



**RFQ 12239: PTA Soil
Detection Plan; Moehau
Range, Coromandel Forest
Park, Puketi, Herekino and
Waipoua forests, July–
October 2011**

Phase 1, Part II

Contract: RFQ 12239



**Landcare Research
Manaaki Whenua**

RFQ 12239: PTA Soil Detection Plan; Moehau Range, Coromandel Forest Park, Puketi, Herekino and Waipoua forests, July–October 2011

Stanley E. Bellgard

Landcare Research Auckland

Margaret A. Dick

Scion Rotorua

Ian J. Horner

Plant and Food Research Havelock North

Prepared for:

Ministry of Agriculture and Forestry

Pastoral House
25 The Terrace
PO Box 2526
Wellington 6140

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*Landcare Research, 231 Morrin Road, St Johns, Private Bag 92170, Auckland 1142, New Zealand,
Ph +64 9 574 4100, Fax +64 9 574 4101, www.landcareresearch.co.nz*

Reviewed by:

Approved for release by:



Christine Bezar
Editor
Landcare Research



Peter Buchanan
Science Team Leader
Biosystematics

Landcare Research Contract Report:

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Contents

Summary	v
1 Introduction	1
2 Background	1
3 Objectives	1
4 Methods	2
5 Results	3
5.1 Temperature data of soils in transit – sample validity	3
5.2 PTA recoveries	4
6 Conclusions.....	10
7 Recommendations	10
8 Acknowledgements	11
9 References.....	11
Appendix 1A – Sample Receipt and Log	13
Appendix 1B – Sample Control Record	19
Appendix 1C – Analytical Data Form	39
Appendix 2 – Master Worksheet.....	44
Appendix 3 – Soil Detection Plan (SDP) location map.....	56

Summary

Project

- RFQ 12239 Analysis of kauri dieback soil samples

Objectives

- Bioassay, using the extended soil baiting SOP, soil samples collected as part of the delimitation survey for presence of *Phytophthora taxon Agathis* (PTA).
- Provide interpretation of results in relation to PTA status of soils.

Methods

- Soils were sampled using the established protocol of Dick and Bellgard (2010).
- Using the extended soil bioassay protocol 'fish' out PTA.

Results

- Of the 14 consignments we received, only one, from Puketi Forest, had a temperature profile that may be of concern – these soil samples (170–172), experienced sub-zero temperatures (i.e. down to -5°C) for 4 h. It is not known what effect such temperatures might have on subsequent detection of PTA.
- The soil samples from Moehau Range, Coromandel Forest Park, Puketi and Herekino forests were all negative for PTA – including *Puketi Special 170-172* that experienced sub-zero temperatures for 4 h.
- PTA was detected in 29 out of 90 tested soil samples from Waipoua Forest. The positive samples were:
 - Waipoua 1, Graft Trees 1–3
 - Waipoua Pan 1, Tree 1 & 2
 - Waipoua WK2, Tree 2; Waipoua WK3, Trees 1–3
 - Waipoua WP2, Trees 1 & 2
 - Waipoua TO1, Trees 1 & 2
 - Waipoua Puk 1, Tree 1; Waipoua Puk 3 Tree 2
 - Waipoua Y1, Trees 1 & 2
 - Waipoua TM 2 Tree 1
 - Waipoua OSS 1 Tree 1
 - Waipoua WRU1 Tree 2
 - Waipoua R1 Trees 2 & 3
 - Waipoua RR2 Tree 1; Waipoua RR5 Tree 3; Waipoua RR7 Trees 1 & 2; Waipoua RR9 Trees 1 & 2; Waipoua RR10 Tree 3

Recommendations

- The sites that are positive for PTA require further sampling to delimit the extent of the infection.
- Risk analysis evaluating the potential for movement of contaminated soil out from PTA-infested sites needs to be considered.
- Discussions around the curation of soil samples collected this year should commence, as the 6-month contractually agreed storage period has expired for the soil samples collected in March–April.

1 Introduction

Phytophthora taxon *Agathis* (PTA) is an oomycete, a fungus-like chromist, associated with dieback in kauri (*Agathis australis*) trees in Auckland, Northland and Great Barrier Island and possibly other sites where dieback occurs but PTA has not yet been identified.

The Ministry of Agriculture and Forestry (MAF) is working in partnership with the Department of Conservation, regional councils and local iwi to deliver a long-term management programme for kauri dieback. As part of this programme, and on behalf of the programme partnership, MAF requires analysis of soil taken from approximately 20 forests throughout the natural range of kauri. This report provides a summary of results from Phase 1 Part II of the Soil Detection Plan (SDP) encompassing the Coromandel Peninsula (Moehau Range), Coromandel Forest Park, Puketi, Herekino and Waipoua kauri forest remnants.

2 Background

PTA has been identified as a causal agent of kauri dieback (Beever et al. 2008) and new sites of kauri dieback continue to be identified across the Auckland and Northland regions as awareness around canopy decline and collar gummosis has become more familiar to field-based biosecurity and conservation staff. The current distribution of PTA includes sites in Northland (Ratea Plantation, Waipoua, Trounson, Mangawhai) and Auckland (Waitakere Ranges, Great Barrier Island, Awhitu and the Hunua Ranges). Not all kauri forests throughout the North Island have been surveyed for PTA, and these could represent disease-free remnants that need to be identified and protected appropriately.

