

WAIKATO REGION: LAND USE CAPABILITY EXTENDED LEGEND

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UNIT	UNIT	LAND USE		SLOPE	† ROCK TYPE				†† TYPICAL SOILS			EROSION		VEGETATION	TYPE	SOIL CONSERVATION & WATER MANAGEMENT MEASURES	ADDITIONAL COMMENTS	
	DESCRIPTION	PRESENT	POTENTIAL			Geolog. Symbol	Survey	Litho. Symbol		Symbol	Survey	PRESENT	††† POTENTIAL					
Iw1	Flat to gently undulating slopes on brown granular loams and clays over basalt which have a very slight wetness limitation and a very low erosion hazard when cultivated	Intensive grazing. Horticultural cropping. Cereal cropping	Intensive cropping. Intensive grazing. Production forestry	A, Short B	'Hamilton ash' over basalt	fr,by	A, A	Mo	Brown granular loams and clays: Patumahoe clay loam	82, Pe	1, 2	Nil	Nil to slight sheet when cultivated	High producing pasture. Horticultural crops. Cereal crops	N47&Pt N46 384173	3 km west of Pukekohe		
Is1	Well drained terraces and plains near sea level with a negligible erosion hazard when cultivated	Intensive grazing. Cereal cropping. Horticultural cropping	Intensive cropping. Intensive grazing. Production forestry	A	Pumiceous alluvium	hn pn	A B	Us, Gr	Yellow-brown loams: Horotiu sandy loam	48a	1	Nil	Nil	High producing pasture. Cereal crops. Horticultural crops	N65 920360	4 km west of Cambridge	Ville scarps adjacent to river courses frequently dissect this unit	
Ile1	Undulating to rolling slopes on brown granular loams and clays over basalt with a slight to moderate erosion hazard when cultivated	Intensive grazing. Horticultural cropping. Cereal cropping	Intensive cropping. Intensive grazing. Production forestry	B, B/C	'Hamilton ash' over basalt	fr,by	A, A	Mo	Brown granular loams and clays: Patumahoe clay loam	82, Pe	1, 2	Nil to moderate rill and sheet	Moderate rill and sheet when cultivated	High producing pasture. Horticultural crops. Cereal crops	N47 & Pt N46 405150	Pukekohe Hill	Contour cultivation	Erosion on this unit occurs largely as a result of the practice of downslope cultivation, which is done to facilitate rapid drainage for early cropping
Ile2	Undulating to rolling slopes on brown granular loams and clays over various lithologies excluding basalt with a slight erosion hazard when cultivated	Intensive grazing. Cereal cropping. Orchard and viticulture. Root and green fodder cropping. Horticultural cropping	Intensive cropping. Intensive grazing. Production forestry	B, B/C	'Hamilton ash' over rhyolitic terrace alluvium and 'greywacke'	hl, ha pa, pl Wc,Wn-c Wf+hz tu, tw mk,mw	A, A B, B A, A B, B B, B	Mo	Brown granular loams and clays: Weymouth clay loam & loam Orere clay loam and silt loam Patumahoe clay loam Morrinsville clay loam Morrinsville series Hamilton clay loam Te Kauwhata clay loam and sandy clay loam Tahuna complex	81 81a 82 82d Mv1,2 83 83b 84d	1 1 1 1 3 1 1 1	Nil to slight sheet and rill	Slight sheet and rill when cultivated	High producing pasture. Cereal crops. Orchards and vineyards. Root and green fodder crops. Horticultural crops	N48 640160	Mangatawhiri	Contour cultivation	
Ile3	Undulating to rolling slopes on moderately fertile yellow-brown loams with a slight erosion hazard when cultivated	Intensive grazing. Cereal cropping. Root and green fodder cropping	Intensive cropping. Intensive grazing. Production forestry	B, B/C	Early Holocene and late Pleistocene airfall tephra over 'Hamilton ash' on pumiceous alluvium	pa h, ha tk, tp Wf+hz Wc	B A, A B, B A	Mo	Yellow-brown loams: Tirau sandy loam Kereone silt loam Ohaupo silt loam Otorohanga silt loam KIWITAHU silt loam Te Kuiti silt loam	57 Kel 59 59a Kw 60	1 3 1 1 3 1	Nil to slight sheet and rill	Slight sheet and rill when cultivated	High producing pasture. Cereal crops. Root and green fodder crops	N65 933208	10 km east of Te Awamutu	Contour cultivation	
Ile4	Undulating to rolling slopes on yellow-brown loams formed on water sorted tephra with a slight erosion hazard when cultivated	Intensive grazing	Intensive cropping. Intensive grazing. Production forestry	B/C	Water sorted tephra over terrace alluvium	hl, ha pa, pl tu, tw	A, A B, B B, B	Us	Yellow-brown loams: Karaka complex Waitemata complex Koheroa complex Torehape complex	72 73 73a 73b	1 1 1 1	Nil	Slight sheet and rill when cultivated	High producing pasture	N47&Pt N46 416316	4 km east of Papakura	Contour cultivation	Soils are of moderately low fertility
Iiw1	Low river terraces with a continuing slight wetness limitation after drainage	Intensive grazing. Cereal cropping. Root and green fodder cropping	Intensive cropping. Intensive grazing. Production forestry	A	Alluvium	f, fa pa fp, ft pl h, ha hl	A, A B A, A A, A A	Al	Recent soils from alluvium: Manawatu loam, sandy loam silt loam and clay loam Kairanga silt loam and clay loam Kairanga loam Ohinemuri soils Waikino soils Waiti soils	1 2a 0, 0 Wl W	1 1 3 4 3	Nil to slight streambank	Nil to slight streambank	High producing pasture. Cereal crops. Root and green fodder crops	N74 800936	3 km east of Te Awamutu	Drainage. Stopbanks	
Iiw2	Plains and terraces with organic soils formed from peat admixed with alluvium. A continuing slight wetness limitation exists after drainage	Intensive grazing. Cereal cropping. Root and green fodder cropping	Intensive cropping. Intensive grazing. Production forestry	A	Recent alluvium and peat	f, fa fs, fp ft pa, pf pm, pr pn	A, A A, A A, A B, B B, B B	Al + Pt Us + Pt	Organic soils: Ngatea peaty loam Taihia peaty loam and peaty clay loam Piako peaty loam and loamy peat Kaipaki peaty loam and loamy peat Rotongaro loamy peat Whangamarino loamy peat	107c,Ng 107e 108, P 108a Kp, KP Rto 110b	1, 3 1 1 3 4 2 1	Nil	Nil	High producing pasture. Cereal crops. Root and green fodder crops. Manuka	N65 845305	3 km east of Ohaupo	Careful control of ground water table levels	Emerging tree stumps can be a continuing problem
