptic eutrophic ferrosol			Coordinates			
Average Slope	Gently Inclined (2-3%)		Soil Fertility	High			Lat: -32. 294261	Lon: 150. 100121		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Minimal mid slope		Micro-Relief	None			Good percentage of ground cover vegetation. No pan. Some surrounding surface rock.			
Surface Condition	100% ground cover		Vegetation	Native and improved pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Dark reddish brown (5YR 3/4), sandy silt with massive structure. Weak firmness and strength with low plasticity. Low level of coarse fragment and moderate (~30%) level of roots detected. Dry, free draining, and loose consistency. Non-saline, non-sodic, slightly dispersive, moderately acid pH, and moderate CEC.								
B2	0.2-0.4	Munsell Colour: Dark reddish brown (2.5YR 2.5/4), sandy clay with massive structure. Moderate strength and firmness with low to moderate plasticity. No coarse fragments and low level (~10%) of roots detected. Moist, moderate draining and moderate rigidity. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and moderate CEC.								
B2	0.4-0.6	Munsell Colour: Dark reddish brown (2.5YR 2.5/4), sandy clay with massive structure. Moderate strength and firmness with low to moderate plasticity. No coarse fragments and low level (~10%) of roots detected. Moist, moderate draining and moderate rigidity. Non-saline, non-sodic, negligible / aggregated dispersiveness, slightly alkaline pH, and moderate CEC to total depth.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.038	Non-saline	1.1	Non sodic	3	Slightly dispersive	5.94	Moderately Acid	8.5	Moderate
0.2-0.4	0.018	Non-saline	1.4	Non sodic	3	Slightly dispersive	6.67	Slightly Acid	6.0	Moderate
0.4-0.6	0.024	Non-saline	2.6	Non sodic	4	Negligible / aggregated	7.37	Slightly Alkaline	6.4	Moderate



Photo 117 – Site 28 Landscape (facing northwest)



Photo 118 – Landscape (facing southwest)



Photo 119 – Soil Profile



Photo 120 – Soil Profile

Description: Site 31 (GR31)										
Site Reference	GR31		ASC Name	Mesotrophic Mottled-Hypernatric Brown Sodosol			Coordinates			
Average Slope	Gently Inclined (3%)		Soil Fertility	Very Low			Lat: -32.299694	Lon: 150.099877		
Land Use	Agriculture (grazing)		LSC Class	6			General observations			
Landform Element	Undulating slope		Micro-Relief	None			Good percentage of ground cover vegetation. Pan at 4 meters and some surface rock.			
Surface Condition	85% ground cover		Vegetation	Native and improved pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Dark brown (7.5YR 3/3), silty sand with granular structure. Weak and low firmness. Non-sticky and non-plastic. No coarse fragment and low (~10%) level of roots detected. Dry, free draining, and loose consistency. Non-saline, non-sodic, slightly dispersive, moderately acid pH, and low CEC.								
A2	0.1-0.3	Munsell Colour: Brown (7.5YR 4/3), silty sand with granular structure. Weak and low firmness. Non-sticky and non-plastic. No coarse fragment and low (<5%) level of roots detected. Dry, free draining, and loose consistency. Non-saline, slightly sodic, slightly dispersive, slightly acid pH, and low CEC.								
A3	0.4-0.5	Munsell Colour: Light brownish grey (2.5YR 6/2), clayey sand with granular structure. Weak and low firmness with low stickiness and low plasticity. No coarse fragments and no roots detected. Dry, poor drainage and moderate rigidity. Non-saline, sodic, moderately dispersive, slightly alkaline pH, and low CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.026	Non-saline	3.7	Non sodic	3	Slightly dispersive	5.67	Moderately Acid	1.6	Low
0.2-0.4	0.016	Non-saline	5.1	Slightly sodic	3	Slightly dispersive	6.51	Slightly Acid	1.3	Low
0.4-0.6	0.041	Non-saline	14	Sodic	2	Moderately dispersive	7.31	Slightly Alkaline	3.5	Low



