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Land Resource Survey Report of Part Tairua Catchment, Coromandel Peninsula.

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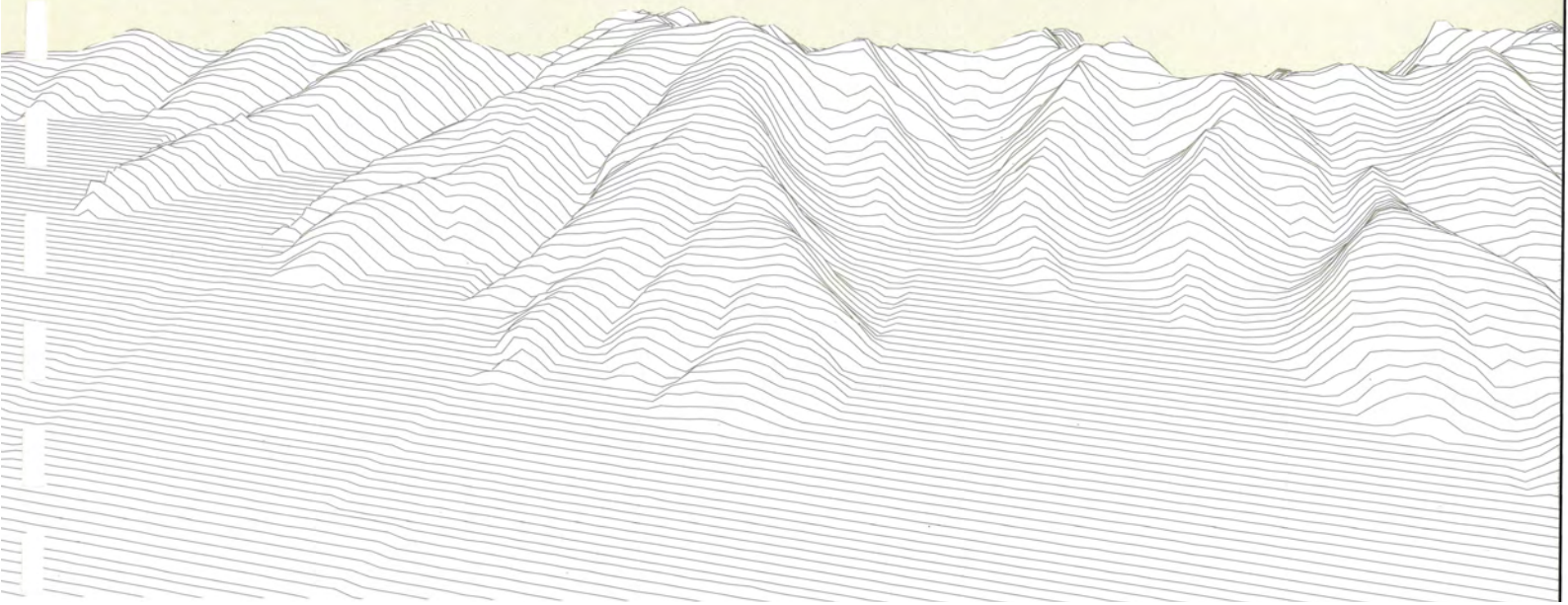

LAND RESOURCE SURVEY REPORT OF PART TAIRUA CATCHMENT, COROMANDEL PENINSULA

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1.2 Objectives

- To map the land resources of part Tairua catchment at a scale of 1:50 000.
- To assemble map units into Land Use Capability (LUC) units that together provide a basis for land management decisions, natural resource research and environmental monitoring.

1.3 Methods

- Primary inventory map units were delineated on stereo-photograph pairs with regard to the landform, slope angle, soil unit, and rock type. One week was spent in the field verifying the defined units. Secondary, or final inventory map units were then defined on the basis of differences in land cover/use, erosion attributes and rock-related factors such as % bare rock and regolith depth. Units were delineated at a scale of 1:50 000.
- The inventory map units were grouped into LUC units on the basis of their unique assemblage of physical characteristics.
- The land resources, inventory map units and LUC units are described in this report.

1.4 Results

- Two hundred and ninety eight map units were delineated and their physical attributes recorded in an area of 144 Km^2. These were grouped into 40 LUC units.
- LUC units were organised into "suites" and "subsuites". A LUC suite is a group of LUC units which, although differing in land-use capability, share a definitive characteristic that unites them in the landscape. A subsuite is a subdivision of a suite on the basis of another definitive characteristic. While the "definitive characteristic" may vary, it is normally rock type or soil.

1.5 Conclusions

- The LUC units will provide a basis for managing the land resources of the Tairua area.
- The LUC units can be applied in rhyolitic, andesitic, alluvial and coastal terrain elsewhere in the Coromandel Peninsula.

2.0 Introduction

A multi-factor land resource survey was carried out in part Tairua catchment, Coromandel, by Landcare Research New Zealand Ltd, Aokautere, for Environment Waikato, Hamilton, in May 1993.

Mapping is at a scale of 1:50 000 and is within an area defined by map co-ordinates 510600, 510470, 680600, 680470 on NZMS 260 T12, totalling 144 Km^2.

A land resource survey map accompanies this report.

3.0 Background

Environment Waikato saw the need to improve the land resource database for the Coromandel Peninsula to more properly discharge their responsibilities and duties under the Resource Management Act 1991. This project was seen as a first step in the process of improving the land resource database by selecting a "window" area (the Tairua catchment) for a comprehensive multi-factor survey.

The survey will benefit Environment Waikato by:

- providing defensible land resource information for land-use planning in the study area
- providing a robust framework for environmental monitoring in the study area
- demonstrating procedures for data collection and providing an opportunity to establish links with water resource data for long-term predictive modelling
- defining outputs appropriate for incorporation into Environment Waikato's regional plans and policy documents
- providing an opportunity to compare a modern spatial data set for the study area with that produced as part of the mid-1970's NZLRI programme for the Coromandel area - to assist in evaluating the benefits of embarking on a regional land resource mapping programme

4.0 Objectives

- To map the land resources of part Tairua catchment at a scale of 1:50 000.
- To assemble map units into Land Use Capability (LUC) units that together provide a basis for land management decisions, natural resource research and environmental monitoring.

5.0 Resource information used in mapping

5.1 Aerial photography and base map

Map units were delineated on panchromatic vertical stereo-photo pairs (P/8-16, Q/8-16, and R/8-16) from SN 8163. This photography covers the whole study area at a nominal scale of 1:25 000, and were taken on January 10,1983. Considerable assistance was given in updating transient factors such as land use, land cover and erosion using panchromatic stereo-photo pairs at a nominal scale of 1:27 500 from SN 11978, taken April 23,1983 (photos. 233576-233583). These did not extend northward of easting 540 on NZMS 260 T12 (covering a little more than 50% of the study area).

5.2 Climate

Climatic information is summarised for the Coromandel region in Maunder (1974) and Department of Lands and Survey 1975 - these documents offer the most detailed regional information available. The climatic regions map of New Zealand (N Z. Meteorological Service 1983) places the whole of Coromandel in region A_2 (a brief description of the main climatic elements of A_2, is given for each LUC unit defined in Section 7). There is no climate data specific to the Tairua study area, although a full climate station at Carter Holt's Tairua Forest headquarters and a rainfall station at Tairua provides sufficient information for reasonable local assessments.

5.3 Geology and rock type

A 1:250 000 scale geological map of Schofield (1967) provides basic geological information. A more useful 1:63 360 scale geological map (Skinner 1976) extends no further south than just south of Whitianga. Unpublished 1:63 360 scale geological information is reported to exist at the Institute of Geological and Nuclear Sciences (D.N.B Skinner, *pers comm.*) but for this study the general degree of differentiation of rock types did not justify the cost of obtaining this information. It should nevertheless be acknowledged that a higher degree of confidence in the rock type data would have been possible with access to the more detailed geological

information. This information should be purchased if further work is to be done in the area south of Whitianga. Broadscale (1:126 720 scale) lithological information exists in the Land Inventory Survey of Coromandel-Thames Counties (Department of Lands and Survey 1975), although for the study area this effectively provided no more information than that in Schofield (1967).

Considerable assistance was given initially in the assessment of late Quaternary tephra depths by Hogg and McCraw (1983). The *c.* 52 000 +- 7 000 years B.P. Rotoehu Ash (age from Berryman 1992) appears as a distinctive marker bed in the area. There are three Hogg and McCraw (1983) reference sites in the study area, and they reveal post Rotoehu Ash tephra depths (inclusive of Rotoehu) of between 150 cm and 170 cm on stable sites.

5.4 Soils

A soil map at 1:126 720 scale (McCraw and Bell 1975) and accompanying general descriptions of the soil units in Land Inventory Survey of Coromandel-Thames Counties (Department of Lands and Survey (1975) provides broad-scale soil coverage for the study area. A NZLRI Worksheet (Trustrum and Crippen 1986) provides a more detailed spatial interpretation of the same soils at a scale of 1:63 360. More recently (in 1992), Landcare Research carried out a 1:50 000 scale re-assessment of the soils of Coromandel as part of a FRST Programme. This work involved an office interpretation of unpublished field sheets of McCraw and Bell (1968). The results of this interpretation are held at Landcare's Hamilton office. Of most assistance was the survey of Sutherland and Cox (1958). Their report and 1:15 840 scale soil map covers the then Tairua State Forest that makes up a large part of the study area. For the area not in this forest the unpublished 1:50 000 scale map prepared by Landcare staff was used.

5.5 Land cover and land use

Land cover and land use maps at a scale of 1:126 720 in Land Inventory Survey of Coromandel-Thames Counties (Department of Lands and Survey (1975) provide a regional overview. An excellent review (although without maps) of land cover types, land use history, and other land attributes with ecological importance is given for the Tairua Ecological District (the Tairua study area lies wholly within this District) in a Department of Conservation survey report for the Protected Natural Areas Programme in Coromandel Ecological Region (Humphreys and Tyler 1990).

5.6 NZLRI

The Tairua survey area lies within the New Zealand Land Resource Inventory (NZLRI) Coromandel-Great Barrier Island Region on NZLRI Worksheet N49 (2nd Edition) (Trustrum and Crippen 1986). For details of the approach taken in the NZLRI refer to "Our land resources" (National Water and Soil Conservation Organisation 1979) and "Land Use Capability survey handbook" (Soil Conservation and Rivers Control Council 1971). The 1st edition LUC classification for the Coromandel region is set out in an Extended Legend (Trustrum 1974).

Worksheet N49 (2nd edition) is a limited revised version of a 1st edition worksheet from mapping carried out in 1973-74. The 2nd edition worksheet remains unchanged from the 1st edition in all aspects apart from the addition of rock types to replace time-stratigraphic rock units. The NZLRI information should be regarded as out-of-date and of limited use,

especially for factors that change rapidly over time such as vegetative cover and erosion. Further, the NZLRI map unit delineation of the 1970's gives a broader pattern than is now considered acceptable, and the LUC classification is insufficiently sensitive to differences in rock type and soils for regional/district and large watershed planning and environmental monitoring. The spatial land resource data set established for the Tairua area in this project allows a comparison to be made between land resource mapping standards of the 1970's (evidenced on 1st and 2nd edition Worksheets) and that of the 1990's, thereby assisting Environment Waikato to assess the merits of embarking on a NZLRI-style Coromandel regional mapping programme.

6.0 Methodology

The general methodology is described in National Water and Soil Conservation Organisation (1979) and Soil Conservation and Rivers Control Council (1971).

Primary inventory map units were delineated on stereo-photograph pairs with regard to the landform, slope angle, soil unit, and rock type. One week was spent in the field verifying the defined units. Secondary, or final inventory map units were then defined on the basis of differences in land cover/use, erosion attributes and rock-related factors such as % bare rock and regolith depth. This process yielded 298 uniquely numbered inventory map units.

The inventory map units were transferred by eye to topographic map NZMS 260 T12. Map unit boundaries will later be digitised from this base for incorporation into a GIS to facilitate further studies. (Note that GIS is outside the Terms of Reference for this study.)

Inventory data were managed using dBaseIV (version 1.5) software. dBase printouts of the Tairua data appear in the Appendices.

The 298 inventory map units were assembled into 40 Land Use Capability (LUC) units (described fully in Section 8). Each LUC unit is a grouping of inventory map units that require the same management strategies (including soil conservation measures). The LUC units are ideal units upon which to base regional, district, and large watershed planning initiatives, environmental monitoring programmes, and applied research.

7.0 Inventory classifications

Codes used to describe inventory factors for each of the 298 inventory map units in the Appendices may be interpreted by referring to the tables in this Section.

7.1 Landform

Landform categories are adapted from Milne *et al.* (1991) and described in Table 7.1.

Table 7.1 Landform classification

Symbol	Name	Description
DU	Dune	A low mound, ridge, bank, or hill of loose, windblown, granular material (generally sand, sometimes tephra), either bare or covered with vegetation, capable of moving from place to place but always retaining its overall shape in non-urbanised areas
ER	Easy rolling land	Landscape in which most slopes are between 8^{o} and 11^{o}
FP	Flood plain	The surface or strip of relatively smooth land extending from a river channel, and constructed or in process of being constructed) by the present river in its existing regime, and covered with water when the river overflows its banks at times of high water
FS	Foot slope	The lower part of a slope without reference to profile shape, bounded by a valley floor or broadly planar nearly flat landform at its base and by the mid slope at its top. The boundary between the foot slope and the mid slope is defined as follows: either 1. at an obvious maximum in the rate of change of slope, i.e., a slope break, in the basal 30% of the slope, but excluding slope breaks at small scars at the very base of the foot slope, or 2. if there is no slope break, at the line defining the basal 30% of the vertical height of a slope. Note: use of foot slope in the Tairua study extends to landforms that might have been named truncated benches were it not for their excessive slope angle. They are in effect 'perched or relict' foot slopes because at their bases renewed slope formation has led to an escarpment or hilly land being formed
HI	Hill	A natural elevation of the land rising prominently above the surrounding land, usually of limited extent and having a well defined outline and less than 300 m from the base to the summit
HL	Hilly land	Landscape of hills and/or mountains in which most slopes are between 16^{o} and 25^{o}

Symbol	Name	Description
PM	Platform*	A comparatively flat, elevated area; considerably elevated above the adjacent land with the major part of its surface at or near the summit level, and commonly limited on at least one side by an abrupt descent. Similar in concept to a plateau but considerably less extensive
RL	Rolling land	Landscape in which most slopes are between 8^{o} and 15^{o}
SL	Steep land	Landscape of hills and/or mountains in which most slopes exceed 25^{o}
SR	Strongly rolling land	Landscape in which most slopes are between 12^{o} and 15^{o}
TB	Truncated bench*	Once a long, narrow, relatively level or gently inclined strip or platform, bounded by steeper slopes above and below, now truncated by erosion leaving relict (stranded) sections of bench
TR	Terrace	Any relatively flat or gently inclined surface (tread), generally less broad than a plain, bounded on one edge by a steeper descending slope (riser) and along the other by a steeper descending slope (riser), and sufficiently elevated to be beyond the reach of the agent that formed it
UL	Undulating land	Landscape in which most slopes are between 4^{o} and 7^{o}

Note that landform names marked with an asterix are additional to the landforms defined in Milne *et al.* (1991).

7.2 Slope

The NZLRI slope classification (Soil Conservation and Rivers Control Council 1971) is used for the Tairua study. This classification (Table 7.2) is now a New Zealand standard in land resource work (including soil survey). Note that the rather broad slope range in class C (8-15^{o}) can be given more sensitivity when linked with the landform classification - easy rolling land has most slopes between 8^{o} and 11^{o} while strongly rolling land has most slopes between 12^{o} and 15^{o}.

Table 7.2 Slope classification

Slope class symbol	Slope angle in degrees	Relief description
A	0-3	Flat to gently undulating
B	4-7	Undulating
C	8-15	Rolling
D	16-20	Hilly* (easy hilly)
E	21-25	Moderately steep (moderately steep hilly)
F	26-35	Steep
G	>35	Very steep

Additional Symbols

/	-	Average or compound slopes - border line between two slope classes, e.g., A/B
+	-	Complex slopes, first slope class dominates the landscape, e.g., A+B
'	-	Dissected slopes, e.g., A' (restricted in use to intensely dissected because most slope have a degree of dissection)

* "Hilly" replaces strongly rolling to better link with the landform classification. D slopes are now often referred to as "easy" hilly land, whereas the NZLRI described them as strongly rolling. "Strongly rolling" slopes are now widely considered to occur at the steeper end of class C (12^{o}-15^{o}).

7.3 Rock type and related factors

Rock type and the related factors: % bare rock class; presence of hydrothermal alteration; regolith depth and late Quaternary tephra depth, are recorded for each inventory map unit.

7.3.1 Rock type

Rock types are taken from the NZLRI classification of Lynn and Crippen (1991) and are set out in Table 7.3. Rock types lie under the "ROCKT" column in the Appendices.

Table 7.3 Rock types

Symbol	Rock type name
Mo	ashes older than Taupo ash
Vu	extremely weak altered volcanics
Vor	rhyolites*
Voa	andesites*
Pt	peat
Wb	windblown sand
Af	fine alluvium
Uf	unconsolidated clays and silts

* These separations of volcanic rocks do not appear in Lynn and Crippen (1991)

Prefixes

p denotes a rock type that is of localised significance, i.e., patchy, e.g., Vor + **p**Voa, rhyolites and patches of andesite. Another example common in Tairua is the recognition of a patchy cover of ashes older than Taupo ash. This includes the symbol /, e.g., **p**Mo/Vor, patchy tephra overlying rhyolitic rock.

w in regional NZLRI mapping the symbol **w** denotes a significant degree and depth of weathering such that a rock's physical characteristics are significantly different from its unweathered characteristics, e.g., **w**Voa, weathered andesite. For the Tairua survey this prefix is not used in favour of a separate assessment of the depth of material to moderately or more weakly weathered bedrock (interpreted as "regolith depth").

Additional symbols

/ denotes stratigraphic sequence with the surface rock type first, e.g., Mo/Voa ashes older than Taupo ash over andesitic rocks. A maximum of two /'s may be used in any one code.

\+ denotes that there are two or more rock types and the first one is dominant e.g., Af + Pt, fine alluvium and peat. A maximum of two +'s may be used in any one code.

* used in conjunction with /, indicates that rock types joined together are both overlain by the preceding rock type, e.g., Mo/Vor* Uf, tephra overlying both rhyolitic rocks and unconsolidated clays and silts. (This contrasts with Mo/Vor + Uf) where tephra overlies Vor only.)

7.3.2 Bare rock

Percentage bare rock classes are given in Table 7.4. Bare rock is usually in the form of rocky outcrops forming escarpments denoting the edge of a resistant welded ignimbrite flow. Percent bare rock classes lie under the "BROCK" column in the Appendices.

Table 7.4 Bare rock classes

Symbol	% class	Description
0	nil	nil
1	1-5	very sparse
2	5-10	sparse
3	10-20	common
4	20-40	many
5	40-60	abundant
6	60-80	profuse
7	>80	extremely profuse

7.3.3 Regolith depth

Regolith depth was assessed for each inventory map unit according to Table 4.4. The depth was taken down to the assessed depth of moderately or more weakly weathered rock material. Moderately weathered material is discoloured, and discontinuity surfaces will have greater discoloration which also penetrates slightly into the rock material. The rock material is significantly weaker than fresh rock, and part of the rock mass may have been changed into to completely weathered material, but usually significantly less than half of the rock material has been so altered. The regolith depth attribute can also be interpreted as a crude measure of weathering depth. Regolith depth assessments lie under the "RDEPTH" column in the Appendices.

Table 7.5 Regolith depth classes

Symbol	Depth class (cm)	Description
0	<10	extremely shallow
1	10-45	extremely to very shallow
2	45-90	shallow to mod. shallow
3	90-200	mod. deep to deep
4	200-500	very deep
5	>500	extremely deep

7.3.4 Late Quaternary tephra depth

The depth of late Quaternary tephras (in the study area these tephras are those younger than Rotoehu Ash at *c.* 42 000 years B.P.) that form Allophanic Soils, are assessed as an average depth for each map unit according to the classes in Table 7.6. Late Quaternary tephra depths lie under the "LQTD" column in the Appendices.

Table 7.6 Tephra depth classes

Symbol	Tephra depth (cm)
0	<10
1	10-30
2	30-90
3	90-150
4	>150

7.3.5 Hydrothermal alteration

The recording of Vu (extremely weak, altered volcanics) as a rock type (Section 7.3.1) denotes a degree of alteration that significantly reduces rock mass strength. In addition to this a yes/no statement for hydrothermal alteration is recorded for each inventory map unit - being "yes" only where the degree and extent of alteration is judged to have an obvious impact on the landform, slope processes and slope stability. A "no" statement therefore does not indicate a lack of hydrothermal alteration. Rather, it means that if any altered material is present, it is insufficiently extensive or too weakly altered to exhibit special proneness to slope instability. Yes/No statements lie under "HALT" in the Appendix.

7.4 Soils

Soil units presently available for all of the Coromandel Peninsula are listed in Tables 7.7 to 7.14. An appreciation of how soils of Tairua fit into a regional framework is gained by this full soils listing. Soils recorded in the Tairua study are marked with an asterix.

Two soil classification schemes are used to describe the essential character of the soils: the "NZ Soil Classification" of Hewitt (1992), and the "NZ Genetic Soil Classification". While the Hewitt scheme is emphasised in the Tairua study, the NZ Genetic nomenclature is included to show the linkage between the two classifications. LUC unit descriptions (Section 8) takes the NZ Soil Classification one categoric level lower than the Subgroup - that is, to the Family (or Form). This step is taken to convey more meaningful information about typical soils in LUC units, using Clayden and Webb (1993) as a basic reference.

Note: the N Z Soil Classification codes for subgroups reflect three hierarchical levels. Using Mottled Fluvial Recent Soils (RFM) as an example: the Order is Recent soils, the Group is Fluvial Recent soils, and the Subgroup is Mottled Fluvial Recent soils, and the latter is denoted by the standard symbol RFM used everywhere in NZ where these soils occur.

Table 7.7 Soils developed from alluvium and/or peat and/or windblown sands

NZ Soil Classification		NZ Genetic Soil Classification	
Soil Classification (Subgroup)	Soil Code	Soil Classification & Soil Type	Soil Code
		Recent soils from Af	
Mottled Fluvial Recent Soils	RFM	Ohinemuri loamy sand*	Oh
		Brown granular clays and loams from volcanic alluvium	
Mottled Fluvial Recent Soils	RFM	Pakotai clay	PK
		Recent soils from volcanic alluvium	
Mottled Fluvial Recent Soils	RFM	Siberia clay	S
		Organic soils	
Mellow Mesic Organic Soils	OMM	Ruakaka loamy peat*	Pk
		Saline gley soils	
Fluid-Saline Sulphuric Gley Soils	GUFQ	Takahiwai clay*	Tw
		Gley soils	
Peaty Orthic Gley Soils	GOO	Hauraki peaty clay	Hkp
Melanic Orthic Gley Soils	GOE	Hauraki clay	Hk
Typic Orthic Gley	GOT	Shaftesbury sandy loam*	Sb
		Yellow-brown sands	
Typic Sandy Recent Soils	RST	Pinaki sand*	Pn
Typic Sandy Brown Soils	BST	Pinaki sand wet phase	Pnw
Mottled Sandy Brown Soils	BSM	Tangitiki sand*	T

Table 7.8 Soils developed from tephras

NZ Soil Classification		NZ Genetic Soil Classification	
Soil Classification (Subgroup)	Soil Code	Soil Classification & Soil Type	Soil Code
		Yellow-brown loams	
Typic Impeded Allophanic Soils	LIT	Whangamata gravelly sandy loam*	Wmg
Typic Impeded Allophanic Soils	LIT	Whangamata gravelly sandy shallow phase	WMs
Typic Orthic Allophanic Soils	LOT	Mangaiti sandy loam	Mg
Typic Orthic Allophanic Soils	LOT	Whangamata sandy loam*	Wms
Typic Orthic Allophanic Soils	LOT	Whitianga silt loam	Wg
Typic Orthic Allophanic Soils	LOT	Waitekauri silt loam*	Wk
Typic Orthic Allophanic Soils	LOT	Waitekauri silt loam* compact subsoil phase	Wke
Typic Orthic Allophanic Soils	LOT	Waitekauri silt loam rolling phase*	Wkr
Vitric Orthic Allophanic Soils	LOV	Whangamata gravelly sandy loam deep phase*	Wmg
Vitric Orthic Allophanic Soils	LOV	Whangamata gravelly sandy loam rolling phase*	Wmg
Vitric Orthic Allophanic Soils	LOV	Whangamata hill soils*	WmH

Table 7.9 Soils developed from greywacke and acid volcanic rock

NZ Soil Classification		NZ Genetic Soil Classification	
Name (Subgroup level)	Soil Code	Name	Soil Code
		Yellow-brown earths	
Typic Immature Pallic Soils	PIT	Paeroa sandy loam	Pa
Acidic Orthic Brown Soils	BOA	Marua clay loam *on Gw*	Ma
Acidic Orthic Brown Soils	BOA	Rangiora clay loam *on Gw*	Rg
Acidic Orthic Brown Soils	BOA	Puketui clay loam* *on Vor, Vod*	Pi
Acidic Orthic Brown Soils	BOA	Marua hill soils *on Gw*	MaH
Acidic Orthic Brown Soils	BOA	Rangiora hill soils *on Gw*	RgH
Acidic Orthic Brown Soils	BOA	Puketui hill soils* *on Vor, Vod*	PiH
Typic Orthic Brown Soils	BOT	Pukenamu clay loam *on Vod, Vor*	Pu
Typic Orthic Brown Soils	BOT	Pukenamu hill soils *on Vod, Vor*	PuH
Acidic Orthic Brown Soils	BOA	Waikare hill soils *on Gw, Vo*	WH

Table 7.10 Soils developed from intermediate and basic volcanic rock

NZ Soil Classification		NZ Genetic Soil Classification	
Soil Classification (Subgroup)	Soil Code	Soil Classification & Soil Type	Soil Code
		Brown granular clays	
Typic Orthic Brown Soils	BOT	Awapuku clay loam*	Aw
Typic Orthic Brown Soils	BOT	Waitakere clay loam*	Wa
Typic Orthic Brown Soils	BOT	Awapuku hill soils*	AwH
Typic Orthic Brown Soils	BOT	Waitakere hill soils*	WaH
Mottled Orthic Brown Soils	BOM	Mangonui clay loam	Ma
Mottled Orthic Brown Soils	BOM	Rangiuru clay	Ri
Mottled Orthic Brown Soils	BOM	Mangonui hill soils	MgH
Mottled Orthic Brown Soils	BOM	Rangiuru hill soils	RiH

Table 7.11 Steepland soils related to yellow-brown earths on greywacke and acid volcanic rock

NZ Soil Classification		NZ Genetic Soil Classification	
Soil Classification (Subgroup)	Soil Code	Soil Classification & Soil Type	Soil Code
		Steepland soils related to Y-B earths	
Acidic Orthic Brown Soils	BOA	Te Ranga steepland soils *on Gw*	TRS
Acidic Orthic Brown Soils	BOA	Moehau steepland soils *on Vor, Gn, Vod*	MoS
Acidic Orthic Brown Soils	BOA	Tangatara steepland soils* *on Vor, Vod*	TS
Acidic Orthic Brown Soils	BOA	Wahitapu steepland soils *on Vor, Vod*	WpS

Table 7.12 Steepland soils related to brown granular clays and loams from intermediate and basic volcanic rock

NZ Soil Classification		NZ Genetic Soil Classification	
Soil classification (Subgroup)	Soil Code	Soil Classification & Soil type	Soil Code
		Steeplands soils related to B-G clays and loams	
Acidic Orthic Brown Soils	BOA	Aroha steepland soils *on Voa*	AS
Acidic Orthic Brown Soils	BOA	Te Kie steepland soils* *on Voa*	TKS
Acidic Orthic Brown Soils	BOA	Otuwheti steepland soils* (often complexed with Tangatara soils) *on Voa*	OS

Table 7.13 Soils developed from a complex of rock types and surficial deposits:

NZ Soil Classification		NZ Genetic Soil Classification	
Soil Classification (Subgroup)	Soil Code	Soil Classification & Soil Type	Soil Code
		Soil Complexes	
Typic Orthic Brown Soils & Acidic Orthic Brown soils & Typic Orthic Allophanic Soils	BOT BOA LOT	Tuhuna clay loam & Whangamata sandy loam & Puketui clay loam	No symbol
Acidic Orthic Brown Soils and Typic Orthic Allophanic Soils	BOA LOT	Puketui clay loam & Waitekauri silt loam	Pw
Acidic Orthic Brown Soils & Typic Orthic Allophanic Soils	BOA LOT	Puketui hill soils & Waitekauri hill soils	PwH
		Te Weiti hill soils	
Typic Orthic Brown Soils & Typic Orthic Allophanic Soils	BOT LOT	Tairua complex	Tr
Typic Orthic Brown Soils & Typic Orthic Allophanic Soils	BOT LOT	Tairua hill soils complex	TrH

Note: soil complexes Pw and Tr are mapped by Sutherland and Cox (1958), but for this study these complexes are separated into component soil types.