Iiw3	Low river terraces and plains with gleyed soils which have a continuing slight wetness limitation after drainage	Intensive grazing	Intensive cropping. Intensive grazing. Production forestry	A	Alluvium	f, hn, hl, ha pa, pm pr, pn, ph, pl	A, A A, A B, B B, B B, B	Al Us	Gley soils: Te Kowhai silt loam and peaty silt loam Torehape silt loam & clay Shafesbury clay loam Whatawhata clay loam and sandy clay loam Piniu silt loam, clay loam and sandy loam Waitoa series Waitoa-Waihou complex Waitoa silt loam and sandy loam	pt 48b, TK 98, TO 98a, Sb 98b Wba 98c Wt, WO 104a 104 b	1 3 1, 3 1 2 1 3, 4 1 1	Nil	Nil	High producing pasture	N56 825545	Puketaha north east of Hamilton	Drainage. Stopbanks	
IIs1	Flat to gently undulating plains and terraces comprising a mosaic of well drained yellow-brown loams and imperfectly drained gley soils	Intensive grazing. Cereal cropping. Horticultural cropping. Orchard	Intensive cropping. Intensive grazing. Production forestry	A	Pumiceous alluvium	hn, h pn, ph	A, A A, B A, B	Us, Gr	Yellow-brown loams: Waihou sandy loam Horotiu sandy loam Te Pungia series Horotiu-Te Kowhai complex	48, Wh, WH 48a, Hu, Ht TP 48b	1 3, 4 1, 2 3 3 1	Nil	Nil	High producing pasture. Cereal crops. Horticultural crops. Orchards	N65 920335	5 km west of Leamington		Ville scarps adjacent to river courses frequently dissect this unit
IIs2	Flat to undulating slopes on yellow-brown loams formed on 'Mairua ash'	Intensive grazing. Root and green fodder cropping	Intensive cropping. Intensive grazing. Production forestry	A, B	Early Holocene and late Pleistocene airfall tephra over alluvium	ha	A	Mo	Yellow-brown loams Te Kuiti silt loam	60	1	Nil	Nil	High producing pasture. Root and green fodder crops	N83 582674	Junction of Te Mapara road with S.H. 3		
IIs3	Flat to undulating slopes on brown granular loams and clays with a negligible erosion hazard when cultivated.	Intensive grazing. Horticultural cropping. Cereal cropping	Intensive cropping. Intensive grazing. Production forestry	A, B	'Hamilton ash' over pumiceous alluvium	ha, hl pl, tu	A, A A, B	Mo	Brown granular loams and clays: Weymouth clay loam and silt loam Orere clay loam and silt loam Hamilton clay loam Te Hoe silt loam and clay loam	81 81a 83 86c	1 1 1 1	Nil	Nil	High producing pasture. Horticultural crops. Cereal crops	N42 290430	2 km north west of Auckland International Airport		
IIs4	Flat to undulating slopes with soils formed on water sorted tephra	Intensive grazing. Cereal cropping. Horticultural cropping	Intensive cropping. Intensive grazing. Production forestry	A, B	Terrace alluvium	ha, hl, Wn-c, Wc pl	A, A A, A A, B	Us	Yellow-brown loams: Karaka complex Flat Bush silt loam Papatoetoe silt loam Waitemata complex Torehape complex	72 72b 72c 73 73b	1 1 1 1 1	Nil	Nil	High producing pasture. Cereal crops. Horticultural crops	N47&Pt N46 430327	2 km west of Papakura		Soils are of moderately low fertility
IIs5	Flat slopes on deep peat deposits. High producing but requiring careful management	Intensive grazing. Undeveloped. Cereal cropping	Intensive cropping. Intensive grazing.	A	Peat over alluvium	fs pa, pr ph	A, A B, B B	Pt	Organic soils: Rotongaro loamy peat Rukuhia peat Rukuhia series Whangamarino loamy peat Otway series	Rto 110 R 110b,Wo Ot	2 1 3 3	Nil	Slight wind when cultivated	High producing pasture. Swamp assns. Manuka Cereal crops	N65 890280	Moanatuata 10 km north east of Te Awamutu	Careful control of ground water table levels is essential	Extremely difficult to rewet once excessively drained
IIle1	Rolling slopes on yellow-brown loams with a slight to moderate erosion hazard when cultivated	Intensive grazing. Cereal cropping. Root and green fodder cropping	Cropping. Intensive grazing. Production forestry	C	Early Holocene and late Pleistocene tephra over alluvium ignimbrite, sandstone, siltstone and limestone	hz, Wc Wf tp-tk pa Po,Lwh	A, A A, B A, A A, A	Mo	Yellow-brown loams: Tirau sandy loam Kereone silt loam KIWITAHU silt loam Ohaupo silt loam Otorohanga silt loam Wairere silt loam and clay loam Oparure silt loam and clay loam Dunmore silt loam	57 57a,KR Kel1,2,3 Kw 59 59a 60c 60f 61,61a Du	1 1, 4 3 3 1 1 1 1, 2	Nil to slight sheet and rill	Slight to moderate sheet and rill when cultivated	High producing pasture. Cereal crops. Root and green fodder crops	N65 770226	5 km west of Te Awamutu	Contour cultivation	
† ROCK TYPE																		
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2. Bruce, J.G.; Bell, J.L. (In prep) Land Inventory Survey, County Series, Raglan Soils, 1:63, 360. N.Z. Soil Bureau Map 113/1, 113/2.																		
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††† POTENTIAL EROSION																		
Assessed as under actual or assumed grassland cover with average management and no soil conservation measures applied.																		

UNIT	UNIT DESCRIPTION	LAND USE		SLOPE	ROCK TYPE				TYPICAL SOILS			EROSION		VEGETATION	TYPE LOCALITY	SOIL CONSERVATION & WATER MANAGEMENT MEASURES	ADDITIONAL COMMENTS
		PRESENT	POTENTIAL			Geolog. Symbol	Survey	Litho. Symbol		Symbol	Survey	PRESENT	POTENTIAL				
IIIe2	Rolling slopes on brown granular loams and clays, and red-brown loams with a slight to moderate erosion hazard when cultivated	Intensive grazing. Cereal cropping. Horticultural cropping	Cropping. Intensive grazing. Production forestry	C	'Hamilton ash' over basalt	ak, by	A	Mo/ Vo	Brown granular loams and clays: Orere clay loam and silt loam Patumahoe clay loam Kapu clay loam. Onewhero clay loam and silt loam Hamilton clay loam Huna clay loams Red-brown loams: Ahuroa clay loam Onepoto silt loam	81a 82, Pe Kpu 82c 83, Hn 85b Ao Oe	1 1, 2 2 1 1, 2 1 2 2	Nil to slight sheet and rill	Slight to moderate sheet and rill when cultivated	High producing pasture. Cereal crops. Horticultural crops	N47&Pt N46 300150 2 km south of Glenbrook	Contour cultivation	