Photo 121 – Site 28 Landscape (facing east)



Photo 122 – Landscape (facing west)



Photo 123 – Soil Profile



Photo 124 – Soil Profile

Description: Site 32 (GR32)										
Site Reference	GR32		ASC Name	red leptic eutrophic ferrosol			Coordinates			
Average Slope	Flat ridge		Soil Fertility	High			Lat: -32.298613	Lon: 150.105493		
Land Use	Agriculture (grazing)		LSC Class	6			General observations			
Landform Element	Crest		Micro-Relief	None			Native pasture grazing on an open flat ridge. Sample hole suspended at 0.1 m due to surface rocks present. High percent of basalt rock throughout soil profile presenting a barrier to effective rooting depth.			
Surface Condition	100% ground cover (rocky)		Vegetation	Native and improved pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Dark reddish brown (2.5YR 2.5/4), silty loam with massive structure, low firmness and strength with no stickiness or plasticity. High level of various sized fragments present, and high level of roots detected. Moist, free drainage, and loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC. Hole suspended due to refusal (rocks)								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.05	0.072	Non-saline	0.24	Non sodic	3	Slightly dispersive	6.60	Slightly Acid	22	High



Photo 125 – Site 28 Landscape (facing east)



Photo 126 – Landscape (facing south east)



Photo 127 – Soil Profile



Photo 128 – Landscape (facing west)

Description: Site 33 (GR33)										
Site Reference	GR33		ASC Name	Red Petroferic Eutrophic Dermosol			Coordinates			
Average Slope	Generally flat (2%)		Soil Fertility	Moderate			Lat: -32.290047	Lon: 150.103848		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Flat ridge		Micro-Relief	None			Good percentage of ground cover vegetation. Landform generally flat but sloping to the west with high level of surface rock.			
Surface Condition	85% ground cover		Vegetation	Native and improved pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Dark reddish brown (2.5YR 2.5/4), silty clay with massive structure. Low firmness and moderate strength with low plasticity. Low (20%) level of gravel and stone fragments and low level of roots detected. Dry, moderate drainage, and rigid consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC.								
B2	0.1-0.2	Munsell Colour: Dark red (2.5YR 3/6), silty clay with massive structure. Moderate strength firmness with moderate plasticity. High (75%) level of coarse fragment and low level of roots detected. Moderately moist, moderate drainage, and firm to rigid consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and moderate CEC. Bore hole suspended due to rock.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.103	Non-saline	0.72	Non sodic	3	Slightly dispersive	6.40	Slightly Acid	16	High
0.1-0.2	0.032	Non-saline	0.84	Non sodic	3	Slightly dispersive	6.71	Slightly Acid	11	Moderate



Photo 129 – Site 28 Landscape (facing north)



Photo 130 – Landscape (facing southeast)



Photo 131 – Soil Profile



Photo 132 – Soil Profile

Description: Site 34 (GR34)										
Site Reference	GR34		ASC Name		Red Petroferic Eutrophic Dermosol			Coordinates		
Average Slope	Gently Inclined (5%)		Soil Fertility		High			Lat: -32.271120	Lon: 150.102406	
Land Use	Agriculture (grazing)		LSC Class		6			General observations		
Landform Element	Undulating to hilly slope		Micro-Relief		None			Good percentage of ground cover vegetation with some surface rock present. Rock outcrop within vicinity of sample site.		
Surface Condition	85% ground cover		Vegetation		Native and improved pastures					
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.05	Munsell Colour: Very dark brown (7.5YR 2.5/3), gravely, clayey silt with crump structure. Low firmness and strength with low stickiness and plasticity. High level of gravel and stone fragments and low (20%) level of roots detected. Dry, free draining, and loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC.								
B1	0.1-0.2	Munsell Colour: Dark reddish brown (5YR 3/4), gravely, clayey silt with crump structure. Low firmness and strength with low stickiness and plasticity. Generally gravely profile and low (20%) level of roots detected. Dry, free draining, and loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC. Total depth at 0.3 m due to rockiness.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.05	0.113	Non-saline	0.51	Non sodic	3	Slightly dispersive	6.12	Slightly Acid	23	High
0.1-0.2	0.042	Non-saline	0.28	Non sodic	3	Slightly dispersive	6.31	Slightly Acid	17	High