Through a process of consultation, the Kauri Dieback Joint Agency Response (KDJAR) has gained access to survey the kauri estate of the North Island. This second stage of the soil sampling process was carried out by Wildland Consultants (Moehau Range, Coromandel Forest Park, Puketi and Herekino forests), and Te Roroa (led by Trevor Birch in conjunction with DOC Whangarei staff and covering sites in Waipoua Forest).

3 Objectives

- Bioassay, using the extended soil baiting SOP, soil samples collected as part of the delimitation survey for presence of *Phytophthora* taxon *Agathis* (PTA).
- Provide interpretation of results in relation to PTA status of soils.

4 Methods

Soils were sampled by representatives of Wildland Consultants and Te Roroa according to a protocol provided by the KDJAR (Dick & Bellgard 2010) and delivered to Landcare Research, Tamaki. The samples were assigned a unique sample identity number, the iButton temperature tag collected, and the sample details recorded on a hard copy of the Sample Receipt and Record Log (Appendix 1A). The weight of samples was recorded on the Sample Control Record (Appendix 1B). The samples were then stored at 10°C in the Ecology Laboratory cool room. The data from the hard copies of the field sheets were then uploaded to the Master Worksheet database, which captured the GPS location and details about sites / tree status (Appendix 2). A map of the SDP sites is provided in Appendix 3.

Just prior to analysis, the soils were removed from the cool room and this movement recorded on the Sample Control Record (Appendix 1B). The samples were individually hand-mixed in their bag to ensure that the clods were broken and organic matter and roots combined. Subsamples were weighed into labelled zip-lock bags, the weight recorded on the Sample Control Record (Appendix 1B), and the remaining soil weighed. The sample date was written on the waterproof label and put back in the bag, and the remainder of the soil samples returned to the cool room (date, time and mass recorded on Sample Control Record, Appendix 1B).

The soil samples for Scion and for Plant & Food Research (PFR) were packed into chilly bins or polystyrene boxes, secured with bubble-wrap. An activated iButton to regularly record temperature was installed in the packaging before sending by registered overnight courier. A list of the soil samples was also placed in the parcel. An email was sent advising Scion and PFR that the samples had been dispatched. Scion and PFR confirmed receipt of samples via follow-up email or telephone communication. iButtons were retrieved and posted back to Landcare Research where the temperature profile of the soil samples in-transit were captured, and any extreme exposures (i.e. >25°C or <5°C) identified in an email to Mike Harre (Operations Manager, KDJAR).

At the commencement of analysis the information was captured on the Analytical Data Sheet (Appendix 1C). The samples were bioassayed via the extended baiting protocol (Jeffers & Aldwinkle 1987; Beever et al. 2010). Isolates from bait tissues that produced amphigynous oospores 30–35 µm in diameter were transferred and stored on PDA (Jeffers 2006).

Pure isolates suspected to be PTA had their ITS region sequenced and a NCBI/BLAST® search undertaken to compare with a known, validated PTA sequence deposited in GenBank®. The PTA status of each soil was recorded on the Analytical Data Sheet (Appendix 1C).

5 Results

5.1 Temperature data of soils in transit – sample validity

Both soil-sample consultants demonstrated due diligence in the tracking of the temperatures of the soil samples they shipped to Landcare Research. Of the 14 consignments that we received, only one, from Puketi Forest, had a temperature profile that may be of some concern – these soil samples (170–172), experienced sub-zero temperatures (i.e. down to -5°C) for 4 h. It is not known what effect such temperatures might have on subsequent detection of PTA. For this reason, we have identified this particular consignment in Table 1 as being the only sample that could be considered potentially compromised.

Table 1 Summary of soil consignment temperature conditions

<i>Consignment</i>	<i>From</i>	<i>To</i>	<i>Max ($^{\circ}\text{C}$)</i>	<i>Min ($^{\circ}\text{C}$)</i>	<i>Notes</i>
13–22/08/11	Moehau Range	LCR	25.14	3.1	Valid sample
24/08/11	Waipoua	LCR	15.5	4.0	Valid sample
02/09/11	Waipoua	LCR	17.5	9.0	Valid sample
07/09/11	Waipoua	LCR	20.0	8.5	Valid sample
07–09/09/11	Waipoua	LCR	18.5	11	Valid sample
13–16/09/11	Waipoua	LCR	19.0	11.0	Valid sample
19–20/09/11	Waipoua	LCR	18.5	11.5	Valid sample
21/09/11	Waipoua	LCR	13.5	10.5	Valid sample
21–22/09/11	Waipoua	LCR	14.0	8.5	Valid sample
21–23/09/11	Waipoua	LCR	15.0	8.5	Valid sample
26–28/09/11	Waipoua	LCR	12.0	9.5	Valid sample
27–29/09/11	Waipoua	LCR	13.5	6.0	Valid sample
26–30/09/11	Puketi (170–172)	LCR	22.5	-5.0	<0 $^{\circ}\text{C}$ for 4 h
26–30/09/11	Herekino	LCR	25.5	5.5	Valid sample
03/08/11	LCR	PFR	21.5	16.0	Valid sample
24–29/08/11	LCR	PFR	20.6	16.2	Valid sample
18/10/11	LCR	PFR	21.5	10.0	Valid sample
03–08/08/11	LCR	Scion	17.5	10.6	Valid sample
24–26/08/11	LCR	Scion	20.6	8.0	Valid sample
19–22/10/11	LCR	Scion	24.2	10.2	Valid sample