IIIe3	Rolling slopes on brown granular loams and clays over various lithologies excluding basalt, with a slight to moderate erosion hazard when cultivated	Intensive grazing. Cereal cropping. Orchard and viticulture. Horticultural cropping	Cropping. Intensive grazing. Production forestry	C	'Hamilton ash' over pumiceous alluvium ignimbrite, sandstone, siltstone limestone and 'greywacke'	h, ha hi, pl Wc,Wf tu, tk tp, tw pa P, Lwh L mk,mw mm, mt K	A, A B, B A, A B, B A, A A, A B, B B, B A	Mo	Brown granular loams and clays: Orere clay loam and silt loam Morrinsville clay loam Hamilton clay loam Te Kauwhata clay loam and sandy clay loam Naika clay loam Tahuna complex Matakawau clay loam, silt loam and sandy loam	81a 82d Mv 1,2,3 83 83b Nk 84c 86	1 1 3 1 1 2 1 1	Nil to slight sheet and rill	Slight to moderate sheet and rill when cultivated	High producing pasture. Cereal crops. Orchards and vineyards. Horticultural crops	N66 775675 7 km east of Taupiri	Contour cultivation	
IIIe4	Rolling slopes on sedimentary lithologies with a slight to moderate erosion hazard when cultivated	Intensive grazing. Cereal cropping	Cropping. Intensive grazing. Production forestry	C	Terrace alluvium Tertiary lithologies and 'greywacke'	ha, hi pl, tu tk, tw P, Po Lwh,ww km K, Kh mk, mw	A, A B, B B, B A, A A, B A, A B, B	Us Mb, Mm Sim, Sm Gw	Yellow-brown earths: Manurewa silt loam Marua clay loam Mangawheau sandy clay and sandy loam Mangatawhiri fine sandy loam Kara silt loam, clay and sandy loam Kouratahi silt loam	34b 35 44c 46d 47f Ka	1 1 1 1 1 2	Nil to slight sheet and rill	Slight to moderate sheet, rill and gully when cultivated	High producing pasture. Cereal crops. Manuka	N47&Pt N46 537389 3 km east of Ardmore	Contour cultivation	
IIIe5	Rolling slopes on yellow-brown loams formed on water sorted tephra with a slight to moderate erosion hazard when cultivated	Intensive grazing. Orchard and viticulture	Cropping. Intensive grazing. Production forestry	C, C/B	Terrace alluvium Alluvium over sandstone and siltstone	pa, pl ha, hi Wc, Wn P	B, B A, A A, A A	Us A	Yellow-brown loams: Karaka complex Waitetuna silt loam Waitemata complex Torehapa complex	72 Wea 73 73b	1 2 1 1	Nil	Slight to moderate sheet and rill when cultivated	High producing pasture. Orchards and vineyards	N47&Pt N46 350240 2 km north west of Pukekohe	Contour cultivation	Soils are of moderately low fertility
IIIe6	Undulating to rolling slopes on stable dune sand with a slight to moderate erosion hazard when cultivated	Intensive grazing.	Cropping. Intensive grazing. Production forestry	B, C	Fixed dune sand overlying terrace deposits	hd Wn-c	A A	Wb	Yellow-brown sands: Red Hill sand and sandy loam	24a	1	Nil	Slight to moderate sheet, rill and wind when cultivated	High producing pasture	N47&Pt N46 123295 Awhitu Central South Manukau Heads	Windbreaks. Contour cultivation	
IIIw1	Narrow river terraces with a moderately high water table and subject to runoff from adjacent hills	Intensive grazing. Root and green fodder cropping	Cropping. Intensive grazing	A	Recent alluvium, and peat	f, fa pa ha, hi pn, pl fs	A, A B, B A, A B, B A	Al Al+Pt	Recent soils from alluvium: Manawatu loam, sandy loam, silt loam and clay loam Kairanga silt loam and clay loam Mangapiko clay loam Mercer loam etc Gley soils: Topehahae silt loam and clay loam Wairau clay Organic soils: Taihaha peaty loam and peaty clay loam	1 2 Mp 2c,Mc 98, TO 102 107e	1 1 2 1, 2 1,3 1 1	Slight to moderate streambank	Moderate streambank	High producing pasture. Root and green fodder crops. Rushes and sedges. Podocarp forest	N51 262866 8 km south of Port Waikato	Streambank protection. Drainage. Stopbanking	
IIIw2	Low lying plains with poor internal drainage or a moderately high water table	Intensive grazing	Cropping. Intensive grazing	A	Alluvium and estuarine deposits	f ft	I I	Al Al+Pt	Gley soils: Hauraki clay Nether-ton clay Akeake- peaty silt loam, silt loam etc	103 103c, N 104, Aa	1 1, 4 1, 2	Nil	Nil	High producing pasture	N51 330085 Aka Aka	Drainage	
IIIs1	Flat to undulating slopes on recent coarse textured pumiceous terraces	Intensive grazing	Cropping. Intensive grazing. Production forestry	A, B	Recent pumiceous alluvium	fp pa, pm ps, ph	A B, B B, B	Tp	Recent soils from alluvium: Esk sand Yellow-brown pumice soils: Waikato sand Manunui series	1b Ws Mn	1 2 5	Nil	Moderate gully. Slight wind and rill when cultivated	High producing pasture	N65 862379 2 km east of Hamilton Airport	Windbreaks. Contour banks	Gully initiation occurs at terrace edges
IIIs2	Flat to undulating slopes on basalt with stony and bouldery soils	Intensive grazing	Cropping. Intensive grazing. Production forestry	A, B	Basalt	ak, fr	A, A	Vo, La	Red-brown loams: Ohaseswai silt loam and stony silt loam Ohaseswai bouldery silt loam Ahuroa clay loam Waiotu friable clay	95 95a Ao 96	1 1 2 1	Nil	Nil	High and low producing pasture. Gorse	N42 375415 Manurewa		
IVe1	Strongly rolling slopes on yellow-brown loams with a moderate to severe erosion hazard when cultivated	Intensive grazing. Root and green fodder cropping	Intensive grazing. Occasional cropping. Production forestry	D, Long C	Early Holocene and late Pleistocene airfall tephra over terrace alluvium, lahar, ignimbrite, Tertiary lithologies and 'greywacke'	h, 1,2 hz tu, tk tp Wc,Wf Wnl pa Po,Ld Lwh wa, wm wk, km kh K, Kh mw, nh	A A B, B B, B A, A A A, A A, A A, A A, A A, A A, A	Mo	Yellow-brown loams: Tirau sandy loam Kereone silt loam Ohaupo silt loam Otorohanga silt loam Te Kuiti series Wairere silt loam and clay loam Oparure silt loam and clay loam Kiwhiti silt loam Dunmore silt loam	57 57a Ke,1,2,3 59 59a TK 60c 60f Kw 61,61a Du	1 1 3 1 1 5 1 1 3 1, 1 2	Nil	Moderate to severe sheet and rill when cultivated	High producing pasture. Root and green fodder crops	N65 734214 2 km east of Pirongia	Contour cultivation	