Photo 133 – Site 28 Landscape (facing southeast)



Photo 134 – Landscape (facing west)



Photo 135 – Soil Profile



Photo 136 – Soil Profile

Description: Site 35 (GR35)										
Site Reference	GR35		ASC Name	Brown Petroferic Eutrophic Dermosol			Coordinates			
Average Slope	Gently Inclined (5%)		Soil Fertility	Low			Lat: -32.270058	Lon: 150.115259		
Land Use	Agriculture (grazing)		LSC Class	6			General observations			
Landform Element	Valley		Micro-Relief	None			Good percentage of ground cover vegetation with some surface rock present. Sample site near rock outcrop on mid-slope to rocky outcrop.			
Surface Condition	100% ground cover		Vegetation	Native and improved pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.05	Munsell Colour: Very dark brown (7.5YR 2.5/3), sandy, silty loam with granular structure. Weak firmness and strength with low stickiness and weak plasticity. Low (<5%) level of gravel fragments and moderate (>50%) level of roots detected. Dry, free draining, and loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and moderate CEC.								
B2	0.4-0.6	Munsell Colour: Strong brown (7.5YR 4/6), sandy, silty loam with granular structure. Weak firmness and strength with low stickiness and weak plasticity. Cobble fragments detected (20%) with gravel fragments increasing with depth and low (20%) level of roots detected. Dry, free draining, and loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and low CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.05	0.051	Non-saline	0.65	Non sodic	3	Slightly dispersive	6.20	Slightly Acid	5.7	Moderate
0.4-0.6	0.022	Non-saline	2.3	Non sodic	3	Slightly dispersive	6.60	Slightly Acid	2.3	Low



Photo 137 – Site 28 Landscape (facing southeast)



Photo 138 – Landscape (facing west)



Photo 139 – Soil Profile



Photo 140 – Soil Profile

Description: Site 36 (GR36)										
Site Reference	GR36		ASC Name	Red Petroferic Eutrophic Dermosol			Coordinates			
Average Slope	Gently Undulating (3%)		Soil Fertility	High			Lat: -32.281466	Lon: 150.105338		
Land Use	Agriculture (grazing)		LSC Class	4			General observations			
Landform Element	Midslope		Micro-Relief	None			Good percentage of ground cover vegetation with some surface rock present.			
Surface Condition	100% ground cover		Vegetation	Native and improved pastures						
Soil Horizon:	Depth (m)	Description								
A1	0.0-0.1	Munsell Colour: Dark reddish brown (5YR 3/4), clayey, silty loam with angular structure and weak boundary. Weak firmness and strength with moderate plasticity. Minor gravel fragments and moderate (300%) level of roots detected. Dry, free draining, and sticky consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC.								
B2	0.3-0.5	Munsell Colour: Dark reddish brown (2.5YR 2.5/4), silty clay with crumb structure. Weak strength and firmness, moderately sticky and high plasticity. Basalt gravel fragments throughout and fine roots detected. Moist, well drained with loose consistency. Non-saline, non-sodic, slightly dispersive, slightly acid pH, and high CEC.								
Key Results of Analysis										
Sample Depth	ECe		ESP		EAT		pH _(1-5water)		CEC	
	dS/m	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
0.0-0.1	0.052	Non-saline	0.20	Non sodic	3	Slightly dispersive	6.12	Slightly Acid	18	High
0.3-0.5	0.028	Non-saline	0.37	Non sodic	3	Slightly dispersive	6.84	Slightly Acid	27	High



Photo 141 – Site 28 Landscape (facing southeast)



Photo 142 – Landscape (facing southwest)



Photo 143 – Soil Profile



Photo 144 – Soil Profile