Table 7.14 Podzols

NZ Soil Classification		NZ Genetic Soil Classification	
Soil Classification (Subgroup)	Soil Code	Soil Classification & Soil Type	Soil Code
		Podzols	
Humose Orthic Podzols	ZoH	Wharekawa gravelly sandy loam	WK
Humose Orthic Podzols	ZoH	Wharekawa hill soils	WKH
Humose Orthic Podzols	ZoH	Ohui silty clay loam	O

7.5 Erosion

Tables 7.15 and 7.16 set out the erosion attributes recorded for the survey. They are taken from the NZLRI erosion classification Eyles (1985). Surface and fluvial forms are recorded together in the Appendices under the heading "ERTS" (erosion type - surface), mass-movement forms are recorded under the heading "ERTM" (erosion type - mass-movement). An erosion degree assessment is given for fluvial and surface forms under the heading "ERDS" (erosion degree - surface), and a separate assessment of erosion degree for mass-movement is given under "ERDM" (erosion degree - mass-movement).

Table 7.15 Erosion types

Erosion type			Basis for recording
Surface Erosion			
Sh	-	sheet	Recorded on an areal basis
W	-	wind	
Sc	-	scree	
Mass Movement Erosion			
Ss	-	soil slip	
Es	-	earth slip	
Su	-	slump	
Da	-	debris avalanche	Recorded on a seriousness basis (a combination of rate and depth of movement, frequency of erosion events, feasibility and cost of control, economic effect, etc.)
Ef	-	earthflow	
Fluvial Erosion			
R	-	rill	
G	-	gully	
T	-	tunnel gully	
Sb	-	streambank	
D	-	deposition	

Table 7.16 Erosion degree rankings

Seriousness: Mass-movement and fluvial erosion		Area: Surficial erosion Sh, W, Sc, taken as % area of bare ground	
Symbol	Degree, Seriousness	Symbol	% area
0	negligible	0	<1
1	slight	1	1-10
2	moderate	2	11-20
3	severe	3	21-40
4	very severe	4	41-60
5	extreme	5	>60

7.6 Land cover

7.6.1 The land cover classification

The 2nd edition NZLRI vegetation classification (Page 1987) supersedes the classification (Hunter and Blaschke 1986) used in the 1st edition NZLRI Worksheets. The vegetation classification of Page is used for cover categories in the Tairua study and is set out in this Section, together with the previously used NZLRI symbols for comparison.

Full descriptions of the Page-derived cover classes are given in Jessen and Harmsworth (1993).

		PREVIOUS NZLRI CLASSIFICATIONS
Grass		
gI	Improved pasture	P1
gS	Semi improved pasture	P2
gU	Unimproved pasture	P2
gT	Short tussock grassland	P3
gW	Snow tussock grassland	P4
gR	Red tussock grassland	P5
gD	Sand dune vegetation	P6, gA
Crops		
cC	Wheat, oats, barley, etc.	L1, CW
cM	Maize	-
cP	Pip and stone fruit	-
cG	Grapes and berry fruit	L2
cK	Kiwifruit	-
cS	Subtropical fruit	-
cR	Root and green fodder crops	L3
cV	Vegetables, nurseries	L4
sM	Manuka, kanuka	M1
sC	*Cassinia*	M2
sD	*Dracophyllum*	M3
sF	Fern	M4
sS	Subalpine scrub	M5
sX	Mixed indigenous scrub	M6a
sT	Mixed indigenous scrub with tree fern	M6b
sB	Broom	M7
sG	Gorse	M8
sK	Blackberry	M9
sW	Sweet brier	M10
sA	Matagouri	M11
sV	Mangrove (Recorded in the computer archive)	M12
sL	Lupin	M14
sH	Heath	M15
sO	Coastal scrub	M16
sE	Exotic scrub	M17

Forest		
fC	Coastal forest	N1
fK	Kauri forest	N2
fP	Podocarp forest	N7
fB	Broadleaved forest	N5
fO	Lowland podocarp-broadleaved forest	N3a
fI	Highland podocarp-broadleaved forest	N3b
fD	Podocarp-broadleaved-beech forest	N3c
fW	Lowland beech forest	N4a
fG	Highland beech forest	N4b
fU	Beech forest, undifferentiated	N4
fF	Exotic conifer forest	N6a, fS
fR	Exotic broadleaved forest	N6b, fH
Herbaceous		
hW	Wetland vegetation	H1
hR	Rushes, sedges	H2
hA	Alpine and subalpine herbfield/ fellfield vegetation	H4
hS	Saline vegetation	H5
hP	Pakihi vegetation	H6
hM	Semi-arid herbaceous vegetation	H7
Unvegetated		
uV	unvegetated land	-
Other symbols		
(Placed before class)		
c	cutover	c
s	stunted	s
e	erosion control trees	-
n	naturalised exotic trees	fN
(Placed after class)		
*	scattered (suffix)	-

Notes on "Other symbols"

The distribution of cover classes (e.g., sM, fO, etc.) within inventory map units is recorded as either "clumped" or "scattered". Scattered vegetation cover classes are denoted by the use of an asterisk after the class symbol, e.g., sM*. Without the asterisk the cover class is assumed to have a clumped distribution. Note that there is no percentage cover estimate given of the scattered cover component. The scattered vegetation class will be scattered throughout the clumped vegetation class that immediately precedes it in the vegetation code:

e.g., gIsM* - improved pasture with scattered manuka
or gIsM*sG* - improved pasture with scattered manuka and scattered gorse.

Stunted vegetation is represented by the symbol "s" before the cover class symbol, e.g., sfF - stunted exotic conifer forest recorded in coastal buffer zones.

Erosion control trees are represented by the symbol "**e**" before the cover class symbol:

e.g., efR - exotic broadleaved trees planted for erosion control
or gIefR* - exotic broadleaved tress planted for erosion control but scattered through the pasture cover.

Naturalised exotic conifer trees are represented by the symbol "**n**" before the cover class symbol. Trees are usually self-seeded and growing wild, usually without any form of silvicultural management and where trees represent a range of ages:

e.g., nfF - naturalised exotic trees
or gInfF* - naturalised exotic trees scattered through pasture.

7.6.2 Percentage cover estimates

Estimates of the percentage area of the inventory map unit occupied by a cover class are assessed to the nearest 10%, and denoted in the cover code according to the examples below:

e.g., gI6sM2sG2 - improved pasture (60%), clumps of Manuka scrub (20%) and clumps of gorse (20%)
gI - 100% improved pasture
gIsM* - 100% improved pasture with scattered manuka

Vegetation classes in an inventory map unit will add up to 100%, except where aerially assessed erosion types (Sh, Sc, W) impact on greater than 10% of the map unit. Here the percentage area of the cover class(es) is assessed after deducting the area of bare ground due to erosion:

e.g., sL5 - where 50% of map unit is bare ground (deduced from the erosion code that lists wind erosion with a severity of 4) and 50% of map unit is covered by lupin

7.7 Land use

The land use classification of Milne *et al.* (1991) is adapted for use in the Tairua study and set out in Table 4.16.

Table 7.17 Land use classification

Symbol	Land use name
B	berry fruit growing
C	field cropping
M	market gardening
O	orcharding
V	vine growing
Gb	beef-pastoral farming
Gd	dairy-pastoral farming
Gs	sheep-pastoral farming
Gm	mixed-pastoral farming (sheep/beef)
Go	other-pastoral farming
Fi	indigenous-production forestry
Fe	exotic-production forestry
Ei	indigenous-protection forestry
Ee	exotic-protection forestry
P	protected areas
R	recreation areas
Q	quarry
Ub	urban
U	undefined use (wasteland, wilderness, often scrub-covered)

8.0 Land use capability classification

8.1 Introduction

A total of 298 inventory map units (Appendix and Reference map) are delineated. These have been grouped into 40 Land Use Capability (LUC) units on the basis of their unique assemblage of physical characteristics (which in turn influence the way that each of the defined LUC units respond to management). A LUC unit may simply be interpreted as a particular type of land - a land unit that may nearly always be identified in the field by its gross physical characteristics of landform, slope, rock type and soils. The grouping together of the many inventory map units puts order into an otherwise complex landscape. By establishing the classification, the LUC units (or groups of LUC units), rather than individual map units, become the focus of land management decisions, natural resource research and environmental monitoring.

The establishment of a classification for the Tairua study serves a dual purpose: the first is to address the requirement for management unit definition for the Tairua area, and the second is to establish units that are expected to have wider application throughout the Coromandel Peninsula. Because of the latter purpose, some LUC units are included even though they are not well represented in the study area. LUC unit descriptions should be interpreted as descriptions that reflect the particular biophysical attributes of the study area - clearly, should any of the LUC units be used more widely, it may be necessary to broaden allowable range some of the attributes. Further, LUC unit numbers, e.g., 4e"1", are specific to the study area. The addition of LUC units that are not represented in the study area in a Coromandel regional LUC classification will result in new LUC unit numbers.

8.2 LUC suites and subsuites

LUC units are organised into "suites" and "subsuites". The traditional numerical ranking of LUC units based on decreasing versatility and capability gives no direct indication of the relationships between LUC units in their actual landscape setting. To enable these relationships to be better understood, related LUC units are arranged into LUC suites and subsuites. A LUC suite is a group of LUC units which, although differing in land-use capability, share a definitive characteristic that unites them in the landscape. A subsuite is a subdivision of a suite on the basis of another definitive characteristic. While the "definitive characteristic" may vary, it is normally rock type and soils that are most useful for this purpose. Attributes such as slope and landform are usually best identified within the LUC unit itself, e.g., within Suite 3 (Allophanic Soils dominant) and Subsuite 3a (dominant Allophanic and subdominant Brown Soils over rhyolitic rocks), LUC unit 6e2 is the easier hill country unit, while 6e6 is the steeper hill country unit.

Table 8.1 List of LUC suites, subsuites and units

LUC suite	LUC subsuite	LUC unit
1: Flood plains, narrow river valleys and estuarine margins Area: 1536.7 ha, 10.7%	1a: Recent or Gley Soils from alluvium or colluvium	2w1, 3w1
	1b: Recent or Gley Soils from alluvium, with Organic Soils; or Organic Soils alone	2s1, 3w2, 4w1, 6w1
	1c: Estuarine margins with soils developed from estuarine clays and peats	3w3, 6w2
2: Coastal dune land Area: 161.5 ha, 1.1%		6s1, 8e1
3: Allophanic Soils developed from tephras (collectively known as Whangamata and Waihi Ashes) over a variety of geologically stable lithologies Area: 2775.3 ha, 19.3%		2c1, 3e1, 3e2, 3c1, 4e1, 4e2, 6e1
4: Allophanic Soils developed from tephras (collectively known as Whangamata and Waihi Ashes) on ridges and foot slopes, together with Brown soils developed on side-slopes, on geologically stable rhyolitic and andesitic lithologies Area: 3802.2 ha, 26.4%	4a: Allophanic Soils dominant, together with Brown soils, on rhyolite domes and welded ignimbrite sheets	3e3, 3e4, 4e3, 4e4, 6e2, 6e6
	4b: Allophanic Soils dominant, together with Brown soils, on andesites	4e5
	4c: Brown Soils dominant, together with Allophanic Soils, on rhyolite domes and welded ignimbrite sheets	3e5, 4e6, 6e3, 6e7
	4d: Brown Soils dominant, together with Allophanic Soils, on andesites	6e4, 6e8

LUC suite	LUC subsuite	LUC unit
5: Brown Soils over geologically stable rhyolitic and andesitic lithologies Area: 5188.0 ha, 36.1%	5a: Brown Soils on rhyolite domes and welded ignimbrite sheets	3s1, 6e5, 6e9, 7e2, 7e3, 8e2
	5b: Brown soils on andesites	6e10, 7e1
6: Geologically unstable volcanic lithologies that have been comprehensively weakened by agents such as hydrothermal action Area: 817.8 ha, 5.7%		6e11, 7e4

8.3 Areas of LUC units, classes and subclasses

Areas and frequency of occurrence of LUC units are given in Table 8.2.

Table 8.2 Areas and frequency of occurrence of LUC units

LUC unit	Area (ha)	Area (%)	Frequency
-	111.3	0.8	3
2c1	253.2	1.8	10
2s1	19.4	0.1	1
2w1	983.4	6.8	4
3c1	10.3	0.1	1
3e1	497.9	3.5	17
3e2	286.8	2.0	10
3e3	15.9	0.1	1
3e4	58.1	0.4	3
3e5	30.7	0.2	1
3s1	36.3	0.3	2
3w1	161.7	1.1	6
3w2	79.4	0.6	5

LUC unit	Area (ha)	Area (%)	Frequency
3w3	76.5	0.5	3
4e1	1013.0	7.0	18
4e2	219.7	1.5	9
4e3	199.3	1.4	7
4e4	32.2	0.2	2
4e5	84.4	0.6	1
4e6	96.3	0.7	2
4w1	166.2	1.2	2
6e1	494.4	3.4	15
6e2	108.2	0.8	6
6e3	2115.1	14.7	41
6e4	171.4	1.2	2
6e5	637.1	4.4	8
6e6	99.3	0.7	3
6e7	742.2	5.2	9
6e8	49.1	0.3	1
6e9	775.3	5.4	22
6e10	117.0	0.8	12
6e11	785.0	5.5	14
6s1	73.1	0.5	2
6w1	37.3	0.3	2
6w2	12.8	0.1	1
7e1	104.0	0.7	5
7e2	1582.6	11.0	34
7e3	1859.2	12.9	8
7e4	32.8	0.2	1
8e1	88.4	0.6	2
8e2	76.6	0.5	2
Total	14392.8	100.0	

Areas of LUC subclasses and classes are given in Table 8.3.

Table 8.3 Areas of LUC subclasses and classes

Subclass	Area (ha)	Area (%)	Class	Area (ha)	Area (%)
Unclassified	111.3	0.8	-	111.3	0.8
2c	253.2	1.8	2	1256.0	8.7
2s	19.4	0.1			
2w	983.4	6.8			
3c	10.3	0.1	3	1253.5	8.8
3e	889.3	6.2			
3s	36.3	0.3			
3w	317.6	2.2			
4e	1644.9	11.4	4	1811.1	12.6
4w	166.2	1.2			
6e	6094.1	42.3	6	6217.3	43.1
6s	73.1	0.5			
6w	50.1	0.3			
7e	3578.6	24.9	7	3578.6	24.9
8e	165.0	1.1	8	165.0	1.1
Total	14392.8	100.0	Total	14392.8	100.0

8.4 LUC unit descriptions

Forty LUC units, arranged into six LUC suites, are described in detail.

SUITE 1

Flood plains, narrow river valleys and estuarine margins

Subsuite 1a

Recent or Gley Soils from alluvium or colluvium

LUC UNIT 2w1 983.4 hectares	
Description	Flat, low river terraces forming flood plains, with Fluvial and Sandy Recent Soils, subject in parts to periodic short-duration flooding, and with a slight wetness limitation remaining after drainage
NZLRI Coromandel correlation	IIw and IIs (IIw - "Low river terraces and former swamps which retain a slight wetness limitation after drainage", IIs - "River flats and terraces with free draining soils")
Altitude	0-50 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E." NZ Met. Serv. 1983). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Flood plains (FP), and occasionally low terraces within map units dominated by flood plain areas
Slope	Flat to gently undulating, 0-3^{o} (A)
Rock type	Fine alluvium (Af), and occasionally Af with late Quaternary tephras (Ashes older than Taupo ash) over terrace sediments (Unconsolidated clays and silts) (Af+Mo/Uf)
Bare rock %	None (0)
Hyd. alt.	No (N)
Regolith depth	Very deep, 200-500 cm (4) to mainly extremely deep, >500 cm (5)
Tephra depth	<10 cm to 90-150 cm (3) on infrequent low terraces above the flood plain

LUC UNIT 2w1 983.4 hectares	
Soil name	•Ohinemuri loamy sand (Oh) •Whangamata gravelly sandy loam deep phase (Wmg) Note that Whangamata soils are not central to the concept of the unit Example codes: Oh, Oh+Wmg
Soil class	Subgroups: •Mottled Fluvial Recent Soils (RFM) and Mottled Sandy Recent Soils (RSM) - Oh •Vitric Orthic Allophanic soils (LOV) - Wmg Families: •Clayey/sandy, stoneless, slow/rapid - Oh •Loamy, tephric-peralkaline rhyolitic, moderate - Wmg Note that Ohinemuri soils are variable in space in terms of texture. Elsewhere in Coromandel they may fit the IIs concept of the NZLRI in that they are coarsely textured and drain rapidly. In the Tairua study area, they are more finely textured (in general) and are better described in terms of a wetness and flooding limitation - fitting the RFM soil concept better than the RSM concept
Erosion degree, type	Negligible (0) to slight deposition (D) and stream bank (Sb)
Erosion extent	Negligible (0)
Erosion potential	Negligible to very slight wind erosion hazard when cultivated, slight stream bank overall (but can be severe in very localised parts of the river), slight to moderate in parts deposition
Land cover	Improved pasture (gI)
Land use	Sheep/beef (Gm) pastoral farming
Soil conservation & management requirements	Wind breaks would protect exposed soils from the very slight wind erosion hazard, stream bank protection, stopbanks, and surface drainage
Land-use suitability	Intensive cropping (although many cereals, other grain crops, and root crops are limited by high rainfalls and slight wetness limitation), orcharding and vine growing. Intensive pastoral farming. Production forestry

LUC UNIT 3w1 161.7 hectares	
Description	Flat, low river terraces forming flood plains and narrow river valleys, with Fluvial and Sandy Recent Soils, subject in parts to periodic medium-duration flooding. There is a moderate wetness limitation remaining after drainage, and the unit may receive run-off from adjacent hilly and steep land
NZLRI Coromandel correlation	IIIw ("Low river flats and narrow terraces subject to run-off from adjacent hills")
Altitude	0-50 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E." NZ Met. Serv. 1983). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Flood plains (FP)
Slope	Flat to gently undulating, 0-3° (A)
Rock type	Fine alluvium (Af)
Bare rock %	None (0)
Hyd. alt.	No (N)
Regolith depth	Very deep, 200-500 cm (4) to mainly extremely deep, >500 cm (5)
Tephra depth	<10 cm (0)
Soil name	•Ohinemuri loamy clay (Oh) •Shaftesbury sandy loam (Sb) •Tangitiki sand (T) •Puketui clay loam (Pi) Example codes: Oh, Sb+T, Sb+Pi Ohinemuri and Shaftesbury soils are central to the concept of the unit, other soils form minor parts of the soil terrain

LUC UNIT 3w1 161.7 hectares	
Soil class	Subgroups: •Mottled Fluvial Recent Soils (RFM) - Oh •Typic Orthic Gley Soil (GOT) - Sb •Mottled Sandy Brown Soil (BSM) - T •Acidic Orthic Brown Soil (BOA) - Pi Families: •Clayey/sandy, stoneless, slow/rapid - Oh •Loamy/clayey, stoneless, moderate/slow - Sb •Sandy, stoneless, rapid/slow - T •Clayey, stoneless, slow - Pi
Erosion degree, type	Negligible (0) to slight/moderate deposition (D) and stream bank (Sb)
Erosion extent	Negligible to 20%
Erosion potential	Slight stream bank, slight to moderate deposition
Land cover	Wetland vegetation (hW), semi-improved pasture (gS), manuka (sM), exotic conifer forest (fF)
Land use	Unused (U), some extensive mixed pastoral farming (Gm) and small areas in exotic production forestry (Fe)
Soil conservation & management requirements	Stream bank protection
Land-use suitability	Fodder cropping, intensive pastoral farming

Subsuite 1b

Recent or Gley Soils from alluvium, with Organic Soils; or Organic Soils alone

LUC UNIT 2s1 19.4 hectares	
Description	Flat land on deep peats formed on flood plains. Drained and fully developed, highly producing but requiring careful management
NZLRI Coromandel correlation	No correlation
Altitude	0-50 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E." NZ Met. Serv. 1983). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Flood plains (FP)
Slope	Flat, 0-3° (A)
Rock type	Peat (Pt)
Bare rock %	None (0)
Hyd. alt.	No (N)
Regolith depth	Extremely deep, >500 cm (5)
Tephra depth	<10 cm (0)
Soil name	•Ruakaka loamy peat (Pk) Example code: Pk
Soil class	Subgroup: •Mellow Mesic Organic Soil (OMM) - Pk Family: •Fibriform loamy peat - Pk
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Negligible to very slight wind erosion hazard when cultivated
Land cover	Improved pasture (gI)
Land use	Mixed pastoral farming (Gm)

LUC UNIT 2s1	19.4 hectares
Soil conservation & management requirements	Wind breaks would protect exposed soils from the very slight wind erosion hazard. Stream bank protection. Care to control water table levels and not to overdrain as irreversible drying may occur
Land-use suitability	Intensive cropping esp. market garden vegetable growing (although many cereals, other grain crops, and root crops are limited by high rainfall), orcharding and vine growing. Intensive pastoral farming

LUC UNIT 3w2 79.4 hectares	
Description	Flood plains, including narrow river valleys with admixed alluvium and peat, or peat, with a continuing moderate wetness limitation after drainage. Subject to run-off from adjacent hilly or steepland
NZLRI Coromandel correlation	Part IIIw - where peaty loams and loamy peats are recorded ("Low river flats and narrow terraces subject to run-off from adjacent hills")
Altitude	0-50 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E." NZ Met. Serv. 1983). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Flood plains (FP)
Slope	Flat, 0-3° (A)
Rock type	Fine alluvium (Af) and peat (Pt) - (Af+Pt)
Bare rock %	None (0)
Hyd. alt.	No (N)
Regolith depth	Extremely deep, >500 cm (5)
Tephra depth	<10 cm (0)
Soil name	•Ruakaka loamy peat (Pk) Example code: Pk Note that Ruakaka loamy peats are recorded in the absence of a suitable alternative soil unit. Field inspection reveals that these soils are strongly oxidised in places and are closer to peaty loams
Soil class	Subgroup: •Mellow Mesic Organic Soil (OMM) - Pk Family: •Fibriform loamy peat - Pk
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Negligible to very slight wind erosion hazard when cultivated

LUC UNIT 3w2 79.4 hectares	
Land cover	Improved pasture (gI), wetland vegetation (hW) and exotic conifer forest (fF)
Land use	Mixed pastoral farming (Gm), unused (U) and exotic production forestry (Fe)
Soil conservation & management requirements	Wind breaks would protect exposed soils from the very slight wind erosion hazard when cultivated. Stream bank protection and surface drainage. Note that care is needed when draining to prevent salt water contamination in areas close to the coast
Land-use suitability	Intensive cropping (although many cereal, other grain crops, and root crops are limited by high rainfall), orcharding and vine growing. Intensive pastoral farming

LUC UNIT 4w1	166.2 hectares
Description	Flood plains, including narrow river valleys, with admixed alluvium and peat, often partly developed, with a continuing severe wetness limitation for cropping after drainage. Subject to run-off from adjacent hilly and steep land
NZLRI Coromandel correlation	IVw ("Low peaty swamps near river mouths")
Altitude	0-50 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E." NZ Met. Serv. 1983). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Flood plains (FP)
Slope	Flat, 0-3° (A)
Rock type	Fine alluvium (Af) and peat (Pt) - (Af+Pt, Pt)
Bare rock %	None (0)
Hyd. alt.	No (N)
Regolith depth	Extremely deep, >500 cm (5)
Tephra depth	<10 cm (0)
Soil name	•Ruakaka loamy peat (Pk) Note that soils may include peaty loams Example code: Pk
Soil class	Subgroup: •Mellow Mesic Organic Soil (OMM) - Pk Family: •Fibriform loamy peat - Pk
Erosion degree, type	Negligible (0)
Erosion extent	Negligible to slight deposition
Erosion potential	Negligible
Land cover	Improved pasture (gI), semi-improved pasture with manuka scrub, wetland vegetation and rushes (gShR* sMhW*), exotic conifer forest (fF)
Land use	Mixed pastoral farming (Gm)