IVe2	Strongly rolling slopes on brown granular loams and clays overlying lithologies excluding basalt with a moderate to severe erosion hazard when cultivated	Intensive grazing	Intensive grazing. Occasional cropping. Production forestry	D	'Hamilton ash' over terrace alluvium, ignimbrite, andesite, Tertiary lithologies and 'greywacke'	h, hi Wc,Wn Ww tu, tk tp, tw pa ki,vm Po, L Lwh wa, wm wk, km kh K, Kh mw, nh	A, A A, A B, B B, B B, B A A, B A, A A, A B, B B, B B, B A, A B, B	Mo	Brown granular loams and clays: Orere clay loam and silt loam Patumahoe clay loam Kapu clay loam Morrinsville clay loam Hamilton clay loam Te Kauwhata clay loam and sandy clay loam Naika clay loam Pukekapai silty clay loam Churchill clay loam and sandy clay loam	81a 82 82b Mv 1,2,3 83 Hm 1,2,3 83b Nk 84a,Pkk 86a	1 1 1 3 1 3 1 2 1,2 1	Nil	Moderate to severe sheet and rill when cultivated	High producing pasture. Manuka. Mixed native scrub associations	N66 690644 Taupiri	Contour cultivation	
IVe3	Strongly rolling slopes on sedimentary lithologies with a moderate to severe erosion hazard when cultivated	Intensive grazing	Intensive grazing. Occasional cropping. Production forestry	D	Terrace alluvium, Siltstones, sandstones, mudstones and 'greywacke'	ha, hi pa, tu tk, tp Wc P, Po L, Lwh ww,kw km, kh K, mk mw, mm	A, A B, B B, B A, A A, A B, B B, B B, B B, B B, B	(Mo)/Us Sim Sm Mb, Mm Gw	Yellow-brown earths: Mangataa clay loam Brookby clay loam and clay Marua clay loam Otawhaio clay loam Mangawheau sandy clay loam and sandy loam Mangatawhiri fine sandy loam Ruawaro clay loam Churchill silt loam	25 34a 35 Ow 44c 46d Ru Cc	1 1 1 2 1 1 2 2	Nil to slight gully, sheet and rill	Slight gully. Moderate to severe sheet and rill and moderate gully when cultivated	High producing pasture. Manuka. Fern	N47&Pt N46 539383 3 km west of Ardmore	Contour cultivation. Pair plant gullies	
IVe4	Strongly rolling to rolling slopes on brown granular loams and clays and red-brown loams with a moderate to severe erosion hazard when cultivated	Intensive grazing	Intensive grazing. Occasional cropping. Production forestry	D, C	Basalt	fr, by	A, A	Mo, Vo	Brown granular loams and clays: Patumahoe clay loam Hamilton clay loam Opita clay loam, silt loam and clay Red-brown loams: Ahuroa clay loam	82, Pe 83, Hn 86b Ao	1, 2 1, 2 1 2	Slight sheet	Slight sheet. Moderate to severe sheet and rill when cultivated	High producing pasture	N47&Pt N46 360132 Puni	Contour cultivation	

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UNIT	UNIT DESCRIPTION	LAND USE		SLOPE	† ROCK TYPE				†† TYPICAL SOILS			EROSION		VEGETATION	TYPE LOCALITY	SOIL CONSERVATION & WATER MANAGEMENT MEASURES	ADDITIONAL COMMENTS
		PRESENT	POTENTIAL		Geolog. Symbol	Survey	Litho. Symbol			Symbol	Survey	PRESENT	††† POTENTIAL				
IVe5	Strongly rolling slopes on yellow-brown loams formed on water sorted tephra with a moderate to severe erosion hazard when cultivated	Intensive grazing	Intensive grazing. Occasional cropping. Production forestry	D	Terrace alluvium, alluvium over sandstone, siltstone and 'greywacke'	ha, hl Wc, Wn-c pl, tp tw P K mm, mt	A, A A, A B, B B A A B, B	Us	Yellow-brown loams: Karaka complex Waitemata complex Torehape complex	72 73 73b	1 1 1	Nil	Moderate to severe sheet and rill when cultivated	High producing pasture	N43 640480 10 km north east of Clevedon	Contour cultivation	Soils are of moderately low fertility
IVe6	Rolling to strongly rolling slopes on stable dune sand with a moderate to severe erosion hazard when cultivated	Intensive grazing	Intensive grazing. Occasional cropping. Production forestry	C, C/D, D	Fixed dune sand	hd	A	Wb	Yellow-brown sands: Red Hill sand and sandy loam	24a	1	Nil	Moderate to severe wind, sheet and rill when cultivated	High producing pasture	N51 220030 Maoro	Contour cultivation. Windbreaks	
Vs1	Undulating to moderately steep stable slopes on 'Mairoa ash' where numerous limestone outcrops preclude cultivation	Intensive grazing. Undeveloped	Intensive grazing. Production forestry	BtoE	Early Holocene and late Pleistocene airfall tephra over limestone and sandstone	L Lw Ld Lwh	A A A A	Mo/ Li, Sm Sb	Yellow-brown loams: Wairere silt loam and clay loam Wairere silt loam and clay loam, hill soil Ounu silt loam and clay loam, hill soil Waitanguru silt loam and clay loam Waitanguru silt loam and clay loam, hill soil Bare rock	60c 60cH 62gH 63a 63aH BR	1 1 1 1 1 1	Nil	Nil	High producing pasture. Lowland podocarp-hardwood forest. Hardwood forest. Mixed native scrub associations	N82 495649 5 km west of Piopio		
Vc1	Moderately steep stable slopes on 'Mairoa ash'	Intensive grazing	Intensive grazing. Production forestry	E	Early Holocene and late Pleistocene airfall tephra over limestone and sandstone	Ld Lw	A A	Mo/ Li, Sm Sb	Yellow-brown loams: Wairere silt loam and clay loam Wairere silt loam and clay loam, hill soil	60c 60bH	1 1	Nil	Nil	High producing pasture. Lowland podocarp-hardwood forest. Hardwood forest	N83 717711 Take Road.		
Vle1	Moderately steep to strongly rolling slopes on yellow-brown loams over various lithologies	Intensive grazing	Intensive grazing. Production forestry	E, D/E	Early Holocene and late Pleistocene airfall tephra over terrace alluvium, ignimbrite, andesite, siltstone, sandstone, mudstone, and 'greywacke'	Wn-c pa al, va Sl, Po L, Lw Ld, Lwh kw, km kh K, Ko Kr, mt Bo, Bw	A A A, B A, A A, A A, A B, B B A, A A, B A, A	Mo/ Us Vo, La Sim, Sm Mb, Sb Gw	Yellow-brown loams: Te Kuiti series Wairere silt loam and clay loam Wairere silt loam and clay loam, hill soil Tumutumu silt loam and sandy clay loam hill soil Pukerata silt loam and clay loam hill soil Dunmore silt loam Mahakura hill soil <i>Opunake silt loam and clay loam, hill soil</i>	TKH 60c 60cH 60dH 60eH Du MkaH 60FH	5 1 1 1 1 2 2 1	Nil to slight sheet and soil slip	Slight sheet and soil slip	High and low producing pasture. Manuka. Fern. Mixed native scrub associations. Lowland podocarp-hardwood forest. Hardwood forest	N74 676000 Te Kuiti West of Otorohanga.		