LCR = Landcare Research; PFR = Plant & Food Research

5.2 PTA recoveries

5.2.1 Coromandel, Puketi, Herekino Forests

The soil samples from Coromandel, Puketi and Herekino forests were all negative for PTA (Table 2) – including *Puketi Special 170–172* that experienced sub-zero temperatures for 4 h.

Table 2 Phase 1 Part II Group recoveries for Coromandel, Puketi and Herekino forests

Sample code	Sample name	Date received 2011	Notes	LCR	PFR	Scion
092	Coromandel 3 Site 26, Tree 1	22 June		-	n.t.	-
093	Coromandel 3 Site 26, Tree 2	22 June		-	-	n.t.
094	Coromandel 3 Site 26, Tree 3	22 June		n.t.	-	-
095	Coromandel 3 Site 26A, Tree 1	22 June		-	-	n.t.
096	Coromandel 3 Site 26A, Tree 2	22 June		n.t.	-	-
097	Coromandel 3 Site 26A, Tree 3	22 June		n.t.	-	-
098	Moehau Range Tree 1	22 Aug.		n.t.	-	-
099	Moehau Range Tree 2	22 Aug.		-	-	n.t.
100	Moehau Range Tree 3	22 Aug.		-	n.t.	-
170	Puketi Special Tree 1	30 Sep.	Sub-	n.t.	-	-
171	Puketi Special Tree 2	30 Sep.	Zero	n.t.	-	-
172	Puketi Special Tree 3	30 Sep.	4-hours	n.t.	-	-
173	Site 20 Tree 1 Herekino	30 Sep.		n.t.	-	-
174	Site 20 Tree 2 Herekino	30 Sep.		n.t.	-	-
175	Site 20 Tree 3 Herekino	30 Sep.		n.t.	-	-

Key: 'LCR' = Landcare Research; 'PFR' = Plant & Food Research, 'PTA' = Phytophthora taxon *Agathis* detected; '-' = Phytophthora taxon *Agathis* not detected; 'n.t.' = not tested.

5.2.1 Waipoua Forest

Table 3 presents PTA results of the soils from Waipoua. During the analytical period, we were instructed not to bioassay a number of samples; these have been highlighted in Table 3.

Table 3 Phase 1 Part II Group recoveries for Waipoua Forest

Sample code	Sample name	Date received 2011	Notes	LCR	PFR	Scion
101	Waipoua 1, Graft 1	24 Aug.		PTA	n.t.	PTA
102	Waipoua 1, Graft 2	24 Aug.		PTA	n.t.	PTA
103	Waipoua 1, Graft 3 Ford Rikker	24 Aug.		-	n.t.	PTA
104	Waipoua Puk 2, Tree 1	2 Sep.	do not assay	n.t.	n.t.	n.t.
105	Waipoua Puk 2, Tree 2	2 Sep.	do not assay	n.t.	n.t.	n.t.
106	Waipoua Puk 2, Tree 3	2 Sep.	do not assay	n.t.	n.t.	n.t.
107	Waipoua Pan 1, Tree 1	2 Sep.		PTA	n.t.	PTA
108	Waipoua Pan 1, Tree 2	2 Sep.		PTA	n.t.	-
109	Waipoua Pan 1, Tree 3	2 Sep.		-	n.t.	-
110	Waipoua WK2, Tree 1	7 Sep.		-	n.t.	-
111	Waipoua WK2, Tree 2	7 Sep.		PTA	PTA	n.t.
112	Waipoua WK2, Tree 3	7 Sep.		-	-	n.t.
113	Waipoua WK3, Tree 1	7 Sep.		PTA	PTA	n.t.
114	Waipoua WK3, Tree 2	7 Sep.		PTA	PTA	n.t.
115	Waipoua WK3, Tree 3	7 Sep.		PTA	PTA	n.t.
116	Waipoua WP2, Tree 1	7 Sep.		PTA	PTA	n.t.
117	Waipoua WP2, Tree 2	7 Sep.		PTA	PTA	n.t.
118	Waipoua WP2, Tree 3	7 Sep.		-	-	n.t.