LUC UNIT 4w1 166.2 hectares	
Soil conservation & management requirements	Stream bank protection, stopbanks and surface drainage. Note that care is needed when draining to prevent salt water contamination in areas close to the coast
Land-use suitability	Green fodder cropping, intensive pastoral farming

LUC UNIT 6w1 37.3 hectares	
Description	Floodplain areas including narrow river valleys, where cropping is precluded by high water tables, or by frequent or long-duration flooding, with soils developed from alluvium and peat. Drainage is difficult
NZLRI Coromandel correlation	No correlation
Altitude	0-50 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E." NZ Met. Serv. 1983). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Flood plains (FP)
Slope	Flat, 0-3° (A)
Rock type	Fine alluvium (Af) and peat (Pt) - (Af+Pt, Pt+Af)
Bare rock %	None (0)
Hyd. alt.	No (N)
Regolith depth	Extremely deep, >500 cm (5)
Tephra depth	<10 cm (0)
Soil name	•Ruakaka loamy peat (Pk) Note that soils may include peaty loams Example code: Pk
Soil class	Subgroup: •Mellow Mesic Organic Soil (OMM) - Pk Family: •Fibriform loamy peat - Pk
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Negligible to slight deposition
Land cover	Semi-improved pasture (gS), wetland vegetation and manuka scrub (hWsM)
Land use	Mixed pastoral farming (Gm), unused (U)

LUC UNIT 6w1 37.3 hectares	
Soil conservation & management requirements	Stream bank protection, stopbanks, surface drainage. Note that care is needed when draining to prevent salt water contamination in areas close to the coast, and care not to overdrain Organic Soils
Land-use suitability	Semi-intensive pastoral farming

Subsuite 1c

Estuarine margins with soils developed from estuarine clays and peats

LUC UNIT 3w3 76.5 hectares	
Description	Estuarine flats that have been fully or partly developed, with a continuing moderate wetness limitation after drainage, and requiring careful drainage management to avoid salt water contamination
NZLRI Coromandel correlation	No correlation, although these areas would have been included in VIw ("Coastal swamps and tidal mudflats")
Altitude	0-5 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E." NZ Met. Serv. 1983). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Flood plains (FP) on estuary margins
Slope	Flat, 0-3° (A)
Rock type	Fine alluvium (Af)
Bare rock %	None (0)
Hyd. alt.	No (N)
Regolith depth	Extremely deep, >500 cm (5)
Tephra depth	<10 cm (0)
Soil name	•Takahiwai clay (Tw) •Ohinemuri loamy clay (Oh) Note that Takahiwai soils are central to the concept of the unit. This unit can include peaty loams and loamy peats Example codes: Tw, Tw+Oh, Oh+Tw
Soil class	Subgroups: •Fluid-saline Sulphuric Gley Soils (GUFQ) - Tw •Mottled Fluvial Recent Soils (RFM) - Oh Families: •Clayey, stoneless, slow - Tw •Clayey/sandy, stoneless, slow/rapid - Oh
Erosion degree, type	Negligible (0)

LUC UNIT 3w3 76.5 hectares	
Erosion extent	Negligible
Erosion potential	Negligible
Land cover	Semi-improved pasture (gS) and improved pasture (gI)
Land use	Mixed pastoral farming (Gm), exotic production forestry (Fe)
Soil conservation & management requirements	Surface drainage, stopbanks. Care to avoid salt water contamination
Land-use suitability	Fodder cropping, intensive pastoral farming

LUC UNIT 6w2 12.8 hectares	
Description	Tidal mud flats or coastal swamps that have only been recently drained, or poorly developed
NZLRI Coromandel correlation	VIw ("Coastal swamps and tidal mudflats")
Altitude	0-5 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E." NZ Met. Serv. 1983). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Flood plains (FP) on estuary or coastal margins
Slope	Flat, 0-3° (A)
Rock type	Fine alluvium (Af) - estuarine clays. This unit can contain peat (Pt)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Extremely deep, >500 cm (5)
Tephra depth	<10 cm (0)
Soil name	•Takahiwai clay (Tw) Example code: Tw
Soil class	Subgroup: •Fluid-saline Sulphuric Gley Soils (GUFQ) - Tw Note that this unit can contain Organic Soils Family: •Clayey, stoneless, slow - Tw
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Negligible to slight to moderate deposition
Land cover	Semi-improved pasture (gS) and improved pasture (gI)
Land use	Mixed pastoral farming (Gm), exotic production forestry (Fe)

LUC UNIT 6w2	12.8 hectares
Soil conservation & management requirements	Surface drainage, stopbanks. Care to minimise salt water contamination, encourage leaching condition through drainage
Land-use suitability	Semi-intensive pastoral farming

SUITE 2

Coastal dune land

LUC UNIT 6s1	73.1 hectares
Description	Stabilised flat to undulating sand plains and undulating to easy rolling low dunes
NZLRI Coromandel correlation	VIs1 ("Undulating to rolling, stabilised sand plains and low dunes")
Altitude	0-5 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E." NZ Met. Serv. 1983). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Dunes (DU)
Slope	Flat to gently undulating, 0-3° (A) to rolling, 8-15° (C) - (A, B, A+B, B+C)
Rock type	Windblown sand (Wb)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Extremely deep, >500 cm (5)
Tephra depth	<10 cm (0)
Soil name	•Tangikiki sand (T) Example code: T
Soil class	Subgroup: •Mottled sandy Brown Soils (BSM) - T Family: •Sandy, stoneless, rapid/slow - T
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Slight wind
Land cover	Improved pasture with manuka scrub or with sand dune vegetation (gIsM, gIgD)

LUC UNIT 6s1	73.1 hectares
Land use	Mixed pastoral farming (Gm), some unused (U), exotic protection forestry (Ee)
Soil conservation & management requirements	Maintenance of a complete vegetative cover
Land-use suitability	Semi-intensive pastoral farming, protection forestry

LUC UNIT 8e1	88.4 hectares
Description	Coastal foredunes with an extreme erosion hazard
NZLRI Coromandel correlation	VIIIe1 ("Coastal foredunes")
Altitude	0-5 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E." NZ Met. Serv. 1983). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Dunes (DU)
Slope	Undulating, 4-7° (A) to rolling, 8-15° (C) - (B, B+C, C)
Rock type	Windblown sand (Wb)
Bare rock %	Common, 10-20% (3) to abundant, 40-60% (5). "Bare rock" here refers to exposed areas of dune sand
Hyd. alt.	No (N)
Regolith depth	Moderately deep to deep, 90-200 cm (3) to extremely deep, >500 cm (5)
Tephra depth	<10 cm (0)
Soil name	•Pinaki sand (PN) Note that some units may have no soil code where unvegetated shifting sands dominate Example code: Pn
Soil class	Subgroup: •Typic Sandy Recent Soil (RST) - Pn Family: •Sandy, stoneless, rapid - Pn
Erosion degree, type	Moderate to severe wind (W)
Erosion extent	20-100%
Erosion potential	Extreme wind
Land cover	Coastal scrub (sO), unvegetated (uV), erosion control exotic forest (efF)

LUC UNIT 8e1	88.4 hectares
Land use	Unused (U), protection forestry (Ee)
Soil conservation & management requirements	Stabilisation of dunes with marram grass or other suitable grasses, lupins, and protection forestry. Controls on recreational use, esp. vehicles and beach access ways
Land-use suitability	Protection forestry

SUITE 3

Allophanic Soils developed from tephras (collectively known as Whangamata and Waihi Ashes) over a variety of geologically stable lithologies

LUC UNIT 2c1	253.2 hectares
Description	Flat to gently inclined terraces near sea level, overlain by >30 cm depth of late Quaternary tephras, with Allophanic Soils. These soils provide an excellent medium for plant growth. Moderately high annual rainfalls between 1500 mm and 2000 mm provide a slight impediment to achieving maximum versatility in cropping
NZLRI Coromandel correlation	Part IIe ("Flat to gently undulating river terraces and ignimbrite sheets with a deep tephra mantle")
Altitude	0-50 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E." NZ Met. Serv. 1983). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Terraces (TR), less frequent foot slopes (FS)
Slope	Flat to gently undulating, 0-3° (A); and minor flat to undulating, 0-7° (B) - (A, A/B, A+B)
Rock type	Late Quaternary tephras (Ashes older than Taupo ash) over terrace sediments (Unconsolidated clays and silts) - (Mo/Uf)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Very deep, 200-500 cm (4)
Tephra depth	90-150 cm (3) to >150 cm (4)
Soil name	•Whangamata sandy loam (Wms) •Waitekauri silt loam (Wk) Example codes: Wms, Wk
Soil class	Subgroup: •Typic Orthic Allophanic soils (LOT) - Wms, Wk Families: •Loamy, tephric-peralkaline rhyolitic, rapid/moderate - Wms •Loamy, tephric-peralkaline rhyolitic, moderate - Wk

LUC UNIT 2c1	253.2 hectares
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Negligible to very slight wind erosion when cultivated
Land cover	Improved pasture (gI), kiwifruit orchards (cK)
Land use	Mixed pastoral farming (Gm), dairy pastoral farming (Gd), orcharding (O)
Soil conservation & management requirements	No special measures required, although wind breaks would protect exposed soils from the very slight wind erosion hazard
Land-use suitability	Intensive cropping (although many cereals and other grain crops and root crops are limited by high rainfalls), orcharding and vine growing. Intensive pastoral farming. Production forestry
Additional comment	This LUC unit has the required physical attributes for class 1 land, but because annual rainfall is assessed to exceed 1500 mm, cropping versatility is sufficiently lowered to rule out this highest of land capability ratings

LUC UNIT 3e1 497.9 hectares	
Description	Undulating to easy rolling land over mainly rhyolite domes and ignimbrite sheets, mantled by >30 cm depth of late Quaternary tephras, with Allophanic Soils. While lightly textured Allophanic Soils provide an excellent medium for plant growth, they experience a moderate sheet/rill erosion hazard under cropping and are easily disturbed by forestry operations
NZLRI Coromandel correlation	Part IIIe ("tephra covered, undulating to easy rolling slopes on volcanic rocks and dissected river terraces")
Altitude	60-240 m a.s.l [allowable altitude range 0-750 m a.s.l]
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2400 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Undulating (UL) to easy rolling (ER) land, undulating platforms (PM), some truncated benches (TB)
Slope	Undulating, 4-7° (B) to easy rolling, 8-11° (C) - (B, B/C, B+C, C+B)
Rock type	Late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (Mo/Vor), less frequently andesites (Mo/Voa), or over extremely weak altered volcanics (Mo/Vu). Note that in restricted areas Hamilton Ash beds may occur beneath Rotoehu Ash
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Very deep, 200-500 cm (4) to extremely deep, >500 cm (5) - the latter over Vu only
Tephra depth	Mainly 90-150 cm (3), minor 30-90 cm (2) and >150 cm (4)
Soil name	•Whangamata gravelly sandy loam deep and rolling phases (Wmg) •Whangamata sandy loam (Wms) •Waitekauri silt loam compact subsoil phase (Wke) Example codes: Wmg, Wms, Wke

LUC UNIT 3e1	497.9 hectares
Soil class	Subgroups: •Vitric Orthic Allophanic Soils (LOV) - Wmg •Typic Orthic Allophanic Soils (LOT) - Wms, Wke Families: •Loamy, tephric-peralkaline rhyolitic, moderate to rapid/moderate - Wmg •Loamy, tephric-peralkaline rhyolitic, rapid/moderate - Wms •Loamy, tephric-peralkaline rhyolitic, moderate - Wke
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Moderate sheet and rill and slight wind erosion when cultivated; moderate sheet, rill and minor gully when extensively cleared of forest cover in forestry operations
Land cover	Exotic conifer forest (fF), improved pasture (gI) and minor manuka (sM) scrub
Land use	Exotic production forestry (Fe), mixed pastoral farming (Gm)
Soil conservation & management requirements	Cultivate along the contour and establish wind breaks. Avoid soil compaction in wet periods by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance
Land-use suitability	Intensive cropping (although some root crops, many cereal and other grain and crops are limited by high rainfalls), orcharding (esp. subtropical) and vine growing. Intensive pastoral farming. Production forestry

LUC UNIT 3e2 286.8 hectares	
Description	Undulating or gently inclined foot slopes mantled by >30cm depth of late Quaternary tephras, with Allophanic Soils developed from both primary and redeposited (colluvial) tephras over rhyolite domes, ignimbrite sheets or terrace sediments. While lightly textured Allophanic Soils provide an excellent medium for plant growth, they are subject to a moderate erosion hazard under cropping and are easily disturbed by forestry operations. This unit can experience deposition of erosion debris, overland flow, and seepage from adjacent hilly and steep land
NZLRI Coromandel correlation	Part IIIe ("tephra covered, undulating to easy rolling slopes on volcanic rocks and dissected river terraces")
Altitude	20-200 m a.s.l, although most commonly between 20 m and 60 m a.s.l [allowable altitude range 0-750 m a.s.l]
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2400 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Foot slopes (FS), and less commonly undulating terraces (TR)
Slope	Undulating, 4-7° (B) to less commonly easy rolling, 8-11° (C) - (B, B+C)
Rock type	Late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (Mo/Vor), unconsolidated clays and silts (terrace sediments) (Mo/Uf), or over extremely weak altered volcanics (Mo/Vu). This unit may also contain limited areas of fine alluvium (Mo/Vor+Af)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Very deep, 200-500 cm (4), occasionally extremely deep over Vu, >500 cm (5)
Tephra depth	30-90 cm (2) to 90-150 cm (3)
Soil name	•Whangamata gravelly sandy loam deep and rolling phases (Wmg) •Whangamata sandy loam (Wms) •Waitekauri silt loam compact subsoil phase (Wke) Note that this unit may include small areas of Ohinemuri soils (Oh) Example codes: Wmg, Wms, Wke, Wke+Oh

LUC UNIT 3e2 286.8 hectares	
Soil class	Subgroups: •Vitric Orthic Allophanic Soils (LOV) - Wmg •Typic Orthic Allophanic Soils (LOT) - Wms, Wke Families: •Loamy, tephric-peralkaline rhyolitic, moderate to rapid/moderate - Wmg •Loamy, tephric-peralkaline rhyolitic, rapid/moderate - Wms •Loamy, tephric-peralkaline rhyolitic, moderate - Wke
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Moderate sheet, rill and slight wind erosion when cultivated; can experience occasional deposition of erosion debris and overland flow from adjacent hill slopes; moderate sheet, rill and slight gully when cleared of forest cover by forestry operations
Land cover	Improved pasture (gI), exotic conifer forest (fF)
Land use	Mixed pastoral farming (Gm), exotic production forestry (Fe), rare dairy pastoral farming (Gd)
Soil conservation & management requirements	Cultivate along the contour and establish wind breaks. Avoid soil compaction in wet periods by using improved stock management and grazing regimes. Drain areas affected by seepage. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance
Land-use suitability	Intensive cropping (although some root crops, many cereal and other grain and crops are limited by high rainfalls), orcharding (esp. subtropical) and vine growing. Intensive pastoral farming. Production forestry

LUC UNIT 3c1	10.3 hectares
Description	Flat to undulating platforms and benches between 350 m and 750 m a.s.l., mainly on the flanks of the Coromandel Range, with Allophanic Soils developed from late Quaternary tephras over a variety of rock types. High annual rainfalls between 2000 mm and 2300 mm and exposure to storms provide a moderate physical impediment to cropping use
NZLRI Coromandel correlation	No correlation
Altitude	350-550 m a.s.l [allowable altitude range is from 350 m to 750 m a.s.l]
Climate	Climate District A2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a winter maximum, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E." NZ Met. Serv. 1982). Annual rainfall estimate is 2000-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm at much lower elevation). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 hrs (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Platforms (PM), truncated benches (TB)
Slope	Flat, 0-3^{o} (A) to undulating, 4-7^{o} (B)
Rock type	Late Quaternary tephras (Ashes older than Taupo ash) (Mo) over rhyolites (Vor) - (Mo/Vor)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Very deep, 200-500 cm (4)
Tephra depth	90-150 cm (3)
Soil name	Whangamata sandy loam (Wms)
Soil class	Subgroup: Typic Orthic Allophanic soils (LOT) Family: Loamy, tephric-peralkaline rhyolitic, rapid/moderate
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Slight to moderate wind when cultivated
Land cover	Manuka scrub (sM)
Land use	Unused (U)

LUC UNIT 3c1	10.3 hectares
Soil conservation & management requirements	Wind breaks, surface drainage
Land-use suitability	Green fodder cropping, some orcharding, vine growing and intensive pastoral farming are physically suitable but isolated geographic position mitigates against any productive pastoral and cropping use. Production forestry

LUC UNIT 4e1	1013.0 hectares
Description	Strongly rolling land over mainly rhyolite domes and welded ignimbrite sheets, mantled by >30cm depth of late Quaternary tephras, with Allophanic Soils. While lightly textured Allophanic Soils provide an excellent medium for plant growth, they are highly erodible when cultivated or disturbed by forestry operations
NZLRI Coromandel correlation	Part IVe1 ("tephra covered, rolling to strongly rolling slopes on volcanic rocks and dissected river terraces")
Altitude	60-360 m a.s.l [allowable altitude range 0-1000 m a.s.l]
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Strongly rolling (SR) land; rolling, closely dissected platforms (PM), some truncated benches (TB)
Slope	Strongly rolling, 12-15° (C) to occasionally easy hilly, 16-20° (D) - (C, C+B, C+D). Note that D slopes are short
Rock type	Late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (Mo/Vor), rare andesites (Mo/Voa), or extremely weak altered volcanics (Mo/Vu), or over both rhyolites and altered volcanics (Mo/Vor*Vu)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Mainly moderately deep to deep, 90-200 cm (3) to very deep, 200-500 cm (4), with minor extremely deep, >500 cm (5) - the latter over Vu only
Tephra depth	30-90 cm (2) to mainly 90-150 cm (3)
Soil name	•Whangamata gravelly sandy loam deep and rolling phases (Wmg) •Whangamata sandy loam (Wms) •Whangamata hill soils (WmH) - on D slopes only •Waitekauri silt loam compact subsoil phase (Wke) •Waitekauri silt loam rolling phase (Wkr) Example codes: Wmg, Wmg+WmH, Wms, Wke, Wkr

LUC UNIT 4e1	1013.0 hectares
Soil class	Subgroups: •Vitric Orthic Allophanic Soils (LOV) - Wmg, WmH •Typic Orthic Allophanic Soils (LOT) - Wms, Wke, Wkr Families: •Loamy, tephric-peralkaline rhyolitic, moderate to rapid/moderate - Wmg, WmH, Wms •Loamy, tephric-peralkaline rhyolitic, moderate - Wke •Loamy, tephric-peralkaline rhyolitic, moderate/slow - Wkr •Loamy, tephric-peralkaline rhyolitic, moderate - Wke
Erosion degree, type	Slight sheet (S), gully (G) and tunnel gully (T), and earth slip (Es). Note that landslides are rare, and surface erosion will only occur where vegetative cover is absent or sparse
Erosion extent	Negligible to 1-10%
Erosion potential	Severe sheet and rill, slight wind, and slight gully when cultivated or when extensively cleared of forest cover in forestry operations
Land cover	Exotic conifer forest (fF) dominates, but has significant areas under improved pasture (gI) and less, yet still significant areas of manuka (sM) and mixed indigenous scrub (sX)
Land use	Exotic production forestry (Fe), mixed pastoral farming (Gm)
Soil conservation & management requirements	Establish permanent crops (e.g., vines, subtropical fruit) or employ minimum tillage practices where feasible to avoid the need to cultivate for field crops. When cultivating for fodder crops, do so along the contour, and establish wind breaks. Avoid soil compaction in wet periods by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance (maintenance of the remaining tephra cover is essential to maintain the productive capability of this unit)
Land-use suitability	Occasional cropping for stock fodder; orcharding (esp. subtropical) and vine growing (permanent crops). Intensive pastoral farming, production forestry

LUC UNIT 4e2	219.7 hectares
Description	Strongly rolling foot slopes mantled by >30cm depth of late Quaternary tephras, with Allophanic Soils developed from both primary and redeposited (colluvial) tephras over rhyolite domes, welded ignimbrite sheets and terrace sediments. While lightly textured Allophanic Soils provide an excellent medium for plant growth, they are highly erodible when cultivated or disturbed by forestry operations. This unit can experience deposition of erosion debris, overland flow, and seepage from adjacent hilly and steep land
NZLRI Coromandel correlation	Part IVe1 ("tephra covered, rolling to strongly rolling slopes on volcanic rocks and dissected river terraces")
Altitude	60-360 m a.s.l [allowable altitude range 0-1000 m a.s.l]
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Foot slopes (FS)
Slope	Strongly rolling, 12-15° (C) to hilly, 16-20° (D) - (C, C+D). Note that D slopes are short
Rock type	Late Quaternary tephras (Ashes older than Taupo ash) on rhyolites (Mo/Vor), rare andesites (Mo/Voa), or over extremely weak altered volcanics (Mo/Vu)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Mainly very deep, 200-500 cm (4) to moderately deep to deep, 90-200 cm (3). Very occasionally shallow to moderately shallow, 45-90 cm (2)
Tephra depth	30-90 cm (2) to occasionally 90-150 cm (3)
Soil name	•Whangamata sandy loam (Wms) •Whangamata hill soils (WmH) - on D slopes only, rarely recorded •Waitekauri silt loam compact subsoil phase (Wke) •Waitekauri silt loam rolling phase (Wkr) Example codes: Wms, Wms+WmH, Wke, Wkr

LUC UNIT 4e2	219.7 hectares
Soil class	Subgroups: •Vitric Orthic Allophanic Soils (LOV) - Wmg, WmH •Typic Orthic Allophanic Soils (LOT) - Wms, Wke, Wkr Families: •Loamy, tephric-peralkaline rhyolitic, moderate to rapid/moderate - Wmg, WmH, Wms •Loamy, tephric-peralkaline rhyolitic, moderate - Wke •Loamy, tephric-peralkaline rhyolitic, moderate/slow - Wkr •Loamy, tephric-peralkaline rhyolitic, moderate - Wke
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Severe sheet, rill and slight wind erosion when cultivated; can experience occasional deposition of erosion debris and overland flow from adjacent hill slopes; severe sheet, rill and slight gully when extensively cleared of forest cover by forestry operations
Land cover	Exotic conifer forest (fF) dominates, but has significant areas under improved pasture (gI), semi-improved pasture (gS), and less, yet still significant areas of manuka (sM) and mixed indigenous scrub (sX)
Land use	Exotic production forestry (Fe), mixed pastoral farming (Gm)
Soil conservation & management requirements	Establish permanent crops (e.g., vines, subtropical fruit) or employ minimum tillage practices where feasible to avoid the need to cultivate for field crops. When cultivating for fodder crops, do so along the contour, and establish wind breaks. Avoid soil compaction in wet periods by using improved stock management and grazing regimes, and drain seepage areas. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance (maintenance of the remaining ash cover is essential to maintain the productive capability of the unit)
Land-use suitability	Occasional cropping for stock fodder; orcharding (esp. subtropical) and vine growing (permanent crops). Intensive pastoral farming. Production forestry

LUC UNIT 6e1	494.4 hectares
Description	Easy hilly land over a variety of lithologies, but mainly over rhyolite domes and welded ignimbrite sheets, mantled by >30cm depth of late Quaternary tephras, with Allophanic Soils. While lightly textured Allophanic Soils provide an excellent medium for plant growth, slope and erosion hazard preclude cultivation and care is required in forestry operations that may expose and disturb the tephra cover. This unit is highly suitable for production forestry and intensive pastoral farming
NZLRI Coromandel correlation	VIe1 ("Tephra covered, strongly rolling hill country")
Altitude	40-400 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Easy hilly land (HL)
Slope	Mainly hilly, 16-20° (D), occasionally moderately steep, 21-25° (E) - (D, D+E, E+D)
Rock type	Late Quaternary tephras (Ashes older than Taupo ash) on rhyolites (Mo/Vor), over both Vor and extremely weak altered volcanics (Mo/Vor*Vu, Mo/Vu*Vor), and less commonly over extremely weak altered volcanics (Mo/Vu). Note that while Vu may exist in this unit, it is assessed that the landscape is not sufficiently unstable to be included in LUC unit 6e11
Bare rock %	Nil (0)
Hyd. alt.	No, or not significantly (N)
Regolith depth	Very deep, 200-500 cm (5) to moderately deep to deep, 90-200 cm (3)
Tephra depth	30-90 cm (2) to occasionally 90-150 cm (3)
Soil name	•Whangamata hill soils (WmH) •Whangamata gravelly sandy loam deep and rolling phases (Wmg) •Whangamata sandy loam (Wms) •Waitekauri silt loam rolling phase (Wkr) Example codes: WmH, WmH+Wmg, WmH+Wms, Wms+WmH, Wkr

LUC UNIT 6e1	494.4 hectares
Soil class	Subgroups: •Vitric Orthic Allophanic Soils (LOV) - WmH, Wmg •Typic Orthic Allophanic Soils (LOT) - Wms, Wkr Families: •Loamy, tephric-peralkaline rhyolitic, moderate to rapid/moderate - WmH, Wmg, Wms •Loamy, tephric-peralkaline rhyolitic, moderate/slow - Wkr
Erosion degree, type	Negligible (0) to slight soil slip (Ss)
Erosion extent	Negligible
Erosion potential	Slight soil slip, sheet and tunnel gully
Land cover	Mostly improved pasture (gI) although contains significant areas of manuka scrub (sM)
Land use	Mixed pastoral farming (Gm), some areas unused (U)
Soil conservation & management requirements	Avoid soil compaction in wet periods by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance (maintenance of the remaining tephra cover is essential to maintain the productive capability of the unit). Establish and maintain riparian buffer zones
Land-use suitability	Intensive pastoral farming, production forestry