Vle2	Moderately steep to strongly rolling slopes on 'Hamilton ash' over various lithologies	Intensive grazing	Intensive grazing. Production forestry	E, D/E	'Hamilton ash' over terrace alluvium, andesite, siltstone, sandstone mudstone, and 'greywacke'	Wn-c tu, tk tp, tw al Po, wa wm, wk kg, km kh K, mw, mh, nh	A B, B B, B A A, B B, B B A, B A, B B, B	Mo/ Us Vo Sim, Sm Mb, Sb Gw	Brown granular loams and clays: Kapu clay loam, hill soil Naika clay loam Tahuna complex Matakawau clay loam, silt loam, and sandy loam, hill soil Churchill clay loam and sandy clay loam Opita clay loam, silt loam and clay	82bH NK 84c 86H 86a 86b	1 2 1 1 1 1	Nil to slight sheet and soil slip	Slight sheet and soil slip	High Producing pasture. Manuka. Mixed native scrub associations. Lowland podocarp-hardwood forest	N48 597102 5 km east of Meremere		
Vle3	Moderately steep to strongly rolling slopes on sedimentary lithologies	Intensive grazing	Intensive grazing. Production forestry	E, D/E	Terrace alluvium, siltstone, sandstone, mudstone, and 'greywacke'	Wc tu, tk tp, tw P, Po L, Ld wa, wk Opf, Op K mk, mw mm, mt mh, np nt, nm nh	A B, B B, B A, A A, A B, B A, A A B, B B, B B, B B	(Mo)/Us Sim, Sm Mb, Mb Gw	Yellow-brown earths: Kohemare hill soils Rotowaro hill soils Brookby clay loam and clay, hill soil Glen Murray hill soils Marua clay loam, hill soil Kaawa hill soil Orton hill soils Rangiora clay loam and silty clay loam, hill soil Mangawheau sandy clay loam and sandy loam, hill soil	KeH RoH 34aH GmH 35H KwH OrH 41H 44cH, MwH	2 2 1 2 1 2 1 1 2	Nil to slight gully, soil slip and sheet	Slight gully, soil slip and sheet	High producing pasture. Manuka. Mixed native scrub associations. Lowland podocarp-hardwood forest. Hardwood forest. Fern. Gorse	N65 630410 6 km south of Whatawhata		
Vle4	Moderately steep slopes on 'Mairoa ash' with rock outcrops	Intensive grazing. Undeveloped. Exotic forestry	Intensive grazing. Production forestry	E	Early Holocene and late Pleistocene airfall tephra over ignimbrite, sandstone, siltstone and limestone	pe Lw Ld, Lwh	A A, A A, A	Mo/ Vo Sb, Sm Li	Yellow-brown loams: Tirau sandy loam, hill soil Te Kuiti series Wairere silt loam and clay loam, hill soil Te Kuiti silt loam and clay loam, hill soil Ounu silt loam and sandy clay loam, hill soil Waitanguru silt loam and clay loam, hill soil Bare rock	57H TKH 60cH 60H 62gH 63aH BR	1 5 1 1 1 1 1	Slight sheet, soil slip and gully	Slight to moderate sheet and gully. Slight soil slip	High and low producing pasture. Lowland podocarp-hardwood forest. Hardwood forest. Mixed native scrub associations. Manuka. Fern. Exotic forest	N82 410805 Adjacent to eastern boundary of Tawarau State Forest	Pair plant willows in gullies	
Vle5	Moderately steep to steep 'greywacke' slopes where rainfall exceeds 1500mm p.a.	Intensive grazing. Undeveloped	Intensive grazing. Production forestry	E, E/F	Early Holocene and late Pleistocene airfall tephra over 'greywacke' and 'greywacke'	K, Ko Kh, Hu Bw, Bm Br np, nm nh	A, A A, A A, A A B, B B	Mo/ Gw, Gw	Yellow-brown earths and related steepland soils: Mangataki clay loam and silt loam, hill soil Kaawa hill soils Marua clay loam, hill soil Waingaro steepland soils Yellow-brown loams: Pukerata silt loam and clay loam, hill soil Pomarangi silt loam and clay loam, hill soil	29aH KwH 35H WnS 60eH 62dH	1 2 1 2 1 1	Slight sheet, soil slip and gully	Slight to moderate sheet, soil slip and gully	Low and high producing pasture. Manuka. Fern. Mixed native scrub associations. Lowland podocarp-hardwood forest. Exotic forest	N82 333782 Pomarangi	Open plant poplars. Pair plant willows in gullies	
Vle6	Moderately steep to steep 'greywacke' slopes where rainfall is less than 1500 mm p.a.	Intensive grazing. Undeveloped	Intensive grazing. Production forestry	E, E/F	'Greywacke'	Op, K Ko, Kh mk, mw mm, mt mh, nh	A, A A, A B, B B, B B, B	Gw	Yellow-brown earths and related steepland soils: Putataka hill soils Marua clay loam, hill soil Tauwhare sandy loam etc., hill soil Mangatowhiri fine sandy loam, hill soil Pakau steepland soils Te Ranga clay loam and stony loam	PuH 35H 44eH 46dH PaS 122b	2 1 1 1 2 1	Slight sheet soil slip and gully	Slight to moderate sheet, soil slip and gully	High and low producing pasture. Manuka. Mixed native scrub associations. Lowland podocarp-hardwood forest. Exotic forest	N56 935715 2 km north of Tauhei	Open plant poplars. Pair plant willows in gullies	
Vle7	Moderately steep to strongly rolling slopes on Tertiary sedimentary lithologies with rock outcrops	Intensive to semi-intensive grazing. Undeveloped	Intensive grazing. Production forestry	D, E, F	Siltstone, sandstone and mudstone	P, Po L, Ld Lwh kt, ka kw, kg km	A, A A, A A B, B B, B B	Mb, Sb Sm	Yellow-brown earths and related steepland soils: Kohemare hill soils Wairama hill soils Ruakiwi hill soils Kapamahunga steepland soils Bare rock	KeH WaH RwH KpS BR	2 2 2 2 2	Slight soil slip and sheet. Nil to slight earthflow	Moderate sheet and soil slip. Slight earthflow	High and low producing pasture. Manuka. Fern. Lowland podocarp-hardwood forest. Hardwood forest	N51 467897 Glen Murray		
Vle8	Moderately steep to steep slopes on 'Mairoa ash' over Tertiary sedimentary lithologies	Undeveloped. Semi-intensive grazing	Intensive grazing. Production forestry	E, F	Early Holocene and late Pleistocene tephra over sandstone, siltstone and limestone	Lw, Ld Lwh	A, A A	Mo/ Mb, Sb Sim, Sm Li	Yellow-brown loams: Tumutumu silt loam and sandy clay loam, hill soil Ounu silt loam and sandy clay loam, hill soil Waitanguru silt loam and clay loam, hill soil Mangapohue silt loam and sand, hill soil	60dH 62gH 63aH 63bH	1 1 1 1	Nil to slight sheet and soil slip	Moderate sheet and soil slip	Lowland podocarp-hardwood forest. Hardwood forest. Low and high producing pasture. Mixed native scrub associations. Manuka. Fern	N82 480790 5 km west of Mairoa	Open plant poplars	

†, ††, ††† See first page of legend for references

UNIT	UNIT DESCRIPTION	LAND USE		SLOPE	ROCK TYPE				TYPICAL SOILS			EROSION		VEGETATION	TYPE LOCALITY	SOIL CONSERVATION & WATER MANAGEMENT MEASURES	ADDITIONAL COMMENTS
		PRESENT	POTENTIAL			Geolog. Symbol	Survey	Litho. Symbol		Symbol	Survey	PRESENT	+++ POTENTIAL				