Sample code	Sample name	Date received 2011	Notes	LCR	PFR	Scion
119	Waipoua Puk 2 replacement sample Tree 3	7 Sep.	do not assay	n.t.	-	n.t.
120	Waipoua Puk 2 replacement sample Tree 2	7 Sep.	do not assay	n.t.	-	n.t.
121	Waipoua Puk 2 replacement sample Tree 1	7 Sep.	do not assay	n.t.	-	n.t.
122	Waipoua KO1, Tree 1	9 Sep.		n.t.	-	-
123	Waipoua KO1, Tree 2	9 Sep.		n.t.	-	-
124	Waipoua KO1, Tree 3	9 Sep.		n.t.	-	-
125	Waipoua WP1, Tree 1	9 Sep.		n.t.	-	-
126	Waipoua WP1, Tree 2	9 Sep.		n.t.	-	-
127	Waipoua WP1, Tree 3	9 Sep.		n.t.	-	-
128	Waipoua TO1, Tree 1	9 Sep.		n.t.	PTA	-
129	Waipoua TO1, Tree 2	9 Sep.		n.t.	PTA	-
130	Waipoua TO1, Tree 3	9 Sep.		-	n.t.	-
131	Waipoua Puk 1, Tree 1	16 Sep.		-	n.t.	PTA
132	Waipoua Puk 1, Tree 2	16 Sep.		-	n.t.	-
133	Waipoua Puk 1, Tree 3	16 Sep.		-	n.t.	-
134	Waipoua TM1, Tree 1	20 Sep.		-	n.t.	-
135	Waipoua TM1, Tree 2	20 Sep.		-	n.t.	-
136	Waipoua TM1, Tree 3	20 Sep.		-	n.t.	-
137	Waipoua Y1, Tree 1	20 Sep.		PTA	n.t.	-
138	Waipoua Y1, Tree 2	20 Sep.		PTA	n.t.	PTA

Sample code	Sample name	Date received 2011	Notes	LCR	PFR	Scion
139	Waipoua Y1, Tree 3	20 Sep.		-	n.t.	-
140	Waipoua TM 2 Tree 1	21 Sep.		PTA	n.t.	PTA
141	Waipoua TM 2 Tree 2	21 Sep.		-	n.t.	-
142	Waipoua TM 2 Tree 3	21 Sep.		-	n.t.	-
143	Waipoua OSS 1 Tree 1	21 Sep.		-	n.t.	PTA
144	Waipoua OSS 1 Tree 2	21 Sep.		-	n.t.	-
145	Waipoua OSS 1 Tree 3	21 Sep.		-	n.t.	-
146	Waipoua WRU1 Tree 1	22 Sep.		-	n.t.	-
147	Waipoua WRU1 Tree 2	22 Sep.		PTA	n.t.	PTA
148	Waipoua WRU1 Tree 3	22 Sep.		-	n.t.	-
149	Waipoua WRU2 Tree 1	23 Sep.		-	-	n.t.
150	Waipoua WRU2 Tree 2	23 Sep.		n.t.	-	-
151	Waipoua WRU2 Tree 3	23 Sep.		-	-	n.t.
152	Waipoua R1 Tree 1	23 Sep.		n.t.	-	-
153	Waipoua R1 Tree 2	23 Sep.		-	PTA	n.t.
154	Waipoua R1 Tree 3	23 Sep.		n.t.	PTA	PTA
155	Waipoua RR Tree 1	23 Sep.	do not assay	n.t.	n.t.	n.t.
156	Waipoua RR Tree 2	23 Sep.	do not assay	n.t.	n.t.	n.t.
157	Waipoua RR Tree 2	28 Sep.	do not assay	n.t.	n.t.	n.t.
158	Waipoua RRK Tree 1	23 Sep.	do not assay	n.t.	n.t.	n.t.
159	Waipoua RRK Tree 2	23 Sep.	do not assay	n.t.	n.t.	n.t.
160	Waipoua RRK Tree 3	23 Sep.	do not assay	n.t.	n.t.	n.t.

Sample code	Sample name	Date received 2011	Notes	LCR	PFR	Scion
161	Waipoua RR2 Tree 1	28 Sep.		-	PTA	n.t.
162	Waipoua RR2 Tree 2	28 Sep.		-	-	n.t.
163	Waipoua RR2 Tree 3	28 Sep.		-	-	n.t.
164	Waipoua RR3 Tree 1	29 Sep.		-	-	n.t.
165	Waipoua RR3 Tree 2	29 Sep.		-	-	n.t.
166	Waipoua RR3 Tree 3	29 Sep.		-	-	n.t.
167	Waipoua RR4 Tree 1	29 Sep.		-	-	n.t.
168	Waipoua RR4 Tree 2	29 Sep.		-	-	n.t.
169	Waipoua RR4 Tree 3	29 Sep.		-	-	n.t.
176	RR5 Tree 1 (170)	30/09/11		n.t.	-	-
177	RR5 Tree 2 (171)	30 Sep.		n.t.	-	-
178	RR5 Tree 3 (172)	30 Sep		n.t.	PTA	-
179	RR6 Tree 1 (173)	30 Sep		n.t.	-	-
180	RR6 Tree 2 (174)	30 Sep		n.t.	-	-
181	RR6 Tree 3 (175)	30 Sep		-	-	n.t.
182	RR7 Tree 1 (176)	30 Sep		PTA	n.t.	-
183	RR7 Tree 2 (177)	30 Sep		n.t.	PTA	-
184	RR7 Tree 3 (178)	30 Sep	do not assay	n.t.	n.t.	n.t.
185	RR7 Tree 3A (179)	30 Sep		-	-	-
186	NUR Tree 1	21 Oct.		-	-	n.t.
187	NUR Tree 2	21 Oct.		-	-	n.t.
188	NUR Tree 3	21 Oct.		-	-	n.t.