SUITE 4

Allophanic Soils developed from tephras (collectively known as Whangamata and Waihi Ashes) on ridges and foot slopes, together with Brown Soils developed on side-slopes, on geologically stable rhyolitic and andesitic lithologies

Subsuite 4a

Allophanic Soils dominant, together with Brown Soils, over rhyolite domes and welded ignimbrite sheets

LUC UNIT 3e3	15.9 hectares
Description	Undulating to easy rolling land over rhyolite domes and welded ignimbrite sheets, with a discontinuous mantle of late Quaternary tephras. Allophanic Soils occur where the tephra is >30cm thick, and they form the major part of the soil landscape. Brown Soils occur where the tephra is <30 cm thick, or absent. While lightly textured Allophanic Soils provide an excellent medium for plant growth, they experience a moderate sheet/rill erosion hazard under cropping and are easily disturbed by forestry operations
NZLRI Coromandel correlation	Part IIIe ("tephra covered, undulating to easy rolling slopes on volcanic rocks and dissected river terraces")
Altitude	60-240 m a.s.l [allowable altitude range 0-750 m a.s.l]
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2400 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Undulating (UL) to easy rolling (ER) land
Slope	Undulating, 4-7^{o} (B) to easy rolling, 8-11^{o} (C) - (B, B+C, C+B)
Rock type	A discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (pMo/Vor)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Very deep, 200-500 cm (4)
Tephra depth	90-150 cm (3) to >150 cm (5)
Soil name	•Waitekauri silt loam compact subsoil phase (Wke) •Puketui clay loam (Pi) Example code: Wke+Pi

LUC UNIT 3e3	15.9 hectares
Soil class	Subgroups: •Typic Orthic Allophanic Soils (LOT) - Wke •Acidic Orthic Brown Soils (BOA) - Pi Families: •Loamy, tephric-peralkaline rhyolitic, moderate - Wke •Clayey, stoneless, slow - Pi
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Moderate sheet and rill and slight wind erosion when cultivated; moderate sheet, rill and minor gully when extensively cleared of forest cover in forestry operations
Land cover	Exotic conifer forest (fF)
Land use	Exotic production forestry (Fe)
Soil conservation & management requirements	Cultivate along the contour and establish wind breaks. Avoid soil compaction in wet periods by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance - to minimise practices that may remove or damage the excellent Allophanic Soils that remain in the unit
Land-use suitability	Intensive cropping (although some root crops, many cereal and other grain and crops are limited by high rainfalls), orcharding (esp. subtropical) and vine growing. Intensive pastoral farming, production forestry

LUC UNIT 3e4 58.1 hectares	
Description	Undulating or gently inclined foot slopes over rhyolite domes, welded ignimbrite sheets and terrace sediments, with a discontinuous mantle of both primary and redeposited (colluvial) late Quaternary tephras. Allophanic Soils occur where tephras are >30cm thick, and form the major part of the soil landscape. Brown Soils occur where tephras are <30 cm thick, or absent. While lightly textured Allophanic Soils provide an excellent medium for plant growth, they are subject to a moderate erosion hazard under cropping and are easily disturbed in forestry operations. This unit can experience deposition of erosion debris, overland flow, and seepage from adjacent hilly and steep land
NZLRI Coromandel correlation	Part IIIe ("tephra covered, undulating to easy rolling slopes on volcanic rocks and dissected river terraces")
Altitude	20-200 m a.s.l, although most commonly between 20 m and 60 m a.s.l [allowable altitude range 0-750 m a.s.l]
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2400 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Foot slopes (FS)
Slope	Undulating, 4-7^{o} (B) to less commonly easy rolling, 8-11^{o} (C) - (B, B+C)
Rock type	A discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (pMo/Vor), or over Vor together with unconsolidated clays and silts (terrace sediments) (pMo/Vor*Uf). This unit may also contain limited areas of fine alluvium (Af) - Mo/Vor+Af
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Very deep, 200-500 cm (4)
Tephra depth	30-90 cm (2)

LUC UNIT 3e4 58.1 hectares	
Soil name	•Whangamata sandy loam (Wms) •Puketui clay loam (Pi) Example code: Wms+Pi
Soil class	Subgroups: •Typic Orthic Allophanic Soils (LOT) - Wms •Acidic Orthic Brown Soils (BOA) - Pi Families: •Loamy, tephric-peralkaline rhyolitic, rapid/moderate - Wms Wke •Clayey, stoneless, slow - Pi
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Moderate sheet, rill and slight wind erosion when cultivated; can experience occasional deposition of erosion debris and overland flow from adjacent hill slopes; moderate sheet, rill and slight gully when cleared of forest cover in forestry operations
Land cover	Improved pasture (gI), exotic conifer forest (fF)
Land use	Mixed pastoral farming (Gm), exotic production forestry (Fe), and very rare dairy pastoral farming (Gd)
Soil conservation & management requirements	Cultivate along the contour and establish wind breaks. Avoid soil compaction in wet periods by using improved stock management and grazing regimes. Drain areas affected by seepage. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance - to minimise practices that may remove or damage the excellent Allophanic Soils that remain in the unit
Land-use suitability	Intensive cropping (although some root crops, many cereal and other grain and crops are limited by high rainfalls), orcharding (esp. subtropical) and vine growing. Intensive pastoral farming. Exotic and indigenous production forestry

LUC UNIT 4e3 199.3 hectares	
Description	Strongly rolling land over rhyolite domes and welded ignimbrite sheets with a discontinuous mantle of late Quaternary tephras. Allophanic Soils occur where tephras are >30cm thick, and they form the major part of the soil terrain. Brown Soils occur where tephras are <30 cm thick, or absent. While lightly textured Allophanic Soils provide an excellent medium for plant growth, they experience severe sheet/rill erosion hazard under cropping and are easily disturbed by forestry operations
NZLRI Coromandel correlation	Part IVe1 ("tephra covered, undulating to easy rolling slopes on volcanic rocks and dissected river terraces")
Altitude	60-300 m a.s.l [allowable altitude range 0-1000 m a.s.l]
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2400 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Strongly rolling (SR) land
Slope	Strongly rolling, 12-15^{o} (C) to hilly, 16-20^{o} (D) - (C, C+D). Note that D slopes are short
Rock type	A discontinuous cover of late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (pMo/Vor), or over both Vor and extremely weak altered volcanics (pMo/Vor*Vu)
Bare rock %	Nil (0) to slight sheet (Sh)
Hyd. alt.	No (N) to 1-10%
Regolith depth	Moderately deep to deep, 90-200 cm (3) to very deep, 200-500 cm, (4), and occasionally extremely deep, >500 cm (5) where Vu lithologies exist
Tephra depth	30-90 cm (2)

LUC UNIT 4e3 199.3 hectares	
Soil name	•Whangamata sandy loam (Wms) •Waitekauri silt loam compact subsoil phase (Wke) •Puketui clay loam (Pi) •Puketui hill soils (PiH) Example codes: Wms+Pi, Wke+Pi, Wms+PiH
Soil class	Subgroups •Typic Orthic Allophanic Soils (LOT) - Wms, Wke •Acidic Orthic Brown Soils (BOA) - Pi, PiH Families: •Loamy, tephric-peralkaline rhyolitic, rapid/moderate - Wms •Loamy, tephric-peralkaline rhyolitic, moderate - Wke •Clayey, stoneless, slow - Pi •Loamy, with stones, slow - PiH
Erosion degree, type	Negligible (0) to slight sheet (Sh)
Erosion extent	Negligible to 1-10%
Erosion potential	Severe sheet and rill and slight wind and gully erosion when cultivated; severe sheet, rill and moderate gully when extensively cleared of forest cover in forestry operations
Land cover	Exotic conifer forest (fF), cutover lowland conifer/broadleaved forest with emergent kauri (cfOfK*)
Land use	Exotic production forestry (Fe), unused (U)
Soil conservation & management requirements	Cultivate along the contour and establish wind breaks. Avoid soil compaction in wet periods by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance - to minimise practices that may remove or damage the excellent Allophanic Soils that remain in the unit
Land-use suitability	Green fodder cropping, permanent crops as in orcharding (esp. subtropical) and vine growing. Intensive pastoral farming, production forestry

LUC UNIT 4e4 32.2 hectares	
Description	Strongly rolling foot slopes over rhyolite domes, welded ignimbrite sheets and terrace sediments, with a discontinuous mantle of both primary and redeposited (colluvial) late Quaternary tephras. Allophanic Soils occur where tephras are >30cm thick, and form the major part of the soil terrain. Brown Soils occur where tephras are <30 cm thick, or absent. While lightly textured Allophanic Soils provide an excellent medium for plant growth, they are subject to a severe erosion hazard under cropping and are easily disturbed by forestry operations. This unit can experience deposition of erosion debris, overland flow, and seepage from adjacent hilly and steep land
NZLRI Coromandel correlation	Part IVe1 ("tephra covered, undulating to easy rolling slopes on volcanic rocks and dissected river terraces")
Altitude	20-200 m a.s.l [allowable altitude range 0-1000 m a.s.l]
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2400 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Foot slopes (FS)
Slope	Strongly rolling, 12-15^{o} (C)
Rock type	A discontinuous cover of late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (pMo/Vor)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Very deep, 200-500 cm (4)
Tephra depth	30-90 cm (2)

LUC UNIT 4e4 32.2 hectares	
Soil name	•Whangamata sandy loam (Wms) •Waitekauri silt loam compact subsoil phase (Wke) •Puketui clay loam (Pi) Example code: Wms+Pi
Soil class	Subgroups: •Typic Orthic Allophanic Soils (LOT) - Wms, Wke •Acidic Orthic Brown Soils (BOA) - Pi Families: •Loamy, tephric-peralkaline rhyolitic, rapid/moderate - Wms •Loamy, tephric-peralkaline rhyolitic, moderate - Wke •Clayey, stoneless, slow - Pi
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Severe sheet and rill, and slight wind and gully erosion when cultivated; severe sheet, rill and moderate gully when extensively cleared of forest cover in forestry operations
Land cover	Exotic conifer forest (fF)
Land use	Exotic production forestry (Fe)
Soil conservation & management requirements	Cultivate along the contour and establish wind breaks. Avoid soil compaction in wet periods by using improved stock management and grazing regimes. Drain seepage areas. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance - to minimise practices that may remove or damage the excellent Allophanic Soils that remain in the unit
Land-use suitability	Green fodder cropping, permanent crops as in orcharding (esp. subtropical) and vine growing. Intensive pastoral farming. Production forestry

LUC UNIT 6e2 108.2 hectares	
Description	Easy hilly land over rhyolite domes and welded ignimbrite sheets, with a discontinuous mantle of late Quaternary tephras. Allophanic Soils dominate the soil terrain and are developed mainly on the ridges and foot slopes where tephras are >30 cm thick. Brown Soils, developed from rhyolitic rocks, occur on steeper side-slopes where tephras are <30 cm thick, or absent. While lightly textured Allophanic Soils provide an excellent medium for plant growth, slope and erosion hazard preclude cultivation and care is required in forest operations to sustain these soils where they remain. This unit is highly suitable for production forestry and intensive pastoral farming
NZLRI Coromandel correlation	Part VIe3 - where mapped over rhyolitic lithologies ("Strongly rolling to moderately steep hills with tephra mantling the rolling tops and valley bottoms")
Altitude	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Hilly land (HL) and truncated benches (TB)
Slope	Mainly hilly, 16-20^{o} (D) to occasionally moderately steep, 21-25^{o} (E) - (D, D+E)
Rock type	Discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (pMo/Vor)
Bare rock %	Nil (0) to occasionally very sparse, 1-5% (1)
Hyd. alt.	No (N)
Regolith depth	Very deep, 200-500 (4) [can be moderately deep to deep, 90-200 cm (3)]
Tephra depth	30-90 cm (2) [generally thinner than 6e1]

LUC UNIT 6e2 108.2 hectares	
Soil name	•Whangamata hill soils (WmH) •Whangamata sandy loam (Wms) •Puketui hill soils (PiH) Example codes: Wms+PiH, WmH+PiH
Soil class	Subgroups: •Vitric Orthic Allophanic Soils (LOV) - WmH •Typic Orthic Allophanic Soils (LOT) - Wms •Acidic Orthic Brown Soils (BOA) - PiH Families: •Loamy, tephric-peralkaline rhyolitic, moderate to rapid/moderate - WmH, Wms •Loamy, with stones, slow - PiH
Erosion degree, type	Negligible (0) to slight soil slip (Ss) and gully (G)
Erosion extent	Negligible
Erosion potential	Slight soil slip, sheet, tunnel gully and gully under pasture and if extensively cleared in forestry operations
Land cover	Manuka (sM) scrub, some areas in improved pasture (gI)
Land use	Mainly unused (U), small areas in mixed pastoral farming (Gm)
Soil conservation & management requirements	Avoid soil compaction in wet periods by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance (maintenance of the remaining tephra cover is essential to maintain the productive capability of the unit). Establish and maintain riparian buffer zones
Land-use suitability	Intensive pastoral farming (but avoid dairy farming) Production forestry

LUC UNIT 6e6 99.3 hectares	
Description	Moderately steep land to steep land; frequently but not necessarily, with rock outcrops, over rhyolite domes and welded ignimbrite sheets, with a discontinuous mantle of late Quaternary tephras. Allophanic Soils dominate the soil terrain and are developed mainly on ridges and foot slopes where tephras are >30 cm thick. Brown Soils, developed from rhyolitic rocks, generally occur on steeper side-slopes where tephras are <30 cm thick, or absent. While lightly textured Allophanic Soils provide an excellent medium for plant growth, slope and erosion hazard preclude cultivation and care is required in forest operations to sustain these soils where they remain. This unit is suitable for production forestry and semi-intensive pastoral farming
NZLRI Coromandel correlation	Part VIe6 - where mapped over rhyolitic lithologies ("Moderately steep to steep hills with a tephra mantle on the easier slopes")
Altitude	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Hilly land (HL)
Slope	Moderately steep, 21-25^{o} (E) to occasionally short and steep, 26-35^{o} (F) - (E, E+F)
Rock type	Discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (pMo/Vor)
Bare rock %	Nil (0) to common, 10-20% (3)
Hyd. alt.	No (N)
Regolith depth	Moderately deep to deep, 90-200 cm (3)
Tephra depth	30-90 cm (2)

LUC UNIT 6e6 99.3 hectares	
Soil name	•Whangamata hill soils (WmH) •Puketui hill soils (PiH) •Tangatara steepland soils (TS) Example codes: WmH+PiH, WmH+TS
Soil class	Subgroups: •Vitric Orthic Allophanic Soils (LOV) - WmH •Acidic Orthic Brown Soils (BOA) - PiH Families: •Loamy, tephric-peralkaline rhyolitic, moderate to rapid/moderate - WmH •Loamy, with stones, slow - PiH •Loamy, paralithic-fine grained crystalline rocks, moderate - TS
Erosion degree, type	Negligible (0) to slight soil slip (Ss)
Erosion extent	Negligible under mature forest cover, common slips under pasture
Erosion potential	Moderate soil slip, slight sheet, tunnel gully and gully
Land cover	Manuka (sM) scrub, semi-improved pasture (gS)
Land use	Mainly unused (U), small areas in mixed pastoral farming (Gm)
Soil conservation & management requirements	Avoid soil compaction in wet periods by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance (maintenance of the remaining tephra cover is essential to maintain the productive capacity of the unit). Establish and maintain riparian buffer zones
Land-use suitability	Semi-intensive pastoral farming, production forestry

Subsuite 4b

Allophanic Soils dominant, together with Brown Soils, over andesites

LUC UNIT 4e5 84.4 hectares	
Description	Strongly rolling foot slopes over andesites and terrace sediments, with a discontinuous mantle of both primary and redeposited (colluvial) late Quaternary tephras. Allophanic Soils occur where tephras are >30cm thick, and form the major part of the soil terrain. Brown Soils occur where tephras are absent, or <30 cm thick. They are developed from andesitic rocks, or colluvium derived from these materials. While lightly textured Allophanic Soils provide an excellent medium for plant growth, they are subject to a severe erosion hazard under cropping and are easily disturbed by forestry operations. This unit can experience deposition of erosion debris, overland flow, and seepage from adjacent hilly and steep land
NZLRI Coromandel correlation	Part IVe1 - where recorded on andesites ("tephra covered, undulating to easy rolling slopes on volcanic rocks and dissected river terraces")
Altitude	20-100 m a.s.l [allowable altitude range 0-1000 m a.s.l]
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2400 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs (48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Foot slopes (FS)
Slope	Strongly rolling, 12-15^{o} (C) to hilly, 16-20^{o} (D) - D slopes are short
Rock type	A discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over andesites (pMo/Voa)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Very deep, 200-500 cm (4)

LUC UNIT 4e5 84.4 hectares	
Tephra depth	30-90 cm (2)
Soil name	•Whangamata sandy loam (Wms) •Waitakere clay loam (Wa) Example code: Wms+Wa
Soil class	Subgroups: •Typic Orthic Allophanic Soils (LOT) - Wms, Wke •Typic Orthic Brown Soils (BOT) - Wa Families: •Loamy, tephric-peralkaline rhyolitic, rapid/moderate - Wms •Clayey, with stones, moderate - Wa
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Severe sheet and rill, and slight wind and gully erosion when cultivated; moderate sheet, rill and slight gully when extensively cleared of forest cover by forestry operations before ground cover is re-established
Land cover	Manuka (sM) scrub and mixed indigenous scrub (sX)
Land use	Unused (U)
Soil conservation & management requirements	Cultivate along the contour and establish wind breaks. Avoid soil compaction in wet periods by using improved stock management and grazing regimes. Drain seepage areas. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance - to minimise practices that may remove or damage the excellent Allophanic Soils that remain in the unit
Land-use suitability	Green fodder cropping, permanent crops as in orcharding (esp. subtropical) and vine growing. Intensive pastoral farming, production forestry

Subsuite 4c

Brown Soils dominant, together with Allophanic Soils, over rhyolite domes and welded ignimbrite sheets

LUC UNIT 3e5 30.7 hectares	
Description	Undulating to easy rolling land, with a discontinuous mantle of late Quaternary tephras over rhyolite domes and welded ignimbrite sheets. Brown Soils dominate the soil terrain. They are developed from strongly weathered rhyolitic lithologies where tephras are <30 cm thick, or absent. Allophanic Soils occur where tephras exceed 30 cm thickness. While Allophanic Soils provide an excellent medium for plant growth, they experience a moderate sheet/rill erosion hazard under cropping and are easily disturbed by forestry operations
NZLRI Coromandel correlation	No correlation
Altitude	20-200 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 1493
Landform	Undulating (UL) to easy rolling (ER) land
Slope	Undulating, 4-7° (B) to easy rolling, 8-11°(C) - (B, B+C)
Rock type	Discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (pMo/Vor)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Moderately deep to deep, 90-200 cm (3)
Tephra depth	30-90 cm (2)

LUC UNIT 3e5 30.7 hectares	
Soil name	•Puketui clay loam (Pi) •Whangamata sandy loam (Wms) Example code: Pi+Wms
Soil class	Subgroups: •Acidic Orthic Brown Soils (BOA) - Pi •Typic Orthic Allophanic Soils (LOT) - Wms Families: •Clayey, stoneless, slow - Pi •Loamy, tephric-peralkaline rhyolitic, rapid/moderate - Wms
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Slight to moderate sheet, slight rill when cultivated; or when disturbed by forest operations
Land cover	Exotic conifer forest (fF)
Land use	Exotic production forestry (Fe)
Soil conservation & management requirements	Avoid soil compaction in wet periods, and in particular soil compaction through pugging on Brown Soils, by using improved stock management and grazing regimes. Drain seepage areas. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance (maintenance of the remaining tephra cover is essential to maintain the productive capability of the unit)
Land-use suitability	Intensive pastoral farming, production forestry (although some areas may be too poorly drained for optimum tree growth)

LUC UNIT 4e6 96.3 hectares	
Description	Strongly rolling foot slopes, with a discontinuous mantle of late Quaternary tephras over rhyolite domes and welded ignimbrite sheets. Brown Soils dominate the soil terrain. They are developed from strongly weathered rhyolitic lithologies where tephras are <30 cm thick, or absent. Allophanic Soils occur where tephras exceed 30 cm thickness, and are developed from primary or redeposited (colluvial) tephra. While Allophanic Soils provide an excellent medium for plant growth, they experience a severe sheet/rill erosion hazard under cropping and are easily disturbed by forestry operations
NZLRI Coromandel correlation	No correlation
Altitude	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Inclined foot slopes (FS)
Slope	Strongly rolling, 12-15^{o} (C) to hilly, 16-20^{o} (D). D slopes are short
Rock type	Discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (pMo/Vor)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Very deep, 200-500 cm (4)
Tephra depth	30-90 cm (2)

LUC UNIT 4e6 96.3 hectares	
Soil name	•Puketui clay loam (Pi) •Puketui hill soils (PiH) •Whangamata sandy loam (Wms) Example codes: Pi+Wms, Pi+PiH+Wms
Soil class	Subgroups: •Acidic Orthic Brown Soils (BOA) - Pi, PiH •Typic Orthic Allophanic Soils (LOT) - Wms Families: •Clayey, stoneless, slow - Pi •Loamy, with stones, slow - PiH •Loamy, tephric-peralkaline rhyolitic, rapid/moderate - Wms
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Moderate to severe sheet, rill and slight gully and tunnel gully when cultivated; or severe sheet, moderate rill and gully when extensively cleared of forest cover by forestry operations before ground cover is re-established
Land cover	Exotic conifer forest (fF)
Land use	Exotic production forestry (Fe)
Soil conservation & management requirements	Avoid soil compaction in wet periods, and in particular soil compaction through pugging on Brown Soils, by using improved stock management and grazing regimes. Drain seepage areas. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance (maintenance of the remaining tephra cover is essential to maintain the productive capability of the unit)
Land-use suitability	Intensive pastoral farming, production forestry (although some areas may be too poorly drained for optimum tree growth)

LUC UNIT 6e3 2115.1 hectares	
Description	Easy hilly land with a discontinuous mantle of late Quaternary tephras, dominated by Brown Soils developed on rhyolitic domes and welded ignimbrite sheets. Allophanic Soils, from >30 cm thickness of late Quaternary tephras, mainly occur on ridges and foot slopes. Brown Soils generally occur on steeper side-slopes where the tephras are <30 cm thick, or absent. Lightly textured Allophanic Soils provide an excellent medium for plant growth, and care is required in forest operations to protect them. This unit is suitable for production forestry and intensive pastoral farming
NZLRI Coromandel correlation	Part VIe3 - where mapped over rhyolitic lithologies ("Strongly rolling to moderately steep hills with tephra mantling the rolling tops and valley bottoms")
Altitude	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Hilly land (HL), truncated benches (TB), and occasional foot slope (FS)
Slope	Mainly hilly, 16-20^{o} (D) to moderately steep, 21-25^{o} (E) - (D+E, D, E+D)
Rock type	Discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (pMo/Vor)
Bare rock %	Nil (0) to occasionally very sparse, 1-5% (1)
Hyd. alt.	No (N)
Regolith depth	Mainly moderately deep to deep, 90-200 cm (3) to very deep, 200-500 cm (4), but ranging from shallow to moderately shallow, 45-90 cm (2) to extremely deep, >500 cm (5)
Tephra depth	30-90 cm (2)

LUC UNIT 6e3 2115.1 hectares	
Soil name	•Puketui hill soils (PiH) •Puketui clay loam (Pi) •Whangamata sandy loam (Wms) •Whangamata hill soils (WmH) •Waitekauri silt loam compact subsoil phase (Wke) •Waitekauri silt loam rolling phase (Wkr) Example codes: PiH+Wms, PiH+Wke, PiH+Wkr, PiH+WmH
Soil class	Subgroup: •Acidic Orthic Brown Soils (BOA) - Pi, PiH •Typic Orthic Allophanic Soils (LOT) - Wms, Wke, Wkr •Vitric Orthic Allophanic Soils (LOV) - WmH Families: •Loamy, with stones, slow - PiH •Loamy, stoneless, slow - Pi •Loamy, tephric-peralkaline rhyolitic, moderate to rapid/moderate - WmH, Wms •Loamy, tephric-peralkaline rhyolitic, moderate - Wke •Loamy, tephric-peralkaline rhyolitic, moderate/slow - Wkr
Erosion degree, type	Mainly negligible (0) to subordinate slight sheet (Sh) and gully (G)
Erosion extent	Negligible under forest cover
Erosion potential	Slight soil slip, sheet, tunnel gully and gully under pasture; severe sheet, moderate rill and gully when extensively cleared of forest cover by forestry operations before ground cover is re-established
Land cover	Mainly exotic conifer forest (fF), subordinate improved pasture (gI), manuka (sM) scrub and mixed indigenous scrub with tree fern (sT)
Land use	Mainly exotic production forestry (Fe), subordinate mixed pastoral farming (Gm) and some unused (U) land

LUC UNIT 6e3 2115.1 hectares	
Soil conservation & management requirements	Avoid soil compaction in wet periods, and in particular soil compaction through pugging on Brown Soils, by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance (maintenance of the remaining tephra cover is essential to maintain the productive capability of the unit). Establish and maintain riparian buffer zones
Land-use suitability	Intensive pastoral farming (but avoid dairy farming) Production forestry

LUC UNIT 6e7 742.2 hectares	
Description	Moderately steep land with, or without, significant rock outcrops, over rhyolite domes and ignimbrite sheets, with a discontinuous mantle of late Quaternary tephras, and a soil terrain dominated by Brown Soils. Allophanic Soils are developed from >30 cm thickness of late Quaternary tephras, and generally occur on ridges and foot slopes. Brown Soils, from rhyolitic rocks, occur on steeper side-slopes where tephras are absent, or <30 cm thick. Lightly textured Allophanic Soils provide an excellent medium for plant growth, and care is required in forest operations to protect these soils. This unit is suitable for production forestry and intensive pastoral farming
NZLRI Coromandel correlation	Part VIe6 - where mapped over rhyolitic lithologies ("Strongly rolling to moderately steep hills with tephra mantling the rolling tops and valley bottoms")
Altitude	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Hilly land (HL)
Slope	Moderately steep, 21-25^{o} (E) [short F slopes are allowable]
Rock type	Discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over rhyolites (pMo/Vor), or over Vor together with extremely weak altered volcanics (pMo/Vor*Vu)
Bare rock %	Nil (0) to occasionally sparse, 5-10% (2) [common, 10-20% is allowed]
Hyd. alt.	No (N)
Regolith depth	Mainly very deep, 200-500 cm (4), but ranging from shallow to moderately shallow, 45-90 cm (2) to very deep
Tephra depth	30-90 cm (2)