V1e9	Strongly rolling to moderately steep slopes on Tertiary sedimentary lithologies with a moderate potential for earthflow and gully erosion	Intensive to semi-intensive grazing. Undeveloped	Intensive grazing. Production forestry	D, E	Siltstone, sandstone and mudstone	Sl, Po Lw, Ld Lwh, L kt, ka kw, kg km	A, A A, A B, B B, B	(Mo)/Mj, Mb, Mm, Sim Sb	Yellow-brown earths: Mangatea clay loam and silt loam, hill soil Wanstead clay loam, hill soil Kohemare hill soils Wairama hill soils Ruakiwi hill soils Marakopa clay loam, hill soil Mangaotaki clay loam and silt loam, hill soil Yellow-brown loams: Opanure silt loam and clay loam, hill soil Dunmore silt loam	25H 1 25aH 1 KeH 2 WaH 2 RWH 2 28cH 1 29aH 1 60fH 1 Du 2		Slight to moderate earthflow. Nil to slight gully, soil slip and sheet	Moderate earthflow and gully. Slight soil slip and sheet	High and low producing pasture. Lowland podocarp forest. Hardwood forest. Manuka, Fern. Rushes and sedges	N51 456857 Glen Murray	Contouring. Pair plant willows in gullies. Block plant more severely eroded gullies	
V1e10	Strongly rolling to steep slopes on 'Mairoa ash' and andesite	Undeveloped. Semi-intensive to intensive grazing. Production forestry	Intensive grazing. Production forestry	E, D, F	Andesite	al, or ki va, vm vp	A, A B, B B	(Mo)/Vo	Yellow-brown loams and related steeppland soils: Mahaukura hill soil Brown granular loams and clays and related steeppland soils: Pirongia clay loam and silt loam, hill soil Karioi silt loam and clay loam	MkaH 2 87dH 1 PrH 2 130c 1 KoS 2		Nil to slight sheet and soil slip	Moderate sheet and soil slip	Lowland podocarp-hardwood forest. Hardwood forest. High producing pasture. Exotic forest. Manuka	N65 655245 Northern slopes of Mt Pirongia	Open plant poplars	
V1e11	Strongly rolling to steep slopes on basalt with 'Hamilton ash' in places	Intensive grazing. Undeveloped	Intensive grazing. Production forestry	D, E, F	Basalt	fr vl, vkt by ng	A, B A	(Mo)/Vo	Brown granular loams and clays: Patumahoe clay loam Kapu clay loam, hill soil Churchill clay loam and sandy clay loam Red-brown loams: Whataitiri clay loam, hill soil Ahuroa hill soils Bald Hill sandy loam, hill soil Waiotu friable clay, hill soil Okupata hill soils	82 1 82bH 1 86a 1 95bH 1 AoH 2 95cH 1 96H 1 OuH 2		Nil to moderate sheet and soil slip	Moderate sheet and soil slip	High and low producing pasture. Manuka. Lowland podocarp-hardwood forest. Hardwood forest	N47&Pt N46 404126 5 km south of Pukekohe	Re-establishment of pasture cover on eroding areas. Block plant severely eroded areas	A combination of crickets and dry summers makes revegetation of eroded areas difficult
V1e12	Moderately steep to steep slopes on dissected terrace alluvium with a cover of 'Hamilton ash'	Semi-intensive grazing	Semi-intensive grazing. Production forestry	E, F	'Hamilton ash' on terrace alluvium	Wn-c	A	Mo/Us	Brown granular loams and clays: Pollock clay loam Matakawau clay loam, silt loam, and sandy loam, hill soil	80 1 86H 1		Slight soil slip and sheet	Moderate sheet and soil slip	High producing pasture. Gorse. Manuka. Exotic forest	N47&Pt N46 130255 Pollok		
V1e13	Steep to moderately steep 'greywacke' slopes with a remnant cover of 'Mairoa ash' in southern areas	Semi-intensive grazing. Undeveloped	Semi-intensive grazing. Production forestry	F + E	'Greywacke'	Op, Kh Kt, K Hu mw, mm mt, mh rk, np nt, nm	A, A A, A B, B B, B B, B	(Mo)/Gw	Yellow-brown earths and related steeppland soils: Marua clay loam, hill soil Kaawa hill soils Pakau steeppland soils Te Ranga clay loam and stony loam Waingaro steeppland soils Yellow-brown loams: Pomaranga silt loam and clay loam, hill soils	35H 1 KwH 2 PaS 2 122b 1 WnS 2 62dH 1		Slight to moderate sheet and soil slip. Slight gully and debris avalanche	Moderate to severe soil slip. Moderate sheet and gully	Low and high producing pasture. Manuka. Mixed native scrub associations. Podocarp-hardwood forest. Hardwood forest. Exotic forest. Fern	N65 590440 8 km west of Whatawhata	Open plant poplars. Pair plant willows in gullies	
V1e14	Moderately steep to steep slopes on deeply weathered 'greywacke'	Semi-intensive grazing. Undeveloped. Scrub reversion	Semi-intensive grazing. Production forestry	E, F	Deeply weathered 'greywacke'	Opf, Ko Kh, K mk, mw mm, mt mh	A, A A, A B, B B	Gw ⁰	Yellow-brown earths and related steeppland soils: Marua clay loam, hill soil Rangiora clay and silty clay loam, hill soil Mangawheau sandy clay loam and sandy loam, hill soil Maramarua silty clay loam, etc., hill soil Mangatawhiri fine sandy loam, hill soil Te Ranga clay loam and stony loam	35H 1 41H 1 44cH 1 44dH 1 46dH 1 122b 1		Slight to moderate earth slip, soil slip and sheet. Slight gully	Moderate to severe earth slip and soil slip. Moderate sheet and gully	Low and high producing pasture. Lowland podocarp-hardwood forest. Hardwood forest. Manuka. Gorse. Exotic forest. Fern. Mixed native scrub. Kauri forest	N43 615465 8 km north east of Clevedon	Open plant poplars. Pair plant willows	
V1e15	Moderately steep to steep slopes on stable dune sands	Semi-intensive grazing. Scrub reversion. Undeveloped	Semi-intensive grazing. Production forestry	E, F	Fixed dune sand over terrace deposits	hd Wn-c	A	Wb/Us	Yellow-brown sands: Horea sandy clay loam and sandy loam, hill soil Horea hill soils	24dH 1 HoH 2		Slight to moderate soil slip, sheet and wind	Moderate soil slip, sheet and wind	High and low producing pasture. Manuka. Mixed native scrub associations. Lowland podocarp-hardwood forest. Hardwood forest	N47&Pt N46 130250 Pollok	Maintenance of pasture cover is essential to prevent surface erosion	
V1e16	Steep to moderately steep siltstone and sandstone slopes with a 'Mairoa ash' cover in places. Occurs in coastal localities, has a low fertility and is drought prone	Semi-intensive to extensive grazing. Undeveloped	Semi-intensive grazing. Production forestry	F, E	Siltstone, sandstone and banded mudstone.	Sl Ld	A	(Mo)/Sim Sb, Mb	Yellow-brown earths: Wanstead clay loam, hill soil Marokopa clay loam, hill soil Yellow-brown loams: Tumutumu silt loam and sandy clay loam, hill soil	25aH 1 28cH 1 60dH 1		Nil to moderate sheet. Nil to slight soil slip and gully	Severe sheet. Moderate soil slip and gully	Low producing pasture. Lowland podocarp forest. Coastal forest. Manuka. Fern	N82 190630 4 km west of Waikawau	Maintenance of pasture cover. Pair plant gullies	
V1e17	Steep slopes on deeply weathered 'greywacke' with a severe earthslip potential	Undeveloped. Extensive grazing. Scrub reversion	Semi-intensive grazing. Erosion control forestry	F	Deeply weathered 'greywacke'	K mk, mw mm, mt mh	A, B B, B B	Gw ⁰	Yellow-brown earths and related steeppland soils: Marua clay loam, hill soil Maramarua silty clay loam, etc., hill soil Mangatawhiri fine sandy loam, hill soil Te Ranga clay loam and stony loam	35H 1 44dH 1 Mm 3 46dH 1 122b 1		Slight to moderate earth slip, soil slip, debris avalanche, sheet and gully	Severe earth slip. Moderate soil slip, sheet and gully	Lowland podocarp-hardwood forest. Hardwood forest. Low producing pasture. Manuka. Mixed native scrub associations. Gorse. Exotic forest	N48 580190 10 km north east of Pokeno	Open plant poplars. Erosion control forestry. Pair plant willows in gullies	