Sample code	Sample name	Date received 2011	Notes	LCR	PFR	Scion
189	WAI OMT Tree 1	21 Oct.		-	-	n.t.
190	WAI OMT Tree 2	21 Oct.		-	-	n.t.
191	WAI OMT Tree 3	21 Oct.		-	-	n.t.
192	MUR Tree 1	21 Oct.		-	-	n.t.
193	MUR Tree 2	21 Oct.		n.t.	-	-
194	MUR Tree 3	21 Oct.		n.t.	-	-
195	Waipoua Puk 3 Tree 1	21 Oct.		n.t.	-	-
196	Waipoua Puk 3 Tree 2	21 Oct.		n.t.	PTA	-
197	Waipoua Puk 3 Tree 3	21 Oct.		n.t.	-	-
198	Waipoua RR9 Tree 1	21 Oct.		n.t.	PTA	-
199	Waipoua RR9 Tree 2	21 Oct.		n.t.	PTA	-
200	Waipoua RR9 Tree 3	21 Oct.		-	n.t.	-
201	Waipoua RR10 Tree 1	21 Oct.		-	n.t.	-
202	Waipoua RR10 Tree 2	21 Oct.		-	n.t.	-
203	Waipoua RR10 Tree 3	21 Oct.	No pure isolate	PTA	n.t.	-
204	Waipoua RR11 Tree 1	21 Oct.		-	n.t.	-
205	Waipoua RR11 Tree 2	21 Oct.		-	n.t.	-
206	Waipoua RR11 Tree 3	21 Oct.		-	n.t.	-

Key: 'LCR' = Landcare Research; 'PFR' = Plant & Food Research, 'PTA' = Phytophthora taxon Agathis detected; '-' = Phytophthora taxon Agathis not detected; 'n.t.' = not tested.

6 Conclusions

PTA was not detected in soil samples from the Coromandel Forest Park, Moehau Range, Puketi and Herekino forests.

PTA was present in some of the soil samples from Waipoua Forest. The positive samples from Waipoua were:

1. Waipoua 1, Graft Trees 1–3
2. Waipoua Pan 1, Trees 1 & 2
3. Waipoua WK2, Tree 2; Waipoua WK3, Trees 1–3
4. Waipoua WP2, Trees 1 & 2
5. Waipoua TO1, Trees 1 & 2
6. Waipoua Puk 1, Tree 1; Waipoua Puk 3 Tree 2
7. Waipoua Y1, Trees 1 & 2
8. Waipoua TM 2 Tree 1
9. Waipoua OSS 1 Tree 1
10. Waipoua WRU1 Tree 2
11. Waipoua R1 Trees 2 & 3
12. Waipoua RR2 Tree 1; Waipoua RR5 Tree 3; Waipoua RR7 Trees 1 & 2; Waipoua RR9 Trees 1 & 2; Waipoua RR10 Tree 3.

7 Recommendations

- Further sampling to delimit the extent of the PTA infestations around infected trees will assist with mapping zones of kauri dieback disease.
- Risk analysis evaluating the potential for movement of contaminated soil out from PTA-infested sites needs to be considered.
- Discussions around the curation of soil samples collected this year should commence, as the 6-month contractually agreed storage period has expired for the soil samples collected in March–April.

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Appendix 1A – Sample Receipt and Log

Sample no.	Sample identification & type	Date received (dd/mm/yy)	Date analysed (dd/mm/yy)	Date reported (dd/mm/yy)
092	Site 26, Tree 1	22/06/11	26/08/11	09/12/11
093	Site 26, Tree 2	22/06/11	26/08/2011	09/12/11
094	Site 26, Tree 3	22/06/11	26/08/2011	09/12/11
095	Site 26A, Tree1	18/08/11	26/08/2011	09/12/11
96	Site 26A, Tree2	18/08/11	26/08/2011	09/12/11
97	Site 26A, Tree3	18/08/11	26/08/2011	09/12/11
98	Moehau Range Tree1	18/08/11	26/08/2011	09/12/11
99	Moehau Range Tree2	18/08/11	26/08/2011	09/12/11
100	Moehau Range Tree3	18/08/11	26/08/2011	09/12/11
101	Waipoua 1, Graft 1	24/08/11	07/10/11	09/12/11
102	Waipoua 1, Graft 2	24/08/11	07/10/11	09/12/11
103	Waipoua 1, Graft 3 Ford Rikker	24/08/11	07/10/11	09/12/11
104	Waipoua Puk 2, Tree 1	02/09/11	Wrong location, do not assay	09/12/11
105	Waipoua Puk 2, Tree 2	02/09/11	Wrong location, do not assay	09/12/11
106	Waipoua Puk 2, Tree 3	02/09/11	Wrong location, do not assay	09/12/11
107	Waipoua Pan 1, Tree 1	02/09/11	07/10/11	09/12/11
108	Waipoua Pan 1, Tree 2	02/09/11	07/10/11	09/12/11
109	Waipoua Pan 1, Tree 3	02/09/11	07/10/11	09/12/11