LUC UNIT 6e7 742.2 hectares	
Soil name	•Puketui hill soils (PiH) •Whangamata sandy loam (Wms) Example code: PiH+Wms
Soil class	Subgroups: •Acidic Orthic Brown Soils (BOA) - PiH •Typic Orthic Allophanic Soils (LOT) - Wms Families: •Loamy, with stones, slow - PiH •Loamy, tephric-peralkaline rhyolitic, moderate to rapid/moderate - Wms
Erosion degree, type	Mainly negligible (0), some slight soil slip (Ss) and sheet (S)
Erosion extent	Negligible under forest cover
Erosion potential	Slight soil slip, sheet, tunnel gully and gully under pasture. Subject to severe sheet, rill and slight gully during times of maximum land disturbance in forestry operations. Recently cleared forest land is subject to moderate storm-induced soil slip erosion. Negligible erosion hazard under a forest cover
Land cover	Mainly manuka scrub (sM), subordinate semi-improved pasture (gS)
Land use	Mainly unused (U) and extensive mixed pastoral farming (Gm)
Soil conservation & management requirements	Avoid soil compaction in wet periods, and in particular soil compaction through pugging on Brown Soils, by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance (maintenance of the remaining tephra cover is essential to maintain the productive capability of the unit). Establish and maintain riparian buffer zones
Land-use suitability	Semi-intensive pastoral farming, production forestry

Subsuite 4d

Brown Soils dominant, together with Allophanic Soils, over andesites

LUC UNIT 6e4 171.4 hectares	
Description	Easy hilly land with a discontinuous mantle of late Quaternary tephras, dominated by Brown Soils developed from strongly weathered andesitic lithologies. Allophanic Soils, from >30 cm thickness of tephras, occur mainly on ridges and foot slopes. Brown Soils occur mainly on steeper side-slopes where the tephras have been removed, or <30 cm thick. Lightly textured Allophanic Soils provide an excellent medium for plant growth, and care is required in forest operations to protect them. This unit is suitable for production forestry and intensive pastoral farming
NZLRI Coromandel correlation	Part VIe3 - where mapped over andesitic lithologies ("Strongly rolling to moderately steep hills with tephra mantling the rolling tops and valley bottoms")
Altitude	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Hilly land (HL), and occasional foot slope (FS)
Slope	Mainly hilly, 16-20^{o} (D) to moderately steep, 21-25^{o} (E) - (D, D+E)
Rock type	Discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over strongly weathered andesites (pMo/Voa)
Bare rock %	Nil (0)
Hyd. alt.	No (N)
Regolith depth	Moderately deep to deep, 90-200 cm (3) to very deep, 200-500 cm (4)
Tephra depth	30-90 cm (2)

LUC UNIT 6e4 171.4 hectares	
Soil name	•Waitakere hill soils (WaH) •Whangamata sandy loam (Wms) •Whangamata hill soils (WmH) Example codes: WaH+Wms, WaH+WmH
Soil class	Subgroups: •Typic Orthic Brown Soils (BOT) - WaH •Typic Orthic Allophanic Soils (LOT) - Wms •Vitric Orthic Allophanic Soils (LOV) - WmH Families: •Clayey, with stones, moderate - WaH •Loamy, tephric-peralkaline rhyolitic, moderate to rapid/moderate - Wms, WmH
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Slight soil slip, sheet, tunnel gully and gully under pasture. Subject to moderate sheet, rill and slight gully during times of maximum land disturbance in forestry operations. Recently cleared forest land is subject to slight storm-induced soil slip erosion. Negligible erosion hazard under a forest cover
Land cover	Exotic conifer forest (fF), cutover conifer/broadleaved forest with emergent kauri (cfOfK*)
Land use	Exotic production forestry (Fe), some unused (U)
Soil conservation & management requirements	Avoid soil compaction in wet periods, and in particular soil compaction through pugging on Brown Soils, by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance (maintenance of the remaining tephra cover is essential to maintain the productive capability of the unit). Establish and maintain riparian buffer zones
Land-use suitability	Intensive pastoral farming, production forestry

LUC UNIT 6e8 49.1 hectares	
Description	Moderately steep land with, or without rock outcrops, with a discontinuous mantle of late Quaternary tephras and dominated by Brown Soils developed from strongly weathered andesitic lithologies. Allophanic Soils, from >30 cm thickness of tephras, occur mainly on ridges and foot slopes. Brown Soils occur on steeper side-slopes where tephras have been removed, or <30 cm thick. Lightly textured Allophanic Soils provide an excellent medium for plant growth, and care is required in forestry operations to protect them. This unit is suitable for production forestry and semi-intensive pastoral farming
NZLRI Coromandel correlation	Part VIe6 - where mapped over andesitic lithologies ("Moderately steep to steep hills with a mantle of tephra on the easier slopes")
Altitude	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Hilly land (HL)
Slope	Moderately steep, 21-25^{o} (E) to steep, 26-35^{o} (F) - (E, E+F)
Rock type	Discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over strongly weathered andesites (pMo/Voa), and over Voa and extremely weak altered volcanics (pMo/Voa*Vu)
Bare rock %	Nil (0) [common (10-20%) is allowable]
Hyd. alt.	No (N)
Regolith depth	Moderately deep to deep, 90-200 cm (3)
Tephra depth	30-90 cm (2)

LUC UNIT 6e8 49.1 hectares	
Soil name	•Waitakere hill soils (WaH) •Whangamata hill soils (WmH) Example code: WaH+WmH
Soil class	Subgroups: •Typic Orthic Brown Soils (BOT) - WaH •Vitric Orthic Allophanic Soils (LOV) - WmH Families: •Clayey, with stones, moderate - WaH •Loamy, tephric-peralkaline rhyolitic, moderate to rapid/moderate - WmH
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Moderate soil slip and sheet, moderate tunnel gully and gully under pasture. Subject to severe sheet, moderate rill and slight gully erosion during times of maximum land disturbance in forestry operations. Recently cleared forest land is subject to moderate to severe storm-induced soil slip erosion. Negligible to slight erosion hazard under a forest cover
Land cover	Manuka scrub (sM)
Land use	Unused (U)
Soil conservation & management requirements	Avoid soil compaction in wet periods, and in particular soil compaction through pugging on Brown Soils, by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance (maintenance of the remaining tephra cover is essential to maintain the productive capability of the land). Establish and maintain riparian buffer zones
Land-use suitability	Semi-intensive pastoral farming, production forestry

SUITE 5

Brown Soils over rhyolitic and andesitic lithologies

Subsuite 5a

Brown Soils on rhyolite domes and welded ignimbrite sheets

LUC UNIT 3s1 36.3 hectares	
Description	Undulating elevated land, foot slopes and undulating to flat terraces, with Brown soils developed on rhyolitic domes and ignimbrite sheets; or from rhyolitic colluvial materials, frequently admixed with tephric colluvium, in areas where the thickness of primary tephras have been thinned to <30 cm, or are absent. Frequently, this unit is found where soils appear to have been degraded through repeated burning, forest removal, gum digging and erosion - and at one time could have supported >30 cm or more thickness of late Quaternary tephras. Foot slopes and the inner margins of terraces may experience seepage and run-off from adjacent hilly and steep land
NZLRI Coromandel correlation	No correlation
Altitude	20-100 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2000 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Undulating (UL) land
Slope	Undulating, 4-7^{o} (B) [may include flat land and occasionally easy rolling land]
Rock type	Strongly weathered rhyolites (Vor)
Bare rock %	Nil (0)
Hyd. alt.	No (N)

LUC UNIT 3s1 36.3 hectares	
Regolith depth	Moderately deep to deep, 90-200 cm (3) to very deep, 200-500 cm (4)
Tephra depth	10-30 cm (1)
Soil name	•Puketui clay loam (Pi) Example code: Pi
Soil class	Subgroup: •Acidic Orthic Brown Soils (BOA) - Pi Family: •Clayey, stoneless, slow - Pi
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Nil to slight rill and sheet when cultivated or disturbed by forest operations
Land cover	Exotic conifer forest (fF)
Land use	Exotic production forestry (Fe)
Soil conservation & management requirements	Avoid soil compaction in wet periods, and in particular soil compaction through pugging, by using improved stock management and grazing regimes. Improve drainage with surface and subsurface drains. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance
Land-use suitability	Root and green fodder cropping, intensive pastoral farming, production forestry (some areas, soils may be too poorly drained or degraded for optimum tree growth)

LUC UNIT 6e5 637.1 hectares	
Description	Easy hilly land, with Brown Soils on rhyolite domes and welded ignimbrite sheets. This unit is suitable for production forestry and intensive pastoral farming
NZLRI Coromandel correlation	No correlation, but closest to VIe9 but with easier hill country
	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Hilly land (HL), occasional foot slopes (FS)
Slope	Hilly, 16-20^{o} (D) to moderately steep, 21-25^{o} (E) - (D, D+E, E+D)
Rock type	Rhyolites (Vor), occasionally Vor and andesites (Vor+Voa) where Vor is dominant, and Vor and extremely weak altered volcanics (Vor*Vu)
Bare rock %	Nil (0) to occasionally very sparse, 1-5% (1) and sparse, 5-10% (2)
Hyd. alt.	No (N)
Regolith depth	Mainly moderately deep to deep, 90-200 cm (3) to very deep, 200-500 cm (4), but occasionally extremely to very shallow, 10-45 cm (1) to shallow to moderately shallow, 45-90 cm (2)
Tephra depth	<10 cm (0) to 10-30 cm (1)
Soil name	•Puketui hill soils (PiH)
Soil class	Subgroup: •Acidic Orthic Brown Soils (BOA) - PiH Family: •Loamy, with stones, slow - PiH
Erosion degree, type	Negligible (0) to slight sheet (Sh)

LUC UNIT 6e5 637.1 hectares	
Erosion extent	Negligible
Erosion potential	Slight soil slip, sheet, tunnel gully and gully under pasture. Subject to moderate sheet, rill and slight gully during times of maximum land disturbance in forestry operations. Recently cleared forest is subject to slight storm-induced soil slip erosion. Negligible erosion hazard under a forest cover
Land cover	Mainly exotic conifer forest (fF), subordinate manuka (sM) scrub and mixed indigenous scrub with tree fern (sT)
Land use	Mainly exotic production forestry (Fe), subordinate unused (U)
Soil conservation & management requirements	Avoid soil compaction in wet periods, and in particular soil compaction through pugging, by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance. Establish and maintain riparian buffer zones
Land-use suitability	Intensive pastoral farming, production forestry

LUC UNIT 6e9 775.3 hectares	
Description	Moderately steep hilly land and occasional steep land, with or without rock outcrops, with Brown Soils developed on rhyolite domes and welded ignimbrite sheets. This unit is suitable for production forestry and semi-intensive pastoral farming
NZLRI Coromandel correlation	VIe9 ("Moderately steep hill country with long broken slopes. Rock outcrops and surface boulders are prominent")
	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Hilly land (HL), occasional steep land (SL) and moderately steep to steep hill (HI)
Slope	Moderately steep, 21-25^{o} (E) to steep, 26-35^{o} (F) - (E, E+F, F+E)
Rock type	Rhyolites (Vor)
Bare rock %	Nil (0) to occasionally very sparse, 1-5% (1) [common, 10-20% is allowable]
Hyd. alt.	No (N)
Regolith depth	Mainly moderately deep to deep, 90-200 cm (3), but occasionally extremely to very shallow, 10-45 cm (1) to shallow to moderately shallow, 45-90 cm (2) to very deep, 200-500 cm (4)
Tephra depth	<10 cm (0) to 10-30 cm (1)
Soil name	•Puketui hill soils (PiH) •Tangatara steepland soils (TS) •Wahitapu steepland soils (WpS) Example codes: PiH, PiH+TS, WpS, TS

LUC UNIT 6e9 775.3 hectares	
Soil class	Subgroup: • Acidic Orthic Brown Soils (BOA) - PiH, TS, WpS Families: • Loamy, with stones, slow - PiH • Loamy, paralithic-fine grained crystalline rocks, moderate - TS, WpS
Erosion degree, type	Negligible (0) to slight sheet (Sh) and soil slip (Ss)
Erosion extent	Negligible under forest cover
Erosion potential	Moderate soil slip and sheet, slight tunnel gully and gully under pasture. Subject to severe sheet, moderate rill and slight gully erosion during times of maximum land disturbance in forestry operations. Recently cleared forest land is subject to moderate to severe storm-induced soil slip erosion. Negligible to slight erosion hazard under a forest cover
Land cover	Mainly exotic conifer forest (fF), subordinate manuka (sM) scrub and mixed indigenous scrub with tree fern (sT)
Land use	Mainly exotic production forestry (Fe), subordinate unused (U)
Soil conservation & management requirements	Avoid soil compaction in wet periods, and in particular soil compaction through pugging, by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance. Establish and maintain riparian buffer zones
Land-use suitability	Semi-intensive pastoral farming, production forestry

LUC UNIT 7e2 1582.6 hectares	
Description	Steep land, normally with bluffy rock outcrops, with shallow low fertility Brown Soils developed on rhyolite domes and welded ignimbrite sheets. This unit is suitable for erosion control forestry and semi-intensive pastoral farming
NZLRI Coromandel correlation	VIIe3 ("Moderately steep to very steep very low fertility hill country with many bluffs")
	20-500 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Steep land (SL)
Slope	Steep, 26-35^{o} (F) to very steep, >35^{o} (G) - (F, F+G, G+F, G). Note that G slopes are short, and all slopes are generally below 200 m in length
Rock type	Rhyolites (Vor)
Bare rock %	Nil (0) to many, 20-40% (4). Note that most units contain bare rock
Hyd. alt.	No (N)
Regolith depth	Extremely to very shallow, 10-45 cm (1) to moderately deep to deep, 90-200 cm (3), but mainly shallow to moderately shallow, 45-90 cm (2)
Tephra depth	<10 cm (0)
Soil name	•Tangatara steepland soils (TS) •Wahitapu steepland soils (WpS) •Puketui hill soils (PiH) Example codes: TS, WpS, TS+PiH

LUC UNIT 7e2	1582.6 hectares
Soil class	Subgroup: •Acidic Orthic Brown Soils (BOA) - PiH, TS, WpS Families: •Loamy, paralithic-fine grained crystalline rocks, moderate - TS, WpS •Loamy, with stones, slow - PiH
Erosion degree, type	Slight to moderate sheet (Sh), slight soil slip (Ss) and debris avalanche (Da)
Erosion extent	Negligible under forest cover, slight (1-10%) under pasture
Erosion potential	Severe soil slip (storm-induced), sheet, rill and moderate gully under pasture and recently cleared forest land. Moderate storm-induced soil slip and debris avalanche under forest cover
Land cover	Mainly exotic conifer forest (fF) south-east of the Tairua river, to mainly manuka (sM) and mixed indigenous scrub, with or without tree fern or emergent kauri (sM, sMsX, sX, sXfK*, sT, sMsT*) north-west of the Tairua River
Land use	Mainly exotic production forestry (Fe) south-east of the Tairua River, and much unused (U) north-west of the Tairua River
Soil conservation & management requirements	Maintain a complete pasture cover in grassland areas, and practice special care in initial development to avoid excessive storm impacts. Use soil conservation trees routinely. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition). Minimise ground disturbance in all operations. Establish and maintain riparian buffer zones
Land-use suitability	Semi-intensive to extensive pastoral farming, protection forestry (includes a production component but the underlying focus is environmental protection - both on and off-site)

LUC UNIT 7e3 1859.2 hectares	
Description	Very steep land, normally with bluffy rock outcrops, with shallow low fertility Brown Soils developed on rhyolite domes and welded ignimbrite sheets. This unit is suitable for erosion control forestry
NZLRI Coromandel correlation	VIIe9 ("Steep and very steep mountain land with many exposed bluffs and rhyolite domes. Very low fertility")
	0-500 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2500 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493. Much of this unit occurs in the axial mountain lands and receives in excess of 2000 mm per annum
Landform	Steep land (SL)
Slope	Very steep, >35^{o} (G) to steep, 26-35^{o} (F) - (G, G+F). Note that most slopes are long (in excess of 200 m, and may include mountain land slopes (in excess of 300 m length)
Rock type	Rhyolites (Vor)
Bare rock %	Very sparse, 1-5% (1) to many, 20-40% (4)
Hyd. alt.	No (N)
Regolith depth	Extremely to very shallow, 10-45 cm (1) to moderately shallow, 45-90 cm (2)
Tephra depth	<10 cm (0)
Soil name	•Tangatara steepland soils (TS)
Soil class	Subgroup: •Acidic Orthic Brown Soils (BOA) - TS Family: •Loamy, paralithic-fine grained crystalline rocks, moderate - TS
Erosion degree, type	Negligible (0) erosion to slight (Sh), soil slip (Ss), debris avalanche (Da), and earth slip (Es)

LUC UNIT 7e3 1859.2 hectares	
Erosion extent	Very severe soil slip, debris avalanche and sheet
Erosion potential	Very severe soil slip and debris avalanche (storm-induced), sheet, severe rill and slight gully under pasture and recently cleared forest land. Moderate storm-induced soil slip and debris avalanche under forest cover
Land cover	Mainly manuka (sM) and mixed indigenous scrub, with or without tree fern or emergent kauri (sM, sMsX, sX, sXfK*, sT, sMsT*) north-west of the Tairua River, some small areas exotic conifer forest (fF) south-east of the Tairua river
Land use	Much unused (U) north-west of the Tairua River and a little exotic production forestry (Fe) south-east of the Tairua River
Soil conservation & management requirements	Maintain and encourage the further development of indigenous erosion control forestry
Land-use suitability	Indigenous protection forestry

LUC UNIT 8e2 76.6 hectares	
Description	Very steep steepland or mountain land, with common to abundant precipitous rhyolitic bluffs and pinnacles. Extreme use-limitations, erosion hazard, and ecological sensitivity mitigate against all uses apart from protection forestry
NZLRI Coromandel correlation	Part VIIIe3 - on rhyolitic lithologies ("Very steep mountain slopes with a severe erosion hazard")
	200-700 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 2000-2500 mm
Landform	Steep land (SL)
Slope	Very steep, >35° (G)
Rock type	Rhyolites (Vor)
Bare rock %	Common, 10-20% (3) to abundant, 40-60% (5)
Hyd. alt.	No (N)
Regolith depth	Extremely to very shallow, 10-45 cm (1)
Tephra depth	<10 cm (0)
Soil name	•Tangatara steepland soils (TS)
Soil class	Subgroup: •Acidic Orthic Brown Soils (BOA) - TS Family: •Loamy, paralithic-fine grained crystalline rocks, moderate - TS
Erosion degree, type	Negligible (0) erosion to moderate soil slip (Ss), debris avalanche (Da) and sheet (Sh)
Erosion extent	Nil to 11-20%
Erosion potential	Very severe to extreme debris avalanche and soil slip, severe sheet
Land cover	Mainly manuka (sM) and manuka with cutover lowland conifer-broadleaved forest (sMcfO)
Land use	Unused (U)

LUC UNIT 8e2 76.6 hectares	
Soil conservation & management requirements	Promote the natural development of indigenous protection forest
Land-use suitability	Indigenous protection forestry

Subsuite 5b

Brown Soils over andesites

LUC UNIT 6e10 117.0 hectares	
Description	Moderately steep hilly land to occasionally steep land, with or without rock outcrops, with Brown Soils developed from andesitic lithologies. This unit is suitable for production forestry and semi-intensive pastoral farming
NZLRI Coromandel correlation	Part VIe7 - where mapped over andesitic lithologies ("Moderately steep to steep slopes on weathered greywacke and andesite")
Altitude	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Hilly land (HL), occasionally moderately steep hill (HI) and steep land (SL)
Slope	Moderately steep, 21-25^{o} (E) to steep, 26-35^{o} (F) - (E, E+F, F). Note that F slopes are short
Rock type	Andesites (Voa). Note that the unit may include rhyolites (Vor) but they are subordinate to andesites
Bare rock %	Mainly nil (0), commonly very sparse, 1-5% (1), and occasionally common, 10-20% (3)
Hyd. alt.	No (N)
Regolith depth	Shallow to moderately shallow, 45-90 cm (2) to moderately deep to deep, 90-200 cm (3)
Tephra depth	<10 cm (0) to 10-30 cm (1)
Soil name	•Awapuku hill soils (AwH) •Te Kie steepland soils (TKS) Example codes: AwH, TKS

LUC UNIT 6e10	117.0 hectares
Soil class	Subgroups: •Typic Orthic Brown Soils (BOT) - AwH •Acidic Orthic Brown Soils (BOA) - TKS Families: •Clayey, with stones, moderate - AwH •Loamy, paralithic-fine grained crystalline rocks, moderate - TKS
Erosion degree, type	Negligible (0)
Erosion extent	Negligible
Erosion potential	Moderate soil slip, sheet, tunnel gully and gully under pasture. Subject to severe sheet, rill and moderate gully erosion during times of maximum land disturbance in forestry operations. Recently cleared forest land is subject to moderate storm-induced soil slip erosion. Negligible erosion hazard under a forest cover
Land cover	Exotic conifer forest (fF), manuka scrub (sM)
Land use	Exotic production forestry (Fe), some Quarries (Q)
Soil conservation & management requirements	Avoid soil compaction in wet periods, and in particular soil compaction through pugging on Brown Soils, by using improved stock management and grazing regimes. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance. Establish and maintain riparian buffer zones
Land-use suitability	Semi-intensive pastoral farming, production forestry

LUC UNIT 7e1	104.0 hectares
Description	Steep land, to occasionally very steep land over mainly andesitic lithologies, with rock outcrops, and with Brown Soils
NZLRI Coromandel correlation	VIIe2 ("Steep low fertility andesitic hill country and mountain lands. Slopes are long with many bluffs")
Altitude	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5°, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10° 1941-70 Thames 1891, Waihi 149
Landform	Steep land (SL)
Slope	Steep, 26-35° (F)
Rock type	Andesites (Voa). Note that the unit may include rhyolites (Vor) but they are subordinate to andesites
Bare rock %	Very sparse, 1-5% (1) to common, 10-20% (3)
Hyd. alt.	No (N)
Regolith depth	Shallow to moderately shallow, 45-90 cm (2)
Tephra depth	<10 cm (0)
Soil name	•Tangatara steepland soil (TS) •Otuwheti steepland soils (OS) Example codes: TS+OS
Soil class	Subgroup: •Acidic Orthic Brown Soils (BOA) - TS, OS Family: •Loamy, paralithic-fine grained crystalline rocks, moderate - TS, OS
Erosion degree, type	Negligible (0)
Erosion extent	Negligible

LUC UNIT 7e1 104.0 hectares	
Erosion potential	Severe soil slip, debris avalanche, sheet, slight tunnel gully and gully under pasture. Subject to severe sheet, rill and moderate gully erosion during times of maximum land disturbance in forestry operations. Recently cleared forest land is subject to severe storm-induced soil slip erosion. Negligible to slight erosion hazard under a forest cover
Land cover	Exotic conifer forest (fF), manuka scrub (sM)
Land use	Mixed indigenous scrub with tree fern (sT)
Soil conservation & management requirements	Maintain a complete vegetative cover. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance Establish and maintain riparian buffer zones
Land-use suitability	Erosion control forestry

SUITE 6

Geologically unstable volcanic lithologies that have been comprehensively weakened by agents such as hydrothermal action

LUC UNIT 6e11 785.0 hectares	
Description	Unstable and potentially unstable land subject to deep-seated landslides (including earthflow). Underlain by comprehensively altered, extremely weak rhyolitic and andesitic lithologies. Includes undulating to hilly land, often with a broken and in parts subdued appearance. Usually but not exclusively with a discontinuous mantle of late Quaternary tephras, and comprising both Allophanic and Brown Soils. Special care is required in all activities that require ground disturbance
NZLRI Coromandel correlation	No correlation
Altitude	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{O}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{O} 1941-70 Thames 1891, Waihi 1493
Landform	Hilly land (HL) and foot slopes (FS)
Slope	Mainly hilly, 16-20^{O} (D) to occasionally moderately steep, 21-25^{O} (E), and easy to strongly rolling, 8-15^{O} - (D, D+C, D+E, E)
Rock type	Discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over extremely weak altered volcanics (pMo/Vu), a full mantle of Mo over Vu (Mo/Vu), and pMo over both Vu and rhyolites (pMo/Vu*Vor)
Bare rock %	Nil (0) to occasionally sparse, 5-10% (2)
Hyd. alt.	Yes (Y)
Regolith depth	Extremely deep, >500 cm (5)
Tephra depth	30-90 cm (2), occasionally 10-30 cm (1)

LUC UNIT 6e11 785.0 hectares	
Soil name	•Whangamata hill soils (WmH) •Whangamata gravelly sandy loam deep and rolling phases (Wmg) •Whangamata sandy loam (Wms) •Puketui hill soils (PiH) •Waitakere hill soils (WaH) Example codes: WmH, WmH+Wmg, Wmg, WmH+Wms, WmS+PiH, PiH+Wms, WmH+WaH
Soil class	Subgroups: •Vitric Orthic Allophanic Soils (LOV) - WmH, Wmg •Typic Orthic Allophanic Soils (LOT) - Wms •Acidic Orthic Brown Soils (BOA) - PiH •Typic Orthic Brown Soils (BOT) - WaH Families: •Loamy, tephric-peralkaline rhyolitic, rapid/moderate - WmH, Wms •Loamy, tephric-peralkaline rhyolitic, rapid/moderate to moderate - Wmg •Loamy, with stones, slow - PiH •Clayey, with stones, moderate - WaH
Erosion type, degree	Negligible (0) erosion to more commonly slight to moderate slump (Su), earthflow (Ef), soil slip (Ss), gully (G), tunnel gully (T)
Erosion extent	Surficial erosion types occupy 1-10% of the unit while mass forms of erosion may occupy up to 20%
Erosion potential	Moderate earthflow, slump, soil slip, gully, tunnel gully and slight sheet and rill
Land cover	Mainly unused (U), small areas in mixed pastoral farming (Gm)
Land use	Improved pasture with or without manuka scrub (gI, gIsM*) south-east of the Tairua River, cutover lowland conifer-broadleaved forest with emergent kauri (cfOfK*) and manuka (sM) scrub north-west of the Tairua River