V1s1	Flat plains where cropping is precluded by a high water table and periodic flooding	Undeveloped. Intensive to extensive grazing	Intensive grazing	A	Alluvium	f pa fs	A B A	Al Pt	Recent soils: Esk sand Mangapiko clay loam Okowhao silt loam Mercer loam Mercer silt loam and peaty silt loam Organic soils: Rotongaro loamy peat Kaipaki peaty loam and loamy peat Wangamarino loamy peat	1b 1 Mp 2 Oko 2 2c 1 Mc 2 Rto 2 108a 1 110b, Wo 1, 2		Slight deposition	Moderate deposition. Slight streambank	Swamp associations. Low and high producing pasture. Manuka. Soil conservation trees. Podocarp forest	N52 563075 Adjacent to Mercer	Stopbanking. Drainage	The implementation of a drainage scheme would increase the capability of this land to class II
V1s1	Moderately steep to strongly rolling slopes on stable dune sands	Intensive grazing. Scrub reversion. Undeveloped	Intensive grazing. Production forestry	D/E E	Fixed dune Sand over terrace deposits	hd Wn-c	A A	Wb	Yellow-brown sands: Red Hill sand and sandy loam Red Hill sand and sandy loam, hill soil Horea sandy clay and clay loam Horea sandy clay loam Horea sandy clay and clay loam, hill soil Horea hill soils	24a 1 24aH 1 24d 1 Ho 2 24dH 1 HoH 2		Nil to slight sheet	Slight sheet, wind and soil slip	High producing pasture. Manuka. Lowland podocarp-hardwood forest	N47&Pt N46 185137 Boundary Road 7 km west of Waiuku	Care is needed in pasture management to prevent surface erosion	
V1s2	Flat very stony terraces with shelly soils	Semi-intensive grazing	Semi-intensive grazing	A	Alluvium and terrace deposits	fd, ft ha	A, A A	Al, Gr	Recent soils: Tukituki sandy loam and gravel etc. Miranda shelly sand Miranda shelly clay	1c 1 6 1 6a 1		Nil	Slight streambank	High producing pasture. Low producing pasture. Manuka	N48 802333 Whakatiwai	Drainage	

†, ††, ††† See first page of legend for references

WAIKATO: LAND USE CAPABILITY EXTENDED LEGEND (Continued)

UNIT	UNIT DESCRIPTION	LAND USE		SLOPE	*ROCK TYPE				†† TYPICAL SOILS			EROSION		VEGETATION	TYPE LOCALITY	SOIL CONSERVATION & WATER MANAGEMENT MEASURES	ADDITIONAL COMMENTS
		PRESENT	POTENTIAL		Geol. Symbol	Survey	Litho. Symbol		Symbol	Survey		PRESENT	††† POTENTIAL				
VIIe1	Steep slopes on Tertiary sedimentary lithologies with a 'Mairao ash' cover in places and a severe soil slip potential	Undeveloped. Semi-intensive to extensive grazing	Semi-intensive grazing. Erosion control forestry	F	Siltstone, sandstone, mudstone and limestone Early Holocene and late Pleistocene airfall tephra significant in places	Lw, Ld Lwh Kt	A, A A B	(Mo)/Sim, Sm, Mb, Sb Li	Yellow-brown loams: Tumutumu silt loam and sandy clay loam, hill soil Oparure silt loam and clay loam, hill soil Waitanguru silt loam and clay loam, hill soil Steepand soils related to yellow-brown earths: Kapamahunga steepand soils Steepand soils: Waitomo clay and silt loam <i>Waitomo clay and silt loam</i>	60dH 60fH 63aH KpS 113a 117b	1 1 1 2 1 1	Slight to moderate soil slip, sheet and gully	Severe soil slip. Moderate sheet and gully	Low producing pasture. Hardwood forest. Podocarp-hardwood forest	N83 689410 5km from Eight Mile Junction on State Highway 4	Open plant poplars. Pair plant willows in gullies. Erosion control forestry	
VIIe2	Steep to very steep 'greywacke' slopes with a severe soil slip and surface erosion potential	Undeveloped. Semi-intensive to semi-intensive grazing	Semi-intensive grazing. Erosion control forestry	F, F+G	'Greywacke'	Opf, Op Ko, Kh Hu, Ha Bo, Bm Br mk, mw np, nh	A, A A, A A, A A, A B, B B, B	(Mo)/Gw	Yellow-brown earths and related steepand soils: Mangaotaki clay loam and silt loam, hill soil Pakau steepand soils Te Range clay loam and stony loam Waingaro steepand soils Yellow-brown loams and related steepand soils: Pukerata series Moetato stony loam and silt loam Moetato series Haupeehi rocky loams	29aH 121d, PaS 122b WnS PuH 122a MoeS 126a	1 1, 2 1 2 5 1 5 1	Slight to severe soil slip. Slight to moderate sheet, debris avalanche, scree and gully	Severe soil slip sheet and scree. Moderate gully	Low producing pasture. Podocarp-hardwood forest. Mixed native scrub associations. Hardwood forest. Manuka	N82 265750 Moetato	Open plant poplars. Pair plant willows in gullies. Erosion control forestry	
VIIe3	Steep to very steep slopes on dissected sand covered terraces with very shallow drought prone soils	Extensive grazing. Undeveloped	Erosion control forestry. Extensive grazing	F, G	Fixed dune sand over terrace deposits	hd Wn-c	A A	Wb/Us	Yellow-brown sands Red Hill sand, and sandy loam, hill soil	24aH	1	Slight soil slip, gully and sheet	Moderate soil slip, gully and sheet	Low producing pasture. Hardwood forest	N47&Pt N46 095325 2 km north west of Awhitu Central	Maintenance of pasture cover is critical to prevent surface erosion	
VIIe4	Strongly rolling to steep very broken slopes on sedimentary lithologies with a severe deep earthflow and slump potential	Undeveloped. Extensive to semi-intensive grazing	Erosion control forestry. Semi-intensive to extensive grazing	D, E, F	Mudstone, siltstone sandstone, limestone and 'greywacke'	Po Lwh K	A A A	Mj, Mb Mm, Sim Sb, Li Gw	Yellow-brown earths and related steepand soils: Mangatea clay loam and silt loam, hill soil Atua silt loam, hill soil Mangaotaki clay loam, and silt loam, hill soil Steepand soils: Waitomo clay and silt loam	25H 29H 29aH 113a	1 1 1 1	Slight to severe earthflow and slump. Slight to moderate gully. Negligible to slight soil slip and sheet	Severe earthflow and slump. Moderate gully soil slip and sheet	Lowland podocarp-hardwood forest. Hardwood forest. Mixed native scrub associations. Low producing pasture. Rushes and sedges. Exotic forest	N92 683454 Grey Cliffs	Erosion control forestry. De water earthflows. Open plant poplars. Pair plant willows in gullies. Debris dams	