Sample no.	Sample identification & type	Date received (dd/mm/yy)	Date analysed (dd/mm/yy)	Date reported (dd/mm/yy)
110	Waipoua WK2, Tree 1	07/09/11	07/10/11	09/12/11
111	Waipoua WK2, Tree 2	07/09/11	07/10/11	09/12/11
112	Waipoua WK2, Tree 3	07/09/11	07/10/11	09/12/11
113	Waipoua WK3, Tree 1	07/09/11	07/10/11	09/12/11
114	Waipoua WK3, Tree 2	07/09/11	07/10/11	09/12/11
115	Waipoua WK3, Tree 3	07/09/11	07/10/11	09/12/11
116	Waipoua WP2, Tree 1	07/09/11	07/10/11	09/12/11
117	Waipoua WP2, Tree 2	07/09/11	07/10/11	09/12/11
118	Waipoua WP2, Tree 3	07/09/11	07/10/11	09/12/11
119	Waipoua Puk 2 replacement sample Tree 3	07/09/11	07/10/11	09/12/11
120	Waipoua Puk 2 replacement sample Tree 2	07/09/11	07/10/11	09/12/11
121	Waipoua Puk 2 replacement sample Tree 1	07/09/11	07/10/11	09/12/11
122	Waipoua KO1, Tree 1	09/09/11	07/10/11	09/12/11
123	Waipoua KO1, Tree 2	09/09/11	07/10/11	09/12/11
124	Waipoua KO1, Tree 3	09/09/11	07/10/11	09/12/11
125	Waipoua WP1, Tree 1	09/09/11	07/10/11	09/12/11
126	Waipoua WP1, Tree 2	09/09/11	07/10/11	09/12/11
127	Waipoua WP1, Tree 3	09/09/11	07/10/11	09/12/11
128	Waipoua TO1, Tree 1	09/09/11	07/10/11	09/12/11
129	Waipoua TO1, Tree 2	09/09/11	07/10/11	09/12/11

Sample no.	Sample identification & type	Date received (dd/mm/yy)	Date analysed (dd/mm/yy)	Date reported (dd/mm/yy)
130	Waipoua TO1, Tree 3	09/09/11	07/10/11	09/12/11
131	Waipoua Puk 1, Tree 1	16/09/11	14/10/11	09/12/11
132	Waipoua Puk 1, Tree 2	16/09/11	14/10/11	09/12/11
133	Waipoua Puk 1, Tree 3	16/09/11	14/10/11	09/12/11
134	Waipoua TM1, Tree 1	20/09/11	14/10/11	09/12/11
135	Waipoua TM1, Tree 2	20/09/11	14/10/11	09/12/11
136	Waipoua TM1, Tree 3	20/09/11	14/10/11	09/12/11
137	Waipoua Y1, Tree 1	20/09/11	14/10/11	09/12/11
138	Waipoua Y1, Tree 2	20/09/11	14/10/11	09/12/11
139	Waipoua Y1, Tree 3	20/09/11	14/10/11	09/12/11
140	Waipoua TM 2 Tree 1	21/09/11	14/10/11	09/12/11
141	Waipoua TM 2 Tree 2	21/09/11	14/10/11	09/12/11
142	Waipoua TM 2 Tree 3	21/09/11	14/10/11	09/12/11
143	Waipoua OSS 1 Tree 1	21/09/11	14/10/11	09/12/11
144	Waipoua OSS 1 Tree 2	21/09/11	14/10/11	09/12/11
145	Waipoua OSS 1 Tree 3	21/09/11	14/10/11	09/12/11
146	Waipoua WRU1 Tree 1	22/09/11	21/10/11	09/12/11
147	Waipoua WRU1 Tree 2	22/09/11	21/10/11	09/12/11
148	Waipoua WRU1 Tree 3	22/09/11	21/10/11	09/12/11
149	Waipoua WRU2 Tree 1	23/09/11	21/10/11	09/12/11
150	Waipoua WRU2 Tree 2	23/09/11	21/10/11	09/12/11
151	Waipoua WRU2 Tree 3	23/09/11	21/10/11	09/12/11