LUC UNIT 6e11 785.0 hectares	
Soil conservation & management requirements	Avoid ground disturbance. Drain seepage areas and earthflows and slumps. Avoid soil compaction in wet periods by using improved stock management and grazing regimes. Fence, retire and block plant slumped and earth flow areas. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance. Special care to establish and maintain riparian zones along watercourses in both forestry and pastoral land uses
Land-use suitability	Intensive to semi-intensive pastoral farming, production forestry

LUC UNIT 7e4 32.8 hectares	
Description	Unstable land presently affected by and subject to further deep-seated landslides (including earthflow). Underlain by comprehensively altered, extremely weak rhyolitic and andesitic lithologies. Includes undulating to hilly land, often with a broken and in parts subdued appearance. Usually but not exclusively with a discontinuous mantle of late Quaternary tephras, and comprising both Allophanic and Brown Soils. Special care is required in all activities that require ground disturbance
NZLRI Coromandel correlation	No correlation
Altitude	20-300 m a.s.l
Climate	Climate District A_2 ("warm humid summers, mild winters, annual rainfall 1500-2500 mm with a maximum in winter, prevailing wind S.W., but occasional strong gales and heavy rains from E. or N.E."). Annual rainfall estimate is 1500-2300 mm (rainfall normal 1951-80 for Tairua is 1900 mm). Mean air temp. (1952-80) for Tairua 14.5^{o}, av. days ground frost 31.8, air frost 5.9. Sunshine normals (1951-80) at Waihi 1907 hrs 48% of possible), Thames 1858 (45% possible). Degree-day yearly totals (heat units) above base 10^{o} 1941-70 Thames 1891, Waihi 1493
Landform	Hilly land (HL)
Slope	Hilly, 16-20^{o} (D) [can comprise moderately steep, 21-25^{o} (E), and easy to strongly rolling, 8-15^{o} - (D, D+C, D+E, E)]
Rock type	Discontinuous mantle of late Quaternary tephras (Ashes older than Taupo ash) over extremely weak altered volcanics (pMo/Vu), a full mantle of Mo over Vu (Mo/Vu)
Bare rock %	Nil (0) [can include sparse, 5-10% (2) bare rock]
Hyd. alt.	Yes (Y)
Regolith depth	Extremely deep, >500 cm (5)
Tephra depth	30-90 cm (2)
Soil name	•Whangamata hill soils (WmH)

LUC UNIT 7e4 32.8 hectares	
Soil class	Subgroup: •Vitric Orthic Allophanic Soils (LOV) - WmH Family: •Loamy, tephric-peralkaline rhyolitic, rapid/moderate - WmH
Erosion degree, type	Severe earth flow (Ef) and earth slip (Es), moderate gully (G)
Erosion extent	Surficial erosion types occupy 1-10% of the unit while mass forms of erosion may occupy up to 40%
Erosion potential	Severe earthflow, slump, earth slip, soil slip, gully, tunnel gully and moderate sheet and rill
Land cover	Semi-improved pasture (gS), manuka with erosion control broadleaved trees (sMefB*)
Land use	Mixed pastoral farming (Gm)
Soil conservation & management requirements	Avoid ground disturbance unless to establish engineering erosion controls. Drain seepage areas and drain earthflows and slumps. Avoid soil compaction in wet periods by using improved stock management and extensive grazing regimes. Fence, retire and block plant areas affected by mass-movement. Adhere to forest operations guidelines in NZ Forest Code of Practice (2nd edition) in all operations that cause soil disturbance. Special care to establish and maintain riparian zones along watercourses in both forestry and pastoral land uses
Land-use suitability	Semi-intensive pastoral farming to retirement Protection and erosion control forestry

9.0 Acknowledgements

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11.0 Appendices

All polygons, or inventory map units, are supported by inventory and LUC data listed in the Appendices:

Tairua Land Resource Data - sorted on inventory map unit number, and

Tairua Land Resource Data - sorted on LUC.

These Appendices should be used to identify the inventory and capability factors for individual polygons when interpreting the survey results for particular areas of interest.

TAIRUA LAND RESOURCE DATA - SORTED ON INVENTORY MAP UNIT NUMBER

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
1	7e1	HI	F	Voa	1	0	3	0	TKS	BOA	0	0	0	0	nfF5sM5	U
2	4e5	FS	D+C	pMo/Voa	0	0	4	2	Wms+Wa	LOT+BOT	0	0	0	0	sM8sX2	U
3	6e10	HI	F	Voa	2	0	3	0	TKS	BOA	0	0	0	0	sM8nfF*2	U
4	-	marina	-	-	-		-	-	-	-	-	-	-	-	-	R
5	-	DU	A	Wb	0	0	4	0	Pn	RST	0	0	0	0	gI9fF*1	Ub
6	-	DU	A/B	Wb	0	0	4	0	T	BSM	0	0	0	0	gI9fF*1	Ub
7	6w2	FP	A	Af	0	0	5	0	Tw	GUFQ	0	0	0	0	gS5sM4hR*1	Gm
8	7e3	SL	G	Vor	1	0	2	0	TS	BOA	0	0	0	0	sM9nfF*1	U
9	6e3	HL	D	pMo/Vor	1	0	3	2	PIH+Wms	BOA+LOT	0	Sh	0	1	sMnfF*9fF1	U,Fe
10	6e3	HL	D	pMo/Vor	0	0	3	2	PIH+Wms	BOA+LOT	0	Sh	0	1	sMnfF*	U
11	4e2	FS	C	Mo/Voa	0	0	2	2	Wms	LOT	0	0	0	0	gI9sM1	Gm
12	2c1	TR	A	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	cK8cS2	O
13	6e10	HI	F	Voa	1	0	3	0	TKS	BOA	0	0	0	0	sMnfF*	U
14	3w3	FP	A	Af	0	0	5	0	Oh+Tw	RSM+GUFQ	0	0	0	0	gShR*	Gm
15	4e2	FS	C	Mo/Vor	0	0	3	2	Wms	LOT	0	0	0	0	gS5sM5	Gm,U
16	7e2	HI	F	Vor	4	0	2	0	TS	BOA	0	0	0	0	sMnfF*	U
17	6e5	HL	D+E	Vor	1	0	4	1	PIH	BOA	0	0	0	0	fF	Fe
18	4e6	FS	C+D	pMo/Vor	0	0	4	2	PI+Wms	BOA+LOT	0	0	0	0	fF	Fe
19	6e7	HL	E	pMo/Vor	1	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
20	3w1	FP	A	Af	0	0	4	0	Oh	RSM	0	0	0	0	fF7hW3	Fe,U
21	7e2	SL	G	Vor	4	0	1	0	TS	BOA	0	Sh	0	1	fF	Fe
22	6e4	HL	D+E	pMo/Voa*Vc	0	0	3	2	WaH+Wms	BOT+LOT	0	0	0	0	fF	Fe
23	7e2	SL	G	Vor	2	0	2	0	TS	BOA	0	0	0	0	fF	Fe
24	3e5	UL	B	pMo/Vor	0	0	3	2	PI+Wms	BOA+LOT	0	0	0	0	fF	Fe
25	6e3	HL	D	pMo/Vor	0	0	3	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
26	6e3	HL	D+E	pMo/Vor	0	0	3	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
27	3e4	FS	B+C	pMo/Vor	0	0	4	2	Wms+PI	LOT+BOA	0	0	0	0	fF	Fe
28	4e3	SR	C	pMo/Vor	0	0	4	2	Wms+Pi	LOT+BOA	0	0	0	0	fF	Fe
29	7e2	SL	F	Vor	1	0	2	0	TS	BOA	0	Sh	0	1	sMfC*9nfF*1	U
30	7e3	SL	G	Vor	1	0	2	0	TS	BOA	0	Sh	0	1	sM8fF2	U,Fe
31	7e3	SL	G	Vor	2	0	2	0	TS	BOA	Ss	Sh	1	1	fF	Fe
32	4e3	SR	C	pMo/Vor	0	0	3	2	Wms+Pi	LOT	0	0	0	0	fF	Fe
33	3w2	FP	A	Af+Pt	0	0	3	0	Pk	OMM	0	0	0	0	fF	Fe
34	3w2	FP	A	Af+Pt	0	0	5	0	Pk	OMM	0	0	0	0	hW	U

TAIRUA LAND RESOURCE DATA - SORTED ON INVENTORY MAP UNIT NUMBER

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
35	3w2	FP	A	Af+Pt	0	0	5	0	Pk	OMM	0	0	0	0	gl	Gm
36	6s1	DU	A	Wb	0	0	5	0	T	BSM	0	W,Sh	0	1	gl9gD1	Gm
37	8e1	DU	B	Wb	0	0	3	0	Pn	RST	0	W	0	3	sO7uVs	U,P
38	6e9	HI	E+F	Vor	0	0	3	1	PIH+TS	BOA	0	0	0	0	nfF4gS4sX2	Gm
39	3w2	FP	A	Af+Pt	0	0	5	0	Pk	OMM	0	0	0	0	hW8gS2	Gm
40	6e10	HI	E+F	Voa	0	0	3	1	AwH	BOT	0	0	0	0	gl5sX5	Gm
41	4e2	FS	C	Mo/Vor	0	0	2	2	Wkr	LOT	0	0	0	0	gl	Gm
42	6e3	HL	D+E	pMo/Vor	0	0	4	2	PIH+Wms	BOA+LOT	0	0	0	0	gl6gS2sM2	Gm
43	4e1	RL	C	Mo/Vor	0	0	2	2	Wkr	LOT	0	0	0	0	gl	Gm
44	6e9	SL	F+E	Vor	1	0	2	0	TS	BOA	0	Sh	0	2	fF	Fe
45	6e3	HL	D+E	pMo/Vor	0	0	3	2	PIH+Wms	BOA+LOT	0	ShG	0	1	fF	Fe
46	7e2	SL	F	Vor	3	0	1	0	TS	BOA	0	Sh	0	2	fF	Fe
47	6e9	HL	E	Vor	0	0	1	0	PIH	BOA	Ss	Sh	1	1	sM7gS3	Gm
48	4w1	FP	A	Pt	0	0	3	0	Pk	OMM	0	0	0	0	gl	Gm
49	3w2	FP	A	Af+Pt	0	0	3	0	Pk	OMM	0	0	0	0	gl	Gm
50	6e3	HL	D+E	pMo/Vor*Vu	0	-1	4	2	PIH+Wms	BOA+LOT	0	0	0	0	fF	Fe
51	6e5	HL	E+D	Vor+Voa	1	0	3	0	PiH	BOA	0	0	0	0	fF	Fe
52	2c1	TR	A	Mo/Uf	0	0	4	4	Wk	LOT	0	0	0	0	gl	Gd
53	3w1	FP	A	Af	0	0	5	0	Sb+T	GOT+BSM	0	0	0	0	hW5gS5	Gm
54	3w1	FP	A	Af+Wb	0	0	5	0	Sb+T	GOT+BSM	0	0	0	0	fF4gS4sL2	Fe,Gm
55	6s1	DU	B	Wb	0	0	5	0	T	BSM	0	W,Sh	0	1	efF7gS3	Ee,Gm
56	8e1	DU	B	Wb	0	0	5	0	Pn	RST	0	W	0	2	efF	Ee
57	2c1	TR	A	Mo/Uf	0	0	4	4	Wk	LOT	0	0	0	0	gl	Gd
58	6w1	FP	A	Pt+Al	0	0	3	0	Pk	OMM	0	0	0	0	gS	Gm
59	6e9	SL	F+E	Vor	0	0	3	0	PIH	BOA	0	0	0	0	fF	Fe
60	6e3	HL	D+E	pMo/Vor	0	0	4	2	PiH+Wke	BOA+LOT	0	0	0	0	fF	Fe
61	7e2	SL	F	Vor	0	0	2	0	WpS	BOA	0	0	0	0	fF8sX2	Fe
62	4e3	SR	C+D	pMo/Vor	0	0	4	2	Wke+Pi	LOT+BOA	0	0	0	0	fF	Fe
63	7e2	SL	G+F	Vor	2	0	2	0	WpS	BOA	0	0	0	0	sT	U
64	7e2	SL	F	Vor	0	0	3	0	WpS	BOA	0	0	0	0	fF	Fe
65	6e3	HL	D+E	pMo/Vor	0	0	4	2	PiH+Wke+Hm	BOA+LOT+	0	0	0	0	fF	Fe
66	6e3	HL	D+E	pMo/Vor	0	0	4	2	PiH+Wke+Hm	BOA+LOT+	0	0	0	0	sX7cS2gS1	U+O+Ub
67	4e4	FS	C	pMo/Vor	0	0	4	2	Wke+Hm+Pi	LOT+ +BOA	0	0	0	0	gS	Ub
68	6e10	HL	E	Voa	0	0	3	1	AwH	BOT	0	0	0	0	sT	U+Ub

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No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
69	6e9	HI	E	Vor	0	0	3	1	PiH	BOA	0	0	0	0	fF	Fe
70	3e2	FS	B	pMo/Vor+Af	0	0	4	2	Wke+Oh	LOT+RSM	0	0	0	0	fF	Fe
71	6e9	HL	E	Vor	1	0	3	0	PiH	BOA	0	0	0	0	fF	Fe
72	3e2	FS	B	Mo/Vor	0	0	4	2	Wke	LOT	0	0	0	0	fF	Fe
73	6e10	HL	E	Voa	0	0	3	0	AwH	BOT	0	0	0	0	fF	Fe
74	6e10	HL	E	Voa	0	0	2	1	AwH	BOT	0	0	0	0	fF	Fe
75	6e3	HL	D+E	pMo/Vor	0	0	3	2	PiH+Wke	BOA+LOT	0	0	0	0	fF	Fe
76	4e3	SR	C+D	pMo/Vor	0	0	3	2	Wke+PiH+Hm	LOT+BOA+	0	Sh	0	1	fF	Fe
77	6e3	HL	D	pMo/Vor	0	0	3	2	PiH+Wke	BOA+LOT	0	0	0	0	fF	Fe
78	4e1	SR	C	Mo/Vor	0	0	3	3	Wke	LOT	0	0	0	0	fF	Fe
79	7e2	SL	G	Vor	1	0	3	0	TS	BOA	0	0	0	0	fF	Fe
80	6e10	HI	D+F	Voa	4	0	2	0	AwH	BOT	0	0	0	0	sM	Q
81	6e5	FS	D+E	Vor	0	0	4	1	Pl+PiH	BOA	0	0	0	0	sTfO*	U
82	6e9	SL	F	Vor	1	0	3	0	PiH	BOA	0	0	0	0	sMsT*	U
83	7e1	SL	F	Voa+Vor	1	0	2	0	TS+OS	BOA+	0	0	0	0	sT6sm2gS2	Gm
84	6e10	HL	F+E	Voa+Vor	1	0	3	0	TS+OS+PiH	BOA+	0	0	0	0	gS6sM4	Gs
85	3e1	UL	B	Mo/Vor	0	0	3	2	Wke	LOT	0	0	0	0	gl	Gm
86	7e1	SL	F	Voa+Vor	1	0	2	0	TS+OS	BOA+	0	0	0	0	sX	U
87	6e9	HL	E	Vor	0	0	3	0	PiH	BOA	0	0	0	0	fF6sx4	Fe
88	3e1	UL	B	Mo/Vor+Af	0	0	5	3	Wke+Oh	LOT+RSM	0	0	0	0	fF	Fe
89	6e5	HL	D	Vor	2	0	1	0	PiH	BOA	0	Sh	0	2	fF	Fe
90	4e1	SR	C	Mo/Vor	0	0	4	3	Wke	LOT	0	0	0	0	fF	Fe
91	6e10	HI	D	Voa	2	0	1	0	AwH	BOT	0	Sh	0	2	fF	Fe
92	6e9	HL	E	Vor	0	0	4	0	PiH	BOA	0	0	0	0	fF	Fe
93	6e3	TB	D	pMo/Vor	0	0	4	2	PiH+Wke	BOA+LOT	0	0	0	0	fF	Fe
94	6e9	HL	E+F	Vor	1	0	3	0	PiH+TS	BOA	0	0	0	0	fF	Fe
95	4e1	SR	C	Mo/Vor	0	0	3	2	Wke	LOT	0	0	0	0	fF	Fe
96	4e3	TB	C	pMo/Vor	0	0	4	2	Wke+Pl	LOT+BOA	0	0	0	0	fF	Fe
97	6e9	HL	E	Vor	0	0	4	0	PIH	BOA	0	0	0	0	fF	Fe
98	7e2	SL	F	Vor	0	0	3	0	TS	BOA	0	0	0	0	fF	Fe
99	6e3	HL	D	pMo/Vor	0	0	4	2	PiH+Wkr	BOA+LOT	0	0	0	0	fF	Fe
100	7e2	SL	F	Vor	1	0	3	0	TS	BOA	Ss	0	1	0	fF	Fe
101	7e2	SL	F	Vor	0	0	3	0	WpS	BOA	0	0	0	0	fF	Fe
102	4e6	FS	C+D	pMo/Vor	0	0	4	2	Pl+PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe

TAIRUA LAND RESOURCE DATA - SORTED ON INVENTORY MAP UNIT NUMBER

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
103	6e9	HL	E	Vor	0	0	3	0	PlH	BOA	0	0	0	0	fF	Fe
104	6e9	HL	E	Vor	0	0	3	0	PlH	BOA	0	0	0	0	fF	Fe
105	6e3	FS	D	pMo/Vor	0	0	4	2	PlH+Pl+Wkr	BOA+LOT	0	0	0	0	fF	Fe
106	6e10	HI	E	Voa	1	0	2	0	AwH	BOT	0	0	0	0	fF	Fe
107	6e3	HL	E+D	pMo/Vor	1	0	3	2	PlH+Wkr	BOA+LOT	0	0	0	0	fF	Fe
108	6e5	HL	D+E	Vor+Vu	0	0	4	1	PlH	BOA	0	0	0	0	fF	Fe
109	4e2	FS	C	Mo/Vu	0	0	4	2	Wke	LOT	0	0	0	0	fF	Fe
110	3s1	UL	B	Vor	0	0	4	1	Pl	BOA	0	0	0	0	fF	Fe
111	4w1	FP	A	Al+Pt	0	0	5	0	Pk	OMM	0	0	0	0	gShR*6sMhW*4	Gm
112	3e4	FS	B	pMo/Vor*Uf	0	0	4	2	Wms+Pl	LOT+BOA	0	0	0	0	fF	Fe
113	3e4	FS	B	pMo/Vor*Uf	0	0	4	2	Wms+Pl	LOT+BOA	0	0	0	0	fF	Fe
114	6e3	HL	D	pMo/Vu	0	0	4	2	PlH+Wms	BOA+LOT	0	0	0	0	fF	Fe
115	6e9	HL	E	Vor	0	0	3	0	PlH	BOA	0	0	0	0	fF	Fe
116	3s1	FS	B	Vor	0	0	4	1	Pl	BOA	0	0	0	0	fF	Fe
117	3w1	FS	B	Af/Vor	0	0	4	0	Sb+Pl	GOT+BOA	0	0	0	0	sM	U
118	6e10	HI	E	Voa	1	0	2	0	AwH	BOT	0	0	0	0	fF	Fe
119	7e2	SL	F+G	Vor+pVoa	2	0	2	0	TS	BOA	0	0	0	0	fF	Fe
120	6e3	HL	D+E	pMo/Vor	0	0	3	2	PlH+Wms	BOA+LOT	0	0	0	0	fF	Fe
121	6e9	HL	E+F	Vor	1	0	3	0	WpS	BOA	0	0	0	0	fF	Fe
122	6e3	HL	D+E	pMo/Vor	0	0	2	2	PlH+Wms	BOA+LOT	0	0	0	0	fF	Fe
123	3e3	ER	C+B	pMo/Vor	0	0	4	4	Wke+Pl	LOT+BOA	0	0	0	0	fF	Fe
124	6e9	SL	F+E	Vor	1	0	2	0	TS	BOA	0	0	0	0	fF	Fe
125	6e3	HL	D+E	pMo/Vor	1	0	2	2	PlH+Wms	BOA+LOT	0	Sh	0	1	fF	Fe
126	3e1	ER	C+B	Mo/Vor	0	0	4	4	Wke+Hm	LOT+	0	0	0	0	fF	Fe
127	7e2	SL	F	Vor	2	0	2	0	WpS	BOA	0	0	0	0	fF	Fe
128	6e3	HL	D+E	pMo/Vor	0	0	4	2	PlH+Wms	BOA+LOT	0	0	0	0	fF	Fe
129	4e4	FS	C	pMo/Vor	0	0	4	2	Wms+Pl	LOT+BOA	0	0	0	0	fF	Fe
130	6e3	HL	D+E	pMo/Vor	0	0	4	2	PlH+Wms	BOA+LOT	0	0	0	0	gl	Fe
131	7e2	SL	G+F	Vor	4	0	2	0	TS+PlH	BOA+	0	0	0	0	fF	Fe
132	3e1	UL	B	Mo/Vor	0	0	4	3	Wms	LOT	0	0	0	0	fF	Fe
133	6e3	HL	D	pMo/Vor	0	0	4	2	PlH+Wms	BOA+LOT	0	0	0	0	fF	Fe
134	6w1	FP	A	Af+Pt	0	0	5	0	Pk	OMM	0	0	0	0	hW6sM4	U
135	3w1	FP	A	Af	0	0	5	0	Oh	RSM	0	0	0	0	hW5sM4gS1	U
136	6e9	SL	F	Vor	0	0	2	0	PlH	BOA	0	0	0	0	sM7sX3	U

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No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
137	6e3	HL	D+E	pMo/Vor*Vu	0	0	3	2	PIH+Wms	BOA+LOT	0	0	0	0	gS	Gm
138	4e3	SR	C+D	pMo/Vor*Vu	0	0	3	2	Wms+PIH	LOT+BOA	0	0	0	0	cK5gl3sM2	O
139	6e3	HL	D	pMo/Vor*Vu	0	0	2	2	PiH+Wms	BOA+LOT	0	0	0	0	gS8sT2	Gm
140	6e3	HL	D+E	pMo/Vor*Vu	0	0	3	2	PIH+Wms	BOA+LOT	0	0	0	0	fF	Fe
141	4e2	FS	C	Mo/Vor	0	0	4	2	Wke	LOT	0	0	0	0	fF	Fe
142	3e1	TB	B	Mo/Vor	0	0	4	2	Wke	LOT	0	0	0	0	fF	Fe
143	7e2	SL	F	Vor	0	0	3	0	TS	BOA	0	0	0	0	fF	Fe
144	7e2	SL	F	Vor	0	0	3	0	TS	BOA	0	0	0	0	sXsT*	U
145	4e1	SR	C+D	Mo/Vor	0	0	4	2	Wkr	LOT	0	0	0	0	fF	Fe
146	6e11	HL	E+D	Vu	0	-1	4	1	PIH	BOA	0	0	0	0	fF	Fe
147	7e2	SL	F	Vor	1	0	1	0	TS	BOA	0	0	0	0	sT	U
148	6e3	HL	E+D	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	gl8sMnfF*2	Gm
149	6e3	HL	E+D	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
150	7e2	SL	F+G	Vor	1	0	2	0	TS	BOA	0	0	0	0	fF	Fe
151	4e1	SR	C	Mo/Vor	0	0	3	2	Wkr	LOT	0	0	0	0	fF	Fe
152	6e5	HL	D+E	Vor	0	0	3	1	PiH	BOA	0	0	0	0	fF	Fe
153	3e2	FS	B	Mo/Vor+Af	0	0	4	2	Wke+Oh	LOT+RSM	0	0	0	0	fF	Fe
154	3e1	UL	B	Mo/Vor	0	0	4	2	Wke	LOT	0	0	0	0	fF	Fe
155	6e1	HL	D	Mo/Vor	0	0	4	2	Wkr	LOT	0	0	0	0	fF	Fe
156	3e1	PM	B	Mo/Voa	0	0	4	4	Wmg	LOV	0	0	0	0	fF	Fe
157	7e1	SL	F	Voa+Vor	2	0	2	0	TS+OS	BOA+	0	0	0	0	sT	U
158	6e9	HL	E	Vor	0	0	3	0	PiH	BOA	0	0	0	0	fF	Fe
159	7e1	SL	F	Voa+Vor	1	0	2	0	TS+OS	BOA+	0	0	0	0	sT	U
160	3e1	PM	B	Mo/Voa	0	0	4	4	Wmg	LOV	0	0	0	0	gl	Gm
161	3e1	PM	B+C	Mo/Voa	0	0	4	2	Wmg	LOV	0	0	0	0	sX	U
162	6e1	HL	D	Mo/Vor	0	0	4	2	Wkr	LOT	0	0	0	0	sM	U
163	7e2	SL	F	Vor	1	0	2	0	TS	BOA	0	0	0	0	sXfK*	U
164	6e5	HL	E+D	Vor	0	0	3	1	PiH	BOA	0	0	0	0	fF	Fe
165	3e1	UL	B	Mo/Vor	0	0	4	3	Wke	LOT	0	0	0	0	Ff	Fe
166	6e3	HL	D	pMo/Vor	0	0	3	2	PiH+Wkr	BOA+LOT	0	0	0	0	fF	Fe
167	7e2	SL	F+G	Vor	1	0	2	0	TS	BOA	0	0	0	0	sX6sT3fF1	U
168	6e10	HL	E	Voa	1	0	2	0	AwH	BOT	0	0	0	0	fF	Fe
169	6e9	HL	E	Vor	0	0	3	0	PiH	BOA	Ss	0	1	0	gl5sMnfF*5	Gm
170	4e2	FS	C	Mo/Vu	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm

TAIRUA LAND RESOURCE DATA - SORTED ON INVENTORY MAP UNIT NUMBER

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
171	2c1	FS	A+B	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl9cK1	Gm,O
172	3e2	FS	B	Mo/Vor	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
173	6e3	HL	D	pMo/Vor*Vu	0	0	5	2	PiH+WmH	BOA+LOV	Ss	0	1	0	gl	Gm
174	6e3	HL	D	pMo/Vor*Vu	0	0	5	2	PiH+WmH	BOA+LOV	0	0	0	0	Ff	Fe
175	7e2	SL	F	Vor	2	0	2	0	TS	BOA	Da	0	1	0	Ff	Fe
176	6e9	HL	E	Vor	0	0	3	1	PiH	BOA	0	0	0	0	Ff	Fe
177	6e5	FS	E+D	Vor	0	0	3	0	PiH	BOA	0	0	0	0	sM	U
178	4e2	FS	C	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	fF	Fe
179	6e3	HL	E+D	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	Ss	0	1	0	gl	Gm
180	6e3	HL	E+D	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	Ss	0	1	0	gl8sM2	Gm
181	3e1	ER	C+B	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	gl	Gm
182	3e2	FS	B	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
183	2c1	TR	A	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
184	2c1	TR	A	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl7cK3	Gm,O
185	4e2	FS	C+D	Mo/Vor	0	0	4	3	Wms+WmH	LOT+LOV	0	0	0	0	gl	Gm
186	2c1	TR	A+B	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
187	3e2	TR	B	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
188	6e7	HL	E	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	sMnfF*	U
189	6e1	HL	D	Mo/Vor	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
190	7e2	SL	F	Vor	1	0	3	0	TS	BOA	Da	0	1	0	sMnfF*	U
191	2c1	TR	A	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
192	6e3	HL	E+D	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	sTnfF*	U
193	6e1	HL	D	Mo/Vor*Vu	0	0	4	3	Wms+WmH	LOT+LOV	Ss	0	1	0	gl	Gm
194	6e3	HL	E+D	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	Ss,Es	Sh	1	1	gl	Gm
195	7e2	SL	F	Vor	1	0	3	0	TS	BOA	0	0	0	0	sMnfF*	U
196	6e3	HL	D	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	gl	Gm
197	6e11	HL	E+C	pMo/Vu*Vor	0	0	4	2	PiH+Wms	BOA+LOT	Su	0	1	0	sM6sT4	U
198	7e2	SL	G	Vor	2	0	2	0	TS	BOA	0	0	0	0	sX	U
199	7e2	SL	F	Vor	1	0	2	0	TS	BOA	0	0	0	0	sM	U
200	4e1	RL	C	Mo/Vu	0	0	4	3	Wmg	LOV	0	G	0	1	gl	Gm
201	6e1	HL	D	Mo/Vu*Vor	0	0	4	2	WmH	LOV	0	0	0	0	Sm	U
202	7e2	SL	F	Vor+Vu	0	0	3	0	PiH	BOA	0	0	0	0	sM	U
203	6e7	HL	E	pMo/Vor	2	0	2	2	PiH+Wms	BOA+LOT	0	0	0	0	sM5gl5	Gm
204	6e2	HL	D+E	pMo/Vor*Vu	1	0	4	2	WmH+PiH	LOV+BOA	Ss	G	1	1	gl9sX1	Gm

TAIRUA LAND RESOURCE DATA - SORTED ON INVENTORY MAP UNIT NUMBER

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
205	6e11	HL	E	pMo/Vu*Vor	2	0	5	2	PIH+Wms	BOA+LOT	Su,Ss	G	2	2	gl8sM2	Gm
206	6e11	HL	D+C	Mo/Vu*Vor	0	-1	5	2	Wmg	LOV	0	G	0	1	gl	Gm
207	6e1	HL	D	Mo/Vor	0	0	3	2	WmH	LOV	0	0	0	0	gl	Gm
208	6e11	HL	D+E	Mo/Vu*Vor	0	-1	5	2	WmH+Wmg	LOV	Ss,Ef	G,T	2	2	glefR*	Gm
209	4e1	SR	C+D	Mo/Vu*Vor	0	0	4	3	Wmg+WmH	LOV	Es	G,T	1	1	sMefR*	Gm
210	3e1	UL	B+C	Mo/Vor	0	0	4	3	Wmg	LOV	0	0	0	0	gl	Gm
211	7e2	SL	F	Vor	0	0	2	0	TS	BOA	0	0	0	0	sM8sX2	U
212	3e1	UL	B	Mo/Vu	0	0	5	3	Wmg	LOV	0	0	0	0	gl9sM1	Gm
213	7e3	SL	G	Vor	1	0	2	0	TS	BOA	0	0	0	0	sX9sT1	U
214	6e1	HL	E+D	Mo/Vor	0	0	3	3	WmH+Wmg	LOV	0	0	0	0	sX5cfO5	U
215	4e1	SR	C	Mo/Vor	0	0	4	3	Wmg	LOV	0	0	0	0	sX5cfO5	U
216	4e1	RL	C	Mo/Vor	0	0	4	3	Wmg	LOV	0	0	0	0	sX	U
217	3e2	FS	B+C	Mo/Vu	0	0	5	3	Wmg	LOV	0	0	0	0	gl	Gm
218	6e11	HL	E+D	Mo/Vu	0	-1	5	2	WmH+Wmg	LOV	Ss	G	1	1	glsM*	Gm
219	7e2	SL	F	Vor+Voa	6	0	2	0	TS+OS	BOA+	0	Sh	0	3	uV8sX2	Q
220	4e1	PM	B+D	Mo/Voa	0	0	4	2	Wmg+WmH	LOV	0	0	0	0	gl	Gm
221	4e1	PM	B+D	Mo/Voa	0	0	4	2	Wmg+WmH	LOV	0	0	0	0	sM	U
222	7e2	SL	F	Vor	2	0	2	0	TS	BOA	0	0	0	0	sT	U
223	4e1	RL	C+D	Mo/Vor	0	0	3	2	Wmg+WmH	LOV	0	0	0	0	sM7sX3	U
224	4e1	SR	C	Mo/Vor	0	0	4	3	Wmg	LOV	0	G	0	1	gl	Gm
225	6e1	HL	E+D	Mo/Vor	0	0	4	2	WmH+Wmg	LOV	0	0	0	0	gl9sX1	Gm
226	6e11	UL	B+D	Mo/Vu	0	-1	5	3	Wmg	LOV	Su	G	2	1	gl	Gm
227	7e4	HL	D	Mo/Vu	0	-1	5	2	WmH	LOV	Ef,Es	G	3	2	sMefR*	Gm
228	6e1	HL	D	Mo/Vu	0	0	4	2	WmH	LOV	Es	0	1	0	gl	Gm
229	6e6	HL	E+F	pMo/Vor	3	0	3	2	WmH+TS	LOV+BOA	Ss	0	1	0	sM7gS3	U
230	6e11	HL	D	Mo/Vu*Vor	0	0	4	2	WmH	LOV	Ef	0	1	0	gl	Gm
231	3e1	UL	B	Mo/Vu	0	0	5	3	Wmg	LOV	0	0	0	0	gl	U
232	6e6	HL	E+F	pMo/Vor	2	0	3	2	WmH+TS	LOV+BOA	0	0	0	0	sM	U
233	3e1	UL	B	Mo/Vor	0	0	4	3	Wmg	LOV	0	0	0	0	sM	U
234	3e1	UL	B	Mo/Vor	0	0	4	3	Wms	LOT	0	0	0	0	gl8sM2	Gm
235	6e3	HL	D	pMo/Vor*Vu	0	0	4	2	PiH+Wmg	BOA+LOV	0	0	0	0	sM	U
236	6e6	HL	E	pMo/Vor	0	0	3	2	WmH+PiH	LOV+BOA	0	0	0	0	sM	U
237	7e2	SL	F	Vor	1	0	2	0	TS	BOA	0	0	0	0	sMsT*	U
238	6e1	PM	D	Mo/Vor	0	0	3	2	WmH	LOV	0	0	0	0	sM	U

TAIRUA LAND RESOURCE DATA - SORTED ON INVENTORY MAP UNIT NUMBER

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
239	7e2	SL	F	Vor	0	0	2	0	TS	BOA	0	0	0	0	sM	U
240	2w1	FP	A	Af+Mo/Uf	0	0	4	3	Oh+Wmg	RSM+LOV	0	0	0	0	gl7sM3	Gm
241	3e2	TR	B	Mo/Uf	0	0	4	3	Wmg	LOV	0	0	0	0	gl	Gd
242	6e1	HL	D	Mo/Vor	0	0	4	2	WmH+Wms	LOV+LOT	0	0	0	0	gl8sM2	Gd
243	6e1	HL	D	Mo/Vu*Vor	0	0	4	2	WmH	LOV	0	0	0	0	sM	U
244	4e1	RL	C+B	Mo/Vu*Vor	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
245	6e3	HL	E+D	pMo/Vor*Vu	0	0	4	2	PiH+WmH	BOA+LOV	Es	0	1	0	sM8cfO2	U
246	6e1	HL	D+B	Mo/Vor	0	0	4	2	WmH+Wms	LOV+LOT	0	0	0	0	gl	Gm
247	7e3	SL	G+F	Vor	2	0	2	0	TS	BOA	0	0	0	0	sM	U
248	6e11	FS	D	pMo/Vor	0	-1	5	2	Wms+PiH	LOT+BOA	0	0	0	0	cfOfK*	U
249	3e2	FS	B	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	gl	Gm
250	6e2	HL	D	pMo/Vor	0	0	4	2	WmH+PiH	LOV+BOA	0	0	0	0	gl8fF2	Gm,Fe
251	6e11	FS	D+C	pMo/Vu	0	-1	5	2	Wms+PiH	LOT+BOA	0	0	0	0	cfOfK*	U
252	7e2	SL	F	Vor+Vu	0	0	4	0	TS	BOA	Da	0	1	0	cfOfK*8sM2	U
253	6e11	FS	D+C	pMo/Vu*Voa	0	-1	5	2	WmH+WaH	LOV+BOT	0	0	0	0	cfOfK*	U
254	6e4	FS	D	pMo/Voa	0	0	4	2	WaH+WmH	BOT+LOV	0	0	0	0	cfOfK*	U
255	6e8	HL	E+F	pMo/Voa*Vu	0	0	3	2	WaH+WmH	BOT+LOV	0	0	0	0	sM	U
256	6e11	HL	D	pMo/Vu*Voa	0	-1	5	2	WaH+WmH	BOT+LOV	0	0	0	0	cfOfK*	U
257	6e11	HL	D	pMo/Vu*Vor	0	-1	5	2	PiH+Wms	BOA+LOT	Ss	0	1	0	cfOfK*	U
258	4e3	SR	C+D	pMo/Vu*Vor	0	-1	5	2	Wms+PiH	LOT+BOA	0	0	0	0	cfOfK*	U
259	7e3	SL	G	Vor	1	0	2	0	TS	BOA	Es	0	2	1	cfBcfK*	U
260	7e3	SL	G	Vor	1	0	2	0	TS	BOA	Ss	0	1	0	sMcfK*	U
261	3c1	PM	B	Mo/Vor	0	0	4	3	Wms	LOT	0	0	0	0	sM	U
262	8e2	SL	G	Vor	3	0	1	0	TS	BOA	Da,Ss	0	2	0	sM8cfO2	U
263	6e11	FS	D+E	pMo/Vu	0	-1	5	2	PiH+Wms	BOA+LOT	0	0	0	0	sM6cfO4	U
264	7e3	SL	G+F	Vor	1	0	3	0	TS	BOA	Da	0	1	0	sM8fB2	U
265	8e2	SL	G	Vor	5	0	1	0	TS	BOA	0	0	0	0	sM	U
266	7e2	SL	F	Vor	0	0	3	0	TS	BOA	0	0	0	0	cfK	U
267	4e1	TB	C+B	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	sM	U
268	6e2	TB	D	pMo/Vor	0	0	4	2	Wms+PiH	LOT+BOA	0	0	0	0	sM	U
269	6e2	TB	D	pMo/Vor	0	0	4	2	Wms+PiH	LOT+BOA	0	0	0	0	sM	U
270	6e2	HL	D	pMo/Vor	0	0	4	2	Wms+PiH	LOT+BOA	0	0	0	0	sM	U
271	6e9	HL	E	Vu+Vor	0	0	4	1	PiH	BOA	Ss	0	1	0	sM	U
272	6e7	HL	E	pMo/Vor	0	0	3	2	PiH+Wms	BOA+LOT	0	0	0	0	sM	U

TAIRUA LAND RESOURCE DATA - SORTED ON INVENTORY MAP UNIT NUMBER

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
273	4e2	FS	C	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	sM	U
274	6e7	HL	E	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	sM	U
275	6e2	HL	D	pMo/Vor	0	0	4	2	Wms+PiH	LOT+BOA	0	0	0	0	sM	U
276	6e7	HL	E	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	sM	U
277	6e7	HL	E	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	sMgS*	U
278	6e7	HL	E	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	Ss	S	1	1	gl	Gm
279	4e1	HL	D+C	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	gl	Gm
280	6e7	HL	E	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	Ss	S	1	1	glsM*	Gm
281	3e2	FS	B+C	Mo/Vor*Uf	0	0	4	2	Wms	LOT	0	0	0	0	gl	Gm
282	6e3	HI	E+D	pMo/Vor	0	0	2	2	PiH+Wms	BOA+LOT	0	0	0	0	gl	Gm
283	2c1	TR	A	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl7cK3	Gm,O
284	2s1	FP	A	Pt	0	0	5	0	Pk	OMM	0	0	0	0	gl	Gm
285	2w1	FP	A	Af	0	0	5	0	Oh	RSM	0	Sb	0	1	gl	gM
286	6e9	HI	F	Vor	0	0	3	0	PiH	BOA	0	0	0	0	gl5sM5	Gm,U
287	6e1	HL	D	Mo/Vor	0	0	4	2	WmH	LOV	0	0	0	0	glsX*	Gm
288	6e3	HL	E+D	pMo/Vor	0	0	3	2	PiH+Wms	BOA+LOT	0	0	0	0	gl8sM2	Gm
289	3e1	ER	B/C+C	Mo/Vor	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
290	6e1	HL	D	Mo/Vor	0	0	4	2	WmH	LOV	0	0	0	0	gl	Gm
291	3w3	FP	A	Af	0	0	5	0	Tw	GUFQ	0	0	0	0	glhR*	Gm
292	2w1	FP	A	Af	0	0	5	0	Oh	RSM	0	0	0	0	gl	Gm
293	6e3	HI	E+D	pMo/Vor	0	0	3	2	PiH+Wms	BOA+LOT	0	0	0	0	gl	Gm
294	4e1	SR	C	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	gl7sM2	Gm
295	2c1	TR	A	Mo/Uf	0	0	5	3	Wms	LOT	0	0	0	0	gl	Gm,Ub
296	2w1	FP	A	Af	0	0	5	0	Oh	RSM	0	0	0	0	gl	Gm
297	3w3	FP	A	Af	0	0	5	0	Tw	GUFQ	0	0	0	0	gl7sMhW*3	gM
298	3w1	FP	A	Af	0	0	5	0	Oh	RSM	0	0	0	0	sMhW*	U

TAIRUA LAND RESOURCE DATA - SORTED ON LUC

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
4	-	marina	-	-	-		-	-	-	-	-	-	-	-	-	R
5	-	DU	A	Wb	0	0	4	0	Pn	RST	0	0	0	0	gl9fF*1	Ub
6	-	DU	A/B	Wb	0	0	4	0	T	BSM	0	0	0	0	gl9fF*1	Ub
12	2c1	TR	A	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	cK8cS2	O
52	2c1	TR	A	Mo/Uf	0	0	4	4	Wk	LOT	0	0	0	0	gl	Gd
57	2c1	TR	A	Mo/Uf	0	0	4	4	Wk	LOT	0	0	0	0	gl	Gd
171	2c1	FS	A+B	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl9cK1	Gm,O
183	2c1	TR	A	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
184	2c1	TR	A	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl7cK3	Gm,O
186	2c1	TR	A+B	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
191	2c1	TR	A	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
283	2c1	TR	A	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl7cK3	Gm,O
295	2c1	TR	A	Mo/Uf	0	0	5	3	Wms	LOT	0	0	0	0	gl	Gm,Ub
284	2s1	FP	A	Pt	0	0	5	0	Pk	OMM	0	0	0	0	gl	Gm
240	2w1	FP	A	Af+Mo/Uf	0	0	4	3	Oh+Wmg	RSM+LOV	0	0	0	0	gl7sM3	Gm
285	2w1	FP	A	Af	0	0	5	0	Oh	RSM	0	Sb	0	1	gl	gM
292	2w1	FP	A	Af	0	0	5	0	Oh	RSM	0	0	0	0	gl	Gm
296	2w1	FP	A	Af	0	0	5	0	Oh	RSM	0	0	0	0	gl	Gm
261	3c1	PM	B	Mo/Vor	0	0	4	3	Wms	LOT	0	0	0	0	sM	U
85	3e1	UL	B	Mo/Vor	0	0	3	2	Wke	LOT	0	0	0	0	gl	Gm
88	3e1	UL	B	Mo/Vor+Af	0	0	5	3	Wke+Oh	LOT+RSM	0	0	0	0	fF	Fe
126	3e1	ER	C+B	Mo/Vor	0	0	4	4	Wke+Hm	LOT+	0	0	0	0	fF	Fe
132	3e1	UL	B	Mo/Vor	0	0	4	3	Wms	LOT	0	0	0	0	fF	Fe
142	3e1	TB	B	Mo/Vor	0	0	4	2	Wke	LOT	0	0	0	0	fF	Fe
154	3e1	UL	B	Mo/Vor	0	0	4	2	Wke	LOT	0	0	0	0	fF	Fe
156	3e1	PM	B	Mo/Voa	0	0	4	4	Wmg	LOV	0	0	0	0	fF	Fe
160	3e1	PM	B	Mo/Voa	0	0	4	4	Wmg	LOV	0	0	0	0	gl	Gm
161	3e1	PM	B+C	Mo/Voa	0	0	4	2	Wmg	LOV	0	0	0	0	sX	U
165	3e1	UL	B	Mo/Vor	0	0	4	3	Wke	LOT	0	0	0	0	Ff	Fe
181	3e1	ER	C+B	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	gl	Gm
210	3e1	UL	B+C	Mo/Vor	0	0	4	3	Wmg	LOV	0	0	0	0	gl	Gm
212	3e1	UL	B	Mo/Vu	0	0	5	3	Wmg	LOV	0	0	0	0	gl9sM1	Gm
231	3e1	UL	B	Mo/Vu	0	0	5	3	Wmg	LOV	0	0	0	0	gl	U
233	3e1	UL	B	Mo/Vor	0	0	4	3	Wmg	LOV	0	0	0	0	sM	U

TAIRUA LAND RESOURCE DATA - SORTED ON LUC

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
234	3e1	UL	B	Mo/Vor	0	0	4	3	Wms	LOT	0	0	0	0	gl8sM2	Gm
289	3e1	ER	B/C+C	Mo/Vor	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
70	3e2	FS	B	pMo/Vor+Af	0	0	4	2	Wke+Oh	LOT+RSM	0	0	0	0	fF	Fe
72	3e2	FS	B	Mo/Vor	0	0	4	2	Wke	LOT	0	0	0	0	fF	Fe
153	3e2	FS	B	Mo/Vor+Af	0	0	4	2	Wke+Oh	LOT+RSM	0	0	0	0	fF	Fe
172	3e2	FS	B	Mo/Vor	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
182	3e2	FS	B	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
187	3e2	TR	B	Mo/Uf	0	0	4	3	Wms	LOT	0	0	0	0	gl	Gm
217	3e2	FS	B+C	Mo/Vu	0	0	5	3	Wmg	LOV	0	0	0	0	gl	Gm
241	3e2	TR	B	Mo/Uf	0	0	4	3	Wmg	LOV	0	0	0	0	gl	Gd
249	3e2	FS	B	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	gl	Gm
281	3e2	FS	B+C	Mo/Vor*Uf	0	0	4	2	Wms	LOT	0	0	0	0	gl	Gm
123	3e3	ER	C+B	pMo/Vor	0	0	4	4	Wke+Pi	LOT+BOA	0	0	0	0	fF	Fe
27	3e4	FS	B+C	pMo/Vor	0	0	4	2	Wms+Pi	LOT+BOA	0	0	0	0	fF	Fe
112	3e4	FS	B	pMo/Vor*Uf	0	0	4	2	Wms+Pi	LOT+BOA	0	0	0	0	fF	Fe
113	3e4	FS	B	pMo/Vor*Uf	0	0	4	2	Wms+Pi	LOT+BOA	0	0	0	0	fF	Fe
24	3e5	UL	B	pMo/Vor	0	0	3	2	Pi+Wms	BOA+LOT	0	0	0	0	fF	Fe
110	3s1	UL	B	Vor	0	0	4	1	Pi	BOA	0	0	0	0	fF	Fe
116	3s1	FS	B	Vor	0	0	4	1	Pi	BOA	0	0	0	0	fF	Fe
20	3w1	FP	A	Af	0	0	4	0	Oh	RSM	0	0	0	0	fF7hW3	Fe,U
53	3w1	FP	A	Af	0	0	5	0	Sb+T	GOT+BSM	0	0	0	0	hW5gS5	Gm
54	3w1	FP	A	Af+Wb	0	0	5	0	Sb+T	GOT+BSM	0	0	0	0	fF4gS4sL2	Fe,Gm
117	3w1	FS	B	Af/Vor	0	0	4	0	Sb+Pi	GOT+BOA	0	0	0	0	sM	U
135	3w1	FP	A	Af	0	0	5	0	Oh	RSM	0	0	0	0	hW5sM4gS1	U
298	3w1	FP	A	Af	0	0	5	0	Oh	RSM	0	0	0	0	sMhW*	U
33	3w2	FP	A	Af+Pt	0	0	3	0	Pk	OMM	0	0	0	0	fF	Fe
34	3w2	FP	A	Af+Pt	0	0	5	0	Pk	OMM	0	0	0	0	hW	U
35	3w2	FP	A	Af+Pt	0	0	5	0	Pk	OMM	0	0	0	0	gl	Gm
39	3w2	FP	A	Af+Pt	0	0	5	0	Pk	OMM	0	0	0	0	hW8gS2	Gm
49	3w2	FP	A	Af+Pt	0	0	3	0	Pk	OMM	0	0	0	0	gl	Gm
14	3w3	FP	A	Af	0	0	5	0	Oh+Tw	RSM+GUFQ	0	0	0	0	gShR*	Gm
291	3w3	FP	A	Af	0	0	5	0	Tw	GUFQ	0	0	0	0	glhR*	Gm
297	3w3	FP	A	Af	0	0	5	0	Tw	GUFQ	0	0	0	0	gl7sMhW*3	gM
43	4e1	RL	C	Mo/Vor	0	0	2	2	Wkr	LOT	0	0	0	0	gl	Gm

TAIRUA LAND RESOURCE DATA - SORTED ON LUC

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
78	4e1	SR	C	Mo/Vor	0	0	3	3	Wke	LOT	0	0	0	0	fF	Fe
90	4e1	SR	C	Mo/Vor	0	0	4	3	Wke	LOT	0	0	0	0	fF	Fe
95	4e1	SR	C	Mo/Vor	0	0	3	2	Wke	LOT	0	0	0	0	fF	Fe
145	4e1	SR	C+D	Mo/Vor	0	0	4	2	Wkr	LOT	0	0	0	0	fF	Fe
151	4e1	SR	C	Mo/Vor	0	0	3	2	Wkr	LOT	0	0	0	0	fF	Fe
200	4e1	RL	C	Mo/Vu	0	0	4	3	Wmg	LOV	0	G	0	1	gI	Gm
209	4e1	SR	C+D	Mo/Vu*Vor	0	0	4	3	Wmg+WmH	LOV	Es	G,T	1	1	sMefR*	Gm
215	4e1	SR	C	Mo/Vor	0	0	4	3	Wmg	LOV	0	0	0	0	sX5cfO5	U
216	4e1	RL	C	Mo/Vor	0	0	4	3	Wmg	LOV	0	0	0	0	sX	U
220	4e1	PM	B+D	Mo/Voa	0	0	4	2	Wmg+WmH	LOV	0	0	0	0	gI	Gm
221	4e1	PM	B+D	Mo/Voa	0	0	4	2	Wmg+WmH	LOV	0	0	0	0	sM	U
223	4e1	RL	C+D	Mo/Vor	0	0	3	2	Wmg+WmH	LOV	0	0	0	0	sM7sX3	U
224	4e1	SR	C	Mo/Vor	0	0	4	3	Wmg	LOV	0	G	0	1	gI	Gm
244	4e1	RL	C+B	Mo/Vu*Vor	0	0	4	3	Wms	LOT	0	0	0	0	gI	Gm
267	4e1	TB	C+B	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	sM	U
279	4e1	HL	D+C	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	gI	Gm
294	4e1	SR	C	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	gI7sM2	Gm
11	4e2	FS	C	Mo/Voa	0	0	2	2	Wms	LOT	0	0	0	0	gI9sM1	Gm
15	4e2	FS	C	Mo/Vor	0	0	3	2	Wms	LOT	0	0	0	0	gS5sM5	Gm,U
41	4e2	FS	C	Mo/Vor	0	0	2	2	Wkr	LOT	0	0	0	0	gI	Gm
109	4e2	FS	C	Mo/Vu	0	0	4	2	Wke	LOT	0	0	0	0	fF	Fe
141	4e2	FS	C	Mo/Vor	0	0	4	2	Wke	LOT	0	0	0	0	fF	Fe
170	4e2	FS	C	Mo/Vu	0	0	4	3	Wms	LOT	0	0	0	0	gI	Gm
178	4e2	FS	C	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	fF	Fe
185	4e2	FS	C+D	Mo/Vor	0	0	4	3	Wms+WmH	LOT+LOV	0	0	0	0	gI	Gm
273	4e2	FS	C	Mo/Vor	0	0	4	2	Wms	LOT	0	0	0	0	sM	U
28	4e3	SR	C	pMo/Vor	0	0	4	2	Wms+Pi	LOT+BOA	0	0	0	0	fF	Fe
32	4e3	SR	C	pMo/Vor	0	0	3	2	Wms+Pi	LOT	0	0	0	0	fF	Fe
62	4e3	SR	C+D	pMo/Vor	0	0	4	2	Wke+Pi	LOT+BOA	0	0	0	0	fF	Fe
76	4e3	SR	C+D	pMo/Vor	0	0	3	2	Wke+PiH+Hm	LOT+BOA+	0	Sh	0	1	fF	Fe
96	4e3	TB	C	pMo/Vor	0	0	4	2	Wke+Pi	LOT+BOA	0	0	0	0	fF	Fe
138	4e3	SR	C+D	pMo/Vor*Vu	0	0	3	2	Wms+PiH	LOT+BOA	0	0	0	0	cK5gI3sM2	O
258	4e3	SR	C+D	pMo/Vu*Vor	0	-1	5	2	Wms+PiH	LOT+BOA	0	0	0	0	cfOfK*	U
67	4e4	FS	C	pMo/Vor	0	0	4	2	Wke+Hm+Pi	LOT+ +BOA	0	0	0	0	gS	Ub