VIIe5	Strongly rolling to steep slopes on mudstone and siltstone with a severe potential for shallow earthflow erosion	Semi-intensive to extensive grazing.	Erosion control forestry. Semi-intensive to extensive grazing	D, E, F	Mudstone and siltstone Early Holocene and late Pleistocene airfall tephra significant in places	Lw, Po kt, kw	A, A B, B	(Mo)/Mj, Mb, Mm	Yellow-brown earths: Mangatea clay loam and silt loam, hill soil Wairama hill soils Ruakiwi hill soils Yellow-brown loams: Oparure silt loam and clay loam Oparure silt loam and clay loam, hill soil	25H WaH RwH 60f 60fH	1 2 2 1 1	Moderate to severe earthflow and gully	Severe earthflow, and gully	Low and high producing pasture. Rushes and sedges	N91 465508 5 km south west of Aria	De water earthflows. Erosion control forestry. Debris dams. Open plant poplars. Pair plant willows in gullies	
VIIe6	Steep to very steep long slopes on andesite	Undeveloped	Erosion control forestry	F, G	Andesite	al va	A B	Vo, La	Steepand soils related to brown granular loams and clays: Karioi silt loam and clay loam Karioi steepand soils	130c KoS	1 2	Slight to moderate debris avalanche. Slight sheet	Moderate to severe sheet and soil slip. Slight gully	Lowland podocarp-hardwood forest. Hardwood forest. Mixed native scrub associations. Exotic forest	N65 605245 Mt Pirongia	Erosion control forestry	
VIIe7	Undulating to strongly rolling slopes on unconsolidated dune sands with a severe to extreme wind erosion potential	Undeveloped. Extensive grazing. Erosion control forestry	Erosion control forestry. Extensive grazing	B-D	Unconsolidated dune sands	fd, fm fi	A, A A	Wb	Yellow-brown sands: Po and Red Hill sand and sandy loam Red Hill sand and sandy loam, hill soil No soil development	23 24a 24aH BR	1 1 1	Slight to extreme wind. Moderate gully. Slight soil slip	Severe to extreme wind. Moderate gully. Slight soil slip	Sand dune associations. Low producing pasture. Exotic forest	N47&Pt N46 165132 10 km west of Waiuku	Stabilisation of sand with marram grass and lupins. Erosion control forestry	
VIIe8	Steep to very steep deeply weathered 'greywacke' slopes with a severe slip erosion potential	Undeveloped. Extensive grazing	Erosion control forestry	F + G	'Greywacke'	K, Hu	A, A A, A	Gw ^o	Steepand soils related to yellow-brown earths: Te Range clay loam and stony loam	122b	1	Slight to moderate soil slip and earth slip. Slight debris avalanche and gully	Severe soil slip and earth slip. Moderate sheet and gully	Hardwood forest. Lowland podocarp-hardwood forest. Mixed native scrub associations. Fern. Manuka. Low producing pasture	N48 710370 20 km south east of Clevedon	Erosion control forestry. Pair plant gullies. Open plant poplars	
VIIe9	Very steep 'greywacke' slopes with a severe to very severe slip and scree erosion potential	Undeveloped. Extensive grazing	Erosion control forestry	G	'Greywacke'	Kh, Kt Hu, Ha Bm, Br	A, A A, A A, A	Gw	Steepand soils related to yellow-brown earths: Pakau silt loam Steepand soils related to yellow-brown loams: Moetato stony loam and silt loam	121d 122a	1 1	Slight to moderate debris avalanche and soil slip. Slight scree	Severe to very severe soil slip. Severe sheet and scree. Moderate gully	Lowland podocarp-hardwood forest. Hardwood forest. Mixed native scrub associations. Fern. Low producing pasture	N82 310785 4 km north west of Pomarangi	Erosion control forestry. Pair plant gullies	
VIIw1	Flat, low areas with a very high water table and subject to frequent prolonged flooding	Undeveloped. River ponding area. Wildlife reserve	Extensive grazing. River ponding area. Wildlife reserve	A	Peat and alluvium	fs pa	A B	Pt Al	Recent soils: Mercer loam, etc Gley soils: Elstow series Organic soils: Ngatea peaty loam Tailhaia peaty loam and peaty clay loam Piako peaty loam and loamy peat Whangamarino loamy peat Otway series	2c EI 107c 107e 108 110b Ot	1 3 1 1 1 1 3	Nil to slight deposition	Slight to moderate deposition	Swamp associations. Soil conservation trees. Manuka	N52 640030 Island Block 6 km east of Meremere	Stopbanking. Drainage	
VIIIs1	Steep to very steep slopes on sandstone limestone and ignimbrite with numerous bluffs and rock outcrops	Extensive grazing. Undeveloped	Extensive grazing.	F, G	Sandstone and Limestone Ignimbrite Early Holocene and late Pleistocene airfall tephra significant in places	L, Lw Ld Lwh pa	A, A A A A	(Mo)/ Li, Sm Sb Vo	Rendzine and related hill soils: Waimai hill soils Steepand soils: Waitomo clay and silt loams Yellow-brown earths and related steepand soils: Kohemare hill soils Pakau steepand soils Yellow-brown loams: Waitanguru silt loam and clay loam, hill soils Bare rock	WmH 113a KeH PaS 63aH BR	2 1 2 2 1 —	Nil to slight sheet and soil slip	Slight sheet soil slip	Low and high producing pasture. Manuka. Hardwood forest	N82 410797 Adjacent to Tawarau State Forest		
VIIIe1	Very steep andesite slopes with a very severe erosion potential	Protection forestry	Protection forestry	G	Andesite	al va	A B	Vo	Steepand soils related to brown granular loams and clays: Karioi silt loam and clay loam	130c	1	Slight to severe debris avalanche. Moderate scree	Very severe sheet and soil slip. Severe scree	Lowland podocarp-hardwood forest	N65 594215 Mt Pirongia	Maintain indigenous forest cover. Noxious animal control	
VIIIe2	Very steep 'greywacke' slopes with a very severe to extreme erosion potential	Protection forestry	Protection forestry	G	'Greywacke'	Kh, Kt Hu, Ha Bo	A, A A, A A	Gw	Steepand soils related to yellow-brown earths: Pakau silt loam Steepand soils related to yellow-brown loams: Moetato stony loam and silt loam No soil development	121d 122a BR	1 1 —	Slight to severe debris avalanche. Slight to moderate scree	Very severe to extreme soil slip. Severe sheet. Moderate scree	Hardwood forest. Lowland podocarp-hardwood forest. Mixed native scrub associations	N82 314736 Maungamangero trig Herangi Range	Maintain indigenous forest cover. Noxious animal control	
VIIIe3	Coastal cliffs	Undeveloped		G	'Greywacke'	Hu, Br	A, A A	Gw	No soil development Steepand soils related to yellow-brown loams: Moetato stony loam and silt loam	BR 122a	— 1	Moderate soil slip and sheet	Very severe soil slip and sheet	Manuka. Coastal forest. Salt tolerant associations.	N82 223790 Kaitangata Pt 8 km south east of Marakopa	Maintenance of vegetative cover	
VIIIIs1	Stable cliffs and bluffs on limestone and sandstone	Undeveloped	Catchment protection	G	Sandstone, limestone, and ignimbrite	Ld-Lw Lwh pa	A A A	Sm, Sb Li Vo	No soil development Steepand soils: Waitomo clay and silt loam	BR 113a	— 1	Slight sheet and scree	Slight sheet and scree	Lowland podocarp-hardwood forest. Hardwood forest. Mixed native scrub associations. Low producing pasture	N82 458653 8 km west of Piopio	Maintenance of vegetative cover	

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