Sample no.	Sample identification & type	Date received (dd/mm/yy)	Date analysed (dd/mm/yy)	Date reported (dd/mm/yy)
152	Waipoua R1 Tree 1	23/09/11	21/10/11	09/12/11
153	Waipoua R1 Tree 2	23/09/11	21/10/11	09/12/11
154	Waipoua R1 Tree 3	23/09/11	21/10/11	09/12/11
155	Waipoua RR Tree 1	23/09/11	21/10/11	09/12/11
156	Waipoua RR Tree 2	23/09/11	21/10/11	09/12/11
157	Waipoua RR Tree 2	28/09/11	21/10/11	09/12/11
158	Waipoua RRK Tree 1	23/09/11	21/10/11	09/12/11
159	Waipoua RRK Tree 2	23/09/11	21/10/11	09/12/11
160	Waipoua RRK Tree 3	23/09/11	21/10/11	09/12/11
161	Waipoua RR2 Tree 1	28/09/11	21/10/11	09/12/11
162	Waipoua RR2 Tree 2	28/09/11	21/10/11	09/12/11
163	Waipoua RR2 Tree 3	28/09/11	21/10/11	09/12/11
164	Waipoua RR3 Tree 1	29/09/11	21/10/11	09/12/11
165	Waipoua RR3 Tree 2	29/09/11	21/10/11	09/12/11
166	Waipoua RR3 Tree 3	29/09/11	21/10/11	09/12/11
167	Waipoua RR4 Tree 1	29/09/11	21/10/11	09/12/11
168	Waipoua RR4 Tree 2	29/09/11	21/10/11	09/12/11
169	Waipoua RR4 Tree 3	29/09/11	21/10/11	09/12/11
170	Puketi Special Tree 1	30/09/11	21/10/11	09/12/11
171	Puketi Special Tree 2	30/09/11	21/10/11	09/12/11
172	Puketi Special Tree 3	30/09/11	21/10/11	09/12/11
173	Site 20 Tree 1 Herekino	30/09/11	21/10/11	09/12/11

Sample no.	Sample identification & type	Date received (dd/mm/yy)	Date analysed (dd/mm/yy)	Date reported (dd/mm/yy)
174	Site 20 Tree 2 Herekino	30/09/11	21/10/11	09/12/11
175	Site 20 Tree 3 Herekino	30/09/11	21/10/11	09/12/11
176	Waipoua RR5 Tree 1 (170)	30/09/11	21/10/11	09/12/11
177	Waipoua RR5 Tree 2 (171)	30/09/11	21/10/11	09/12/11
178	Waipoua RR5 Tree 3 (172)	30/09/11	21/10/11	09/12/11
179	Waipoua RR6 Tree 1 (173)	30/09/11	21/10/11	09/12/11
180	Waipoua RR6 Tree 2 (174)	30/09/11	21/10/11	09/12/11
181	Waipoua RR6 Tree 3 (175)	30/09/11	21/10/11	09/12/11
182	Waipoua RR7 Tree 1 (176)	30/09/11	21/10/11	09/12/11
183	Waipoua RR7 Tree 2 (177)	30/09/11	21/10/11	09/12/11
184	Waipoua RR7 Tree 3 (178)	30/09/11	21/10/11	09/12/11
185	Waipoua RR7 Tree 3A (179)	30/09/11	21/10/11	09/12/11
186	NUR Tree 1	06/10/11	28/10/11	09/12/11
187	NUR Tree 2	06/10/11	28/10/11	09/12/11
188	NUR Tree 3	06/10/11	28/10/11	09/12/11
189	WAI OMT Tree 1	06/10/11	28/10/11	09/12/11
190	WAI OMT Tree 2	06/10/11	28/10/11	09/12/11
191	WAI OMT Tree 3	06/10/11	28/10/11	09/12/11
192	MUR Tree 1	06/10/11	28/10/11	09/12/11
193	MUR Tree 2	06/10/11	28/10/11	09/12/11
194	MUR Tree 3	06/10/11	28/10/11	09/12/11

<i>Sample no.</i>	<i>Sample identification & type</i>	<i>Date received (dd/mm/yy)</i>	<i>Date analysed (dd/mm/yy)</i>	<i>Date reported (dd/mm/yy)</i>
195	Waipoua Puk 3 Tree 1	07/10/11	28/10/11	09/12/11
196	Waipoua Puk 3 Tree 2	07/10/11	28/10/11	09/12/11
197	Waipoua Puk 3 Tree 3	07/10/11	28/10/11	09/12/11
198	Waipoua RR9 Tree 1	11/10/11	28/10/11	09/12/11
199	Waipoua RR9 Tree 2	11/10/11	28/10/11	09/12/11
200	Waipoua RR9 Tree 3	11/10/11	28/10/11	09/12/11
201	Waipoua RR10 Tree 1	11/10/11	28/10/11	09/12/11
202	Waipoua RR10 Tree 2	11/10/11	28/10/11	09/12/11
203	Waipoua RR10 Tree 3	11/10/11	28/10/11	09/12/11
204	Waipoua RR11 Tree 1	11/10/11	28/10/11	09/12/11
205	Waipoua RR11 Tree 2	11/10/11	28/10/11	09/12/11
206	Waipoua RR11 Tree 3	11/10/11	28/10/11	09/12/11

Appendix 1B – Sample Control Record

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
092	Ecol Lab	1015; 22/06/11	1528 g		
093	Ecol Lab	1016; 22/06/11	1601 g		
094	Ecol Lab	1015; 22/06/11	3017 g		
095	Ecol Lab	1128; 18/08/11			1128; 18/08/11; 766.9 g
096	Ecol Lab	1128; 18/08/11			1128; 18/08/11; 638.5 g
097	Ecol Lab	1129; 18/08/11			1129; 18/08/11; 918.8 g
098	Ecol Lab	1129; 18/08/11			1129; 18/08/11; 820.1 g
099	Ecol Lab	1129; 18/08/11			1129; 18/08/11; 674.3 g
100	Ecol Lab	1130; 18/08/11			1130; 18/08/11; 871.4 g
101	Ecol Lab	0946; 24/08/11			0946; 24/08/11; 1131 g
102	Ecol Lab	0948; 24/08/11			0948; 24/08/11; 1286 g
103	Ecol Lab	0947; 24/08/11			0948; 24/08/11; 1402 g
092	Ecol Lab	1524; 24/08/11	158 g to LCR	BA	
092	Ecol Lab	1525; 24/08/11	148 g to Scion	Posted to Scion	1533; 24/08/11; 1146.8 g
093	Ecol Lab	1535; 24/08/11	189.9 g to LCR	BA	

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
093	Ecol Lab	1538; 24/08/11	216.4 g to PFR	Posted to PFR	1538; 24/08/11; 1178.9 g
094	Ecol Lab	1542; 24/08/11	192.8 g to PFR	Posted to PFR	
094	Ecol Lab	1544; 24/08/11	193.6 g to Scion	Posted to Scion	1545; 24/08/11; 2564.8 g
095	Ecol Lab	1547; 24/08/11	175.7 g to LCR	BA	
095	Ecol Lab	1550; 24/08/11	208.0 g to PFR	Posted to PFR	1551; 24/08/11; 349.0 g
096	Ecol Lab	1554; 24/08/11	177.2 g to PFR	Posted to PFR	
096	Ecol Lab	1555; 24/08/11	180.1 g to Scion	Posted to Scion	1556; 24/08/11; 279.1 g
097	Ecol Lab	1558; 24/08/11	197.5 g to LCR	BA	
097	Ecol Lab	1601; 24/08/11	203.1 g to Scion	Posted to Scion	1602; 24/08/11; 516.4 g
098	Ecol Lab	1608; 24/08/11	171.4 g to PFR	Posted to PFR	
098	Ecol Lab	1610; 24/08/11	170.1 g to Scion	Posted to Scion	1612; 24/08/11; 464.5 g
099	Ecol Lab	1616; 24/08/11	150.5 g to PFR	Posted to PFR	
099	Ecol Lab	1617; 24/08/11	150.3 g to LCR	BA	1617; 24/08/11; 356.1 g
100	Ecol Lab	1619; 24/08/11	188.5 g to LCR	BA	
100	Ecol Lab	1620; 24/08/11	176.4 g to Scion	Posted to Scion	1620; 24/08/11; 450.4 g
104	Ecol Lab				1047; 02/09/11; 1159.1 g
105	Ecol Lab				1050; 02/09/11; 1050.0 g
106	Ecol Lab				1051; 02/09/11; 1184.0 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
107	Ecol Lab				1052; 02/09/11; 1612.4 g
108	Ecol Lab				1054; 02/09/11; 1840.0 g
109	Ecol Lab				1055; 02/09/11; 1529.4 g
110	Ecol Lab				1040; 07/09/11; 1105.7 g
111	Ecol Lab				1055; 07/09/11; 1110.4 g
112	Ecol Lab				1056; 07/09/11; 912.0 g
113	Ecol Lab				1115; 07/09/11; 1259.2 g
114	Ecol Lab				1117; 07/09/11; 1130.6 g
115	Ecol Lab				1118; 07/09/11; 1091.3 g
116	Ecol Lab				1120; 07/09/11; 1199.1 g
117	Ecol Lab				1122; 07/09/11; 1189.9 g
118	Ecol Lab				1124; 07/09/11; 1487.2 g
119	Ecol Lab				1126; 07/09/11; 1257.7 g
120	Ecol Lab				1127; 07/09/11; 1256.6 g
121	Ecol Lab				1128; 07/09/11; 1406.5 g
122	Ecol Lab				1140; 09/09/11; 1206.26 g
123	Ecol Lab				1141; 09/09/11; 966.56 g
124	Ecol Lab				1143 09/09/11; 1106.4 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
125	Ecol Lab				1144; 09/09/11; 1289.75 g
126	Ecol Lab				1146; 09/09/11; 1293.48 g
127	Ecol Lab				1147; 09/09/11; 916.3 g
128	Ecol Lab				1148; 09/09/11; 1127.57 g
129	Ecol Lab				1149; 09/09/11; 778.71 g
130	Ecol Lab				1150; 09/09/11; 1057.22 g
131	Ecol Lab				1150; 16/09/11; 1705.93 g
132	Ecol Lab				1151; 16/09/11; 1614.43 g
133	Ecol Lab				1152; 16/09/11; 1748.00 g
134	Ecol Lab				1100; 20/09/11; 1351