TAIRUA LAND RESOURCE DATA - SORTED ON LUC

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
129	4e4	FS	C	pMo/Vor	0	0	4	2	Wms+Pi	LOT+BOA	0	0	0	0	fF	Fe
2	4e5	FS	D+C	pMo/Voa	0	0	4	2	Wms+Wa	LOT+BOT	0	0	0	0	sM8sX2	U
18	4e6	FS	C+D	pMo/Vor	0	0	4	2	Pi+Wms	BOA+LOT	0	0	0	0	fF	Fe
102	4e6	FS	C+D	pMo/Vor	0	0	4	2	Pi+PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
48	4w1	FP	A	Pt	0	0	3	0	Pk	OMM	0	0	0	0	gI	Gm
111	4w1	FP	A	Al+Pt	0	0	5	0	Pk	OMM	0	0	0	0	gShR*6sMhW*4	Gm
155	6e1	HL	D	Mo/Vor	0	0	4	2	Wkr	LOT	0	0	0	0	fF	Fe
162	6e1	HL	D	Mo/Vor	0	0	4	2	Wkr	LOT	0	0	0	0	sM	U
189	6e1	HL	D	Mo/Vor	0	0	4	3	Wms	LOT	0	0	0	0	gI	Gm
193	6e1	HL	D	Mo/Vor*Vu	0	0	4	3	Wms+WmH	LOT+LOV	Ss	0	1	0	gI	Gm
201	6e1	HL	D	Mo/Vu*Vor	0	0	4	2	WmH	LOV	0	0	0	0	Sm	U
207	6e1	HL	D	Mo/Vor	0	0	3	2	WmH	LOV	0	0	0	0	gI	Gm
214	6e1	HL	E+D	Mo/Vor	0	0	3	3	WmH+Wmg	LOV	0	0	0	0	sX5cfO5	U
225	6e1	HL	E+D	Mo/Vor	0	0	4	2	WmH+Wmg	LOV	0	0	0	0	gI9sX1	Gm
228	6e1	HL	D	Mo/Vu	0	0	4	2	WmH	LOV	Es	0	1	0	gI	Gm
238	6e1	PM	D	Mo/Vor	0	0	3	2	WmH	LOV	0	0	0	0	sM	U
242	6e1	HL	D	Mo/Vor	0	0	4	2	WmH+Wms	LOV+LOT	0	0	0	0	gI8sM2	Gd
243	6e1	HL	D	Mo/Vu*Vor	O	0	4	2	WmH	LOV	0	0	0	0	sM	U
246	6e1	HL	D+B	Mo/Vor	0	0	4	2	WmH+Wms	LOV+LOT	0	0	0	0	gI	Gm
287	6e1	HL	D	Mo/Vor	0	0	4	2	WmH	LOV	0	0	0	0	gIsX*	Gm
290	6e1	HL	D	Mo/Vor	0	0	4	2	WmH	LOV	0	0	0	0	gI	Gm
3	6e10	HI	F	Voa	2	0	3	0	TKS	BOA	0	0	0	0	sM8nfF*2	U
13	6e10	HI	F	Voa	1	0	3	0	TKS	BOA	0	0	0	0	sMnfF*	U
40	6e10	HI	E+F	Voa	0	0	3	1	AwH	BOT	0	0	0	0	gI5sX5	Gm
68	6e10	HL	E	Voa	0	0	3	1	AwH	BOT	0	0	0	0	sT	U+Ub
73	6e10	HL	E	Voa	0	0	3	0	AwH	BOT	0	0	0	0	fF	Fe
74	6e10	HL	E	Voa	0	0	2	1	AwH	BOT	0	0	0	0	fF	Fe
80	6e10	HI	D+F	Voa	4	0	2	0	AwH	BOT	0	0	0	0	sM	Q
84	6e10	HL	F+E	Voa+Vor	1	0	3	0	TS+OS+PiH	BOA+	0	0	0	0	gS6sM4	Gs
91	6e10	HI	D	Voa	2	0	1	0	AwH	BOT	0	Sh	0	2	fF	Fe
106	6e10	HI	E	Voa	1	0	2	0	AwH	BOT	0	0	0	0	fF	Fe
118	6e10	HI	E	Voa	1	0	2	0	AwH	BOT	0	0	0	0	fF	Fe
168	6e10	HL	E	Voa	1	0	2	0	AwH	BOT	0	0	0	0	fF	Fe
146	6e11	HL	E+D	Vu	0	-1	4	1	PiH	BOA	0	0	0	0	fF	Fe

TAIRUA LAND RESOURCE DATA - SORTED ON LUC

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
197	6e11	HL	E+C	pMo/Vu*Vor	0	0	4	2	PiH+Wms	BOA+LOT	Su	0	1	0	sM6sT4	U
205	6e11	HL	E	pMo/Vu*Vor	2	0	5	2	PiH+Wms	BOA+LOT	Su,Ss	G	2	2	gl8sM2	Gm
206	6e11	HL	D+C	Mo/Vu*Vor	0	-1	5	2	Wmg	LOV	0	G	0	1	gl	Gm
208	6e11	HL	D+E	Mo/Vu*Vor	0	-1	5	2	WmH+Wmg	LOV	Ss,Ef	G,T	2	2	glefR*	Gm
218	6e11	HL	E+D	Mo/Vu	0	-1	5	2	WmH+Wmg	LOV	Ss	G	1	1	glsM*	Gm
226	6e11	UL	B+D	Mo/Vu	0	-1	5	3	Wmg	LOV	Su	G	2	1	gl	Gm
230	6e11	HL	D	Mo/Vu*Vor	0	0	4	2	WmH	LOV	Ef	0	1	0	gl	Gm
248	6e11	FS	D	pMo/Vor	0	-1	5	2	Wms+PiH	LOT+BOA	0	0	0	0	cfOfK*	U
251	6e11	FS	D+C	pMo/Vu	0	-1	5	2	Wms+PiH	LOT+BOA	0	0	0	0	cfOfK*	U
253	6e11	FS	D+C	pMo/Vu*Voa	0	-1	5	2	WmH+WaH	LOV+BOT	0	0	0	0	cfOfK*	U
256	6e11	HL	D	pMo/Vu*Voa	0	-1	5	2	WaH+WmH	BOT+LOV	0	0	0	0	cfOfK*	U
257	6e11	HL	D	pMo/Vu*Vor	0	-1	5	2	PiH+Wms	BOA+LOT	Ss	0	1	0	cfOfK*	U
263	6e11	FS	D+E	pMo/Vu	0	-1	5	2	PiH+Wms	BOA+LOT	0	0	0	0	sM6cfO4	U
204	6e2	HL	D+E	pMo/Vor*Vu	1	0	4	2	WmH+PiH	LOV+BOA	Ss	G	1	1	gl9sX1	Gm
250	6e2	HL	D	pMo/Vor	0	0	4	2	WmH+PiH	LOV+BOA	0	0	0	0	gl8fF2	Gm,Fe
268	6e2	TB	D	pMo/Vor	0	0	4	2	Wms+PiH	LOT+BOA	0	0	0	0	sM	U
269	6e2	TB	D	pMo/Vor	0	0	4	2	Wms+PiH	LOT+BOA	0	0	0	0	sM	U
270	6e2	HL	D	pMo/Vor	0	0	4	2	Wms+PiH	LOT+BOA	0	0	0	0	sM	U
275	6e2	HL	D	pMo/Vor	0	0	4	2	Wms+PiH	LOT+BOA	0	0	0	0	sM	U
9	6e3	HL	D	pMo/Vor	1	0	3	2	PiH+Wms	BOA+LOT	0	Sh	0	1	sMnfF*9fF1	U,Fe
10	6e3	HL	D	pMo/Vor	0	0	3	2	PiH+Wms	BOA+LOT	0	Sh	0	1	sMnfF*	U
25	6e3	HL	D	pMo/Vor	0	0	3	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
26	6e3	HL	D+E	pMo/Vor	0	0	3	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
42	6e3	HL	D+E	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	gl6gS2sM2	Gm
45	6e3	HL	D+E	pMo/Vor	0	0	3	2	PiH+Wms	BOA+LOT	0	ShG	0	1	fF	Fe
50	6e3	HL	D+E	pMo/Vor*Vu	0	-1	4	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
60	6e3	HL	D+E	pMo/Vor	0	0	4	2	PiH+Wke	BOA+LOT	0	0	0	0	fF	Fe
65	6e3	HL	D+E	pMo/Vor	0	0	4	2	PiH+Wke+Hm	BOA+LOT+	0	0	0	0	fF	Fe
66	6e3	HL	D+E	pMo/Vor	0	0	4	2	PiH+Wke+Hm	BOA+LOT+	0	0	0	0	sX7cS2gS1	U+O+Ub
75	6e3	HL	D+E	pMo/Vor	0	0	3	2	PiH+Wke	BOA+LOT	0	0	0	0	fF	Fe
77	6e3	HL	D	pMo/Vor	0	0	3	2	PiH+Wke	BOA+LOT	0	0	0	0	fF	Fe
93	6e3	TB	D	pMo/Vor	0	0	4	2	PiH+Wke	BOA+LOT	0	0	0	0	fF	Fe
99	6e3	HL	D	pMo/Vor	0	0	4	2	PiH+Wkr	BOA+LOT	0	0	0	0	fF	Fe
105	6e3	FS	D	pMo/Vor	0	0	4	2	PiH+Pi+Wkr	BOA+LOT	0	0	0	0	fF	Fe

TAIRUA LAND RESOURCE DATA - SORTED ON LUC

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
107	6e3	HL	E+D	pMo/Vor	1	0	3	2	PIH+Wkr	BOA+LOT	0	0	0	0	fF	Fe
114	6e3	HL	D	pMo/Vu	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
120	6e3	HL	D+E	pMo/Vor	0	0	3	2	PIH+Wms	BOA+LOT	0	0	0	0	fF	Fe
122	6e3	HL	D+E	pMo/Vor	0	0	2	2	PIH+Wms	BOA+LOT	0	0	0	0	fF	Fe
125	6e3	HL	D+E	pMo/Vor	1	0	2	2	PIH+Wms	BOA+LOT	0	Sh	0	1	fF	Fe
128	6e3	HL	D+E	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
130	6e3	HL	D+E	pMo/Vor	0	0	4	2	PIH+Wms	BOA+LOT	0	0	0	0	gI	Fe
133	6e3	HL	D	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
137	6e3	HL	D+E	pMo/Vor*Vu	0	0	3	2	PiH+Wms	BOA+LOT	0	0	0	0	gS	Gm
139	6e3	HL	D	pMo/Vor*Vu	0	0	2	2	PiH+Wms	BOA+LOT	0	0	0	0	gS8sT2	Gm
140	6e3	HL	D+E	pMo/Vor*Vu	0	0	3	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
148	6e3	HL	E+D	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	gI8sMnfF*2	Gm
149	6e3	HL	E+D	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
166	6e3	HL	D	pMo/Vor	0	0	3	2	PiH+Wkr	BOA+LOT	0	0	0	0	fF	Fe
173	6e3	HL	D	pMo/Vor*Vu	0	0	5	2	PiH+WmH	BOA+LOV	Ss	0	1	0	gI	Gm
174	6e3	HL	D	pMo/Vor*Vu	0	0	5	2	PiH+WmH	BOA+LOV	0	0	0	0	Ff	Fe
179	6e3	HL	E+D	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	Ss	0	1	0	gI	Gm
180	6e3	HL	E+D	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	Ss	0	1	0	gI8sM2	Gm
192	6e3	HL	E+D	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	sTnfF*	U
194	6e3	HL	E+D	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	Ss,Es	Sh	1	1	gI	Gm
196	6e3	HL	D	pMo/Vor	0	0	4	2	PIH+Wms	BOA+LOT	0	0	0	0	gI	Gm
235	6e3	HL	D	pMo/Vor*Vu	0	0	4	2	PiH+Wmg	BOA+LOV	0	0	0	0	sM	U
245	6e3	HL	E+D	pMo/Vor*Vu	0	0	4	2	PiH+WmH	BOA+LOV	Es	0	1	0	sM8cfO2	U
282	6e3	HI	E+D	pMo/Vor	0	0	2	2	PiH+Wms	BOA+LOT	0	0	0	0	gI	Gm
288	6e3	HL	E+D	pMo/Vor	0	0	3	2	PIH+Wms	BOA+LOT	0	0	0	0	gI8sM2	Gm
293	6e3	HI	E+D	pMo/Vor	0	0	3	2	PiH+Wms	BOA+LOT	0	0	0	0	gI	Gm
22	6e4	HL	D+E	pMo/Voa*Vc	0	0	3	2	WaH+Wms	BOT+LOT	0	0	0	0	fF	Fe
254	6e4	FS	D	pMo/Voa	0	0	4	2	WaH+WmH	BOT+LOV	0	0	0	0	cfOfK*	U
17	6e5	HL	D+E	Vor	1	0	4	1	PIH	BOA	0	0	0	0	fF	Fe
51	6e5	HL	E+D	Vor+Voa	1	0	3	0	PiH	BOA	0	0	0	0	fF	Fe
81	6e5	FS	D+E	Vor	0	0	4	1	PI+PiH	BOA	0	0	0	0	sTfO*	U
89	6e5	HL	D	Vor	2	0	1	0	PiH	BOA	0	Sh	0	2	fF	Fe
108	6e5	HL	D+E	Vor+Vu	0	0	4	1	PiH	BOA	0	0	0	0	fF	Fe
152	6e5	HL	D+E	Vor	0	0	3	1	PiH	BOA	0	0	0	0	fF	Fe

TAIRUA LAND RESOURCE DATA - SORTED ON LUC

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
164	6e5	HL	E+D	Vor	0	0	3	1	PiH	BOA	0	0	0	0	fF	Fe
177	6e5	FS	E+D	Vor	0	0	3	0	PiH	BOA	0	0	0	0	sM	U
229	6e6	HL	E+F	pMo/Vor	3	0	3	2	WmH+TS	LOV+BOA	Ss	0	1	0	sM7gS3	U
232	6e6	HL	E+F	pMo/Vor	2	0	3	2	WmH+TS	LOV+BOA	0	0	0	0	sM	U
236	6e6	HL	E	pMo/Vor	0	0	3	2	WmH+PiH	LOV+BOA	0	0	0	0	sM	U
19	6e7	HL	E	pMo/Vor	1	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	fF	Fe
188	6e7	HL	E	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	sMnfF*	U
203	6e7	HL	E	pMo/Vor	2	0	2	2	PiH+Wms	BOA+LOT	0	0	0	0	sM5gl5	Gm
272	6e7	HL	E	pMo/Vor	0	0	3	2	PiH+Wms	BOA+LOT	0	0	0	0	sM	U
274	6e7	HL	E	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	sM	U
276	6e7	HL	E	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	sM	U
277	6e7	HL	E	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	0	0	0	0	sMgS*	U
278	6e7	HL	E	pMo/Vor*Vu	0	0	4	2	PiH+Wms	BOA+LOT	Ss	S	1	1	gl	Gm
280	6e7	HL	E	pMo/Vor	0	0	4	2	PiH+Wms	BOA+LOT	Ss	S	1	1	glsM*	Gm
255	6e8	HL	E+F	pMo/Voa*Vu	0	0	3	2	WaH+WmH	BOT+LOV	0	0	0	0	sM	U
38	6e9	HI	E+F	Vor	0	0	3	1	PiH+TS	BOA	0	0	0	0	nfF4gS4sX2	Gm
44	6e9	SL	F+E	Vor	1	0	2	0	TS	BOA	0	Sh	0	2	fF	Fe
47	6e9	HL	E	Vor	0	0	1	0	PiH	BOA	Ss	Sh	1	1	sM7gS3	Gm
59	6e9	SL	F+E	Vor	0	0	3	0	PiH	BOA	0	0	0	0	fF	Fe
69	6e9	HI	E	Vor	0	0	3	1	PiH	BOA	0	0	0	0	fF	Fe
71	6e9	HL	E	Vor	1	0	3	0	PiH	BOA	0	0	0	0	fF	Fe
82	6e9	SL	F	Vor	1	0	3	0	PiH	BOA	0	0	0	0	sMsT*	U
87	6e9	HL	E	Vor	0	0	3	0	PiH	BOA	0	0	0	0	fF6sx4	Fe
92	6e9	HL	E	Vor	0	0	4	0	PiH	BOA	0	0	0	0	fF	Fe
94	6e9	HL	E+F	Vor	1	0	3	0	PiH+TS	BOA	0	0	0	0	fF	Fe
97	6e9	HL	E	Vor	0	0	4	0	PiH	BOA	0	0	0	0	fF	Fe
103	6e9	HL	E	Vor	0	0	3	0	PiH	BOA	0	0	0	0	fF	Fe
104	6e9	HL	E	Vor	0	0	3	0	PiH	BOA	0	0	0	0	fF	Fe
115	6e9	HL	E	Vor	0	0	3	0	PiH	BOA	0	0	0	0	fF	Fe
121	6e9	HL	E+F	Vor	1	0	3	0	WpS	BOA	0	0	0	0	fF	Fe
124	6e9	SL	F+E	Vor	1	0	2	0	TS	BOA	0	0	0	0	fF	Fe
136	6e9	SL	F	Vor	0	0	2	0	PiH	BOA	0	0	0	0	sM7sX3	U
158	6e9	HL	E	Vor	0	0	3	0	PiH	BOA	0	0	0	0	fF	Fe
169	6e9	HL	E	Vor	0	0	3	0	PiH	BOA	Ss	0	1	0	gl5sMnfF*5	Gm

TAIRUA LAND RESOURCE DATA - SORTED ON LUC

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
176	6e9	HL	E	Vor	0	0	3	1	PiH	BOA	0	0	0	0	Ff	Fe
271	6e9	HL	E	Vu+Vor	0	0	4	1	PiH	BOA	Ss	0	1	0	sM	U
286	6e9	HI	F	Vor	0	0	3	0	PiH	BOA	0	0	0	0	gI5sM5	Gm,U
36	6s1	DU	A	Wb	0	0	5	0	T	BSM	0	W,Sh	0	1	gI9gD1	Gm
55	6s1	DU	B	Wb	0	0	5	0	T	BSM	0	W,Sh	0	1	efF7gS3	Ee,Gm
58	6w1	FP	A	Pt+Al	0	0	3	0	Pk	OMM	0	0	0	0	gS	Gm
134	6w1	FP	A	Af+Pt	0	0	5	0	Pk	OMM	0	0	0	0	hW6sM4	U
7	6w2	FP	A	Af	0	0	5	0	Tw	GUFQ	0	0	0	0	gS5sM4hR*1	Gm
1	7e1	HI	F	Voa	1	0	3	0	TKS	BOA	0	0	0	0	nfF5sM5	U
83	7e1	SL	F	Voa+Vor	1	0	2	0	TS+OS	BOA+	0	0	0	0	sT6sm2gS2	Gm
86	7e1	SL	F	Voa+Vor	1	0	2	0	TS+OS	BOA+	0	0	0	0	sX	U
157	7e1	SL	F	Voa+Vor	2	0	2	0	TS+OS	BOA+	0	0	0	0	sT	U
159	7e1	SL	F	Voa+Vor	1	0	2	0	TS+OS	BOA+	0	0	0	0	sT	U
16	7e2	HI	F	Vor	4	0	2	0	TS	BOA	0	0	0	0	sMnfF*	U
21	7e2	SL	G	Vor	4	0	1	0	TS	BOA	0	Sh	0	1	fF	Fe
23	7e2	SL	G	Vor	2	0	2	0	TS	BOA	0	0	0	0	fF	Fe
29	7e2	SL	F	Vor	1	0	2	0	TS	BOA	0	Sh	0	1	sMfC*9nfF*1	U
46	7e2	SL	F	Vor	3	0	1	0	TS	BOA	0	Sh	0	2	fF	Fe
61	7e2	SL	F	Vor	0	0	2	0	WpS	BOA	0	0	0	0	fF8sX2	Fe
63	7e2	SL	G+F	Vor	2	0	2	0	WpS	BOA	0	0	0	0	sT	U
64	7e2	SL	F	Vor	0	0	3	0	WpS	BOA	0	0	0	0	fF	Fe
79	7e2	SL	G	Vor	1	0	3	0	TS	BOA	0	0	0	0	fF	Fe
98	7e2	SL	F	Vor	0	0	3	0	TS	BOA	0	0	0	0	fF	Fe
100	7e2	SL	F	Vor	1	0	3	0	TS	BOA	Ss	0	1	0	fF	Fe
101	7e2	SL	F	Vor	0	0	3	0	WpS	BOA	0	0	0	0	fF	Fe
119	7e2	SL	F+G	Vor+pVoa	2	0	2	0	TS	BOA	0	0	0	0	fF	Fe
127	7e2	SL	F	Vor	2	0	2	0	WpS	BOA	0	0	0	0	fF	Fe
131	7e2	SL	G+F	Vor	4	0	2	0	TS+PIH	BOA+	0	0	0	0	fF	Fe
143	7e2	SL	F	Vor	0	0	3	0	TS	BOA	0	0	0	0	fF	Fe
144	7e2	SL	F	Vor	0	0	3	0	TS	BOA	0	0	0	0	sXsT*	U
147	7e2	SL	F	Vor	1	0	1	0	TS	BOA	0	0	0	0	sT	U
150	7e2	SL	F+G	Vor	1	0	2	0	TS	BOA	0	0	0	0	fF	Fe
163	7e2	SL	F	Vor	1	0	2	0	TS	BOA	0	0	0	0	sXfK*	U
167	7e2	SL	F+G	Vor	1	0	2	0	TS	BOA	0	0	0	0	sX6sT3fF1	U

TAIRUA LAND RESOURCE DATA - SORTED ON LUC

No.	LUC	LANDF	SLOPE	ROCKT	BROCK	HALT	RDEPTH	LQTD	SOILN	SOILC	ERTM	ERTS	ERDM	ERDS	COVER	USE
175	7e2	SL	F	Vor	2	0	2	0	TS	BOA	Da	0	1	0	Ff	Fe
190	7e2	SL	F	Vor	1	0	3	0	TS	BOA	Da	0	1	0	sMnfF*	U
195	7e2	SL	F	Vor	1	0	3	0	TS	BOA	0	0	0	0	sMnfF*	U
198	7e2	SL	G	Vor	2	0	2	0	TS	BOA	0	0	0	0	sX	U
199	7e2	SL	F	Vor	1	0	2	0	TS	BOA	0	0	0	0	sM	U
202	7e2	SL	F	Vor+Vu	0	0	3	0	PiH	BOA	0	0	0	0	sM	U
211	7e2	SL	F	Vor	0	0	2	0	TS	BOA	0	0	0	0	sM8sX2	U
219	7e2	SL	F	Vor+Voa	6	0	2	0	TS+OS	BOA+	0	Sh	0	3	uV8sX2	Q
222	7e2	SL	F	Vor	2	0	2	0	TS	BOA	0	0	0	0	sT	U
237	7e2	SL	F	Vor	1	0	2	0	TS	BOA	0	0	0	0	sMsT*	U
239	7e2	SL	F	Vor	0	0	2	0	TS	BOA	0	0	0	0	sM	U
252	7e2	SL	F	Vor+Vu	0	0	4	0	TS	BOA	Da	0	1	0	cfOfK*8sM2	U
266	7e2	SL	F	Vor	0	0	3	0	TS	BOA	0	0	0	0	cfK	U
8	7e3	SL	G	Vor	1	0	2	0	TS	BOA	0	0	0	0	sM9nfF*1	U
30	7e3	SL	G	Vor	1	0	2	0	TS	BOA	0	Sh	0	1	sM8fF2	U,Fe
31	7e3	SL	G	Vor	2	0	2	0	TS	BOA	Ss	Sh	1	1	fF	Fe
213	7e3	SL	G	Vor	1	0	2	0	TS	BOA	0	0	0	0	sX9sT1	U
247	7e3	SL	G+F	Vor	2	0	2	0	TS	BOA	0	0	0	0	sM	U
259	7e3	SL	G	Vor	1	0	2	0	TS	BOA	Es	0	2	1	cfBcfK*	U
260	7e3	SL	G	Vor	1	0	2	0	TS	BOA	Ss	0	1	0	sMcfK*	U
264	7e3	SL	G+F	Vor	1	0	3	0	TS	BOA	Da	0	1	0	sM8fB2	U
227	7e4	HL	D	Mo/Vu	0	-1	5	2	WmH	LOV	Ef,Es	G	3	2	sMefR*	Gm
37	8e1	DU	B	Wb	0	0	3	0	Pn	RST	0	W	0	3	sO7uVs	U,P
56	8e1	DU	B	Wb	0	0	5	0	Pn	RST	0	W	0	2	efF	Ee
262	8e2	SL	G	Vor	3	0	1	0	TS	BOA	Da,Ss	0	2	0	sM8cfO2	U
265	8e2	SL	G	Vor	5	0	1	0	TS	BOA	0	0	0	0	sM	U

LAND RESOURCE MAP OF PART TAIRUA WATERSHED

Map prepared for Environment Waikato
by Landcare Research NZ
(Author - M.R. Jessen), June 1993

Base map
extracted from
NZMS 260 T12 (Thames)

SCALE 1:50 000

0 1 2 3 4 5 Kilometres

LEGEND

Inventory map unit boundary.

Map unit number. Key this to the associated report to find all mapped attributes for the map unit.

EBZ-02514
BD101

Manaaki Whenua
Landcare Research
NEW ZEALAND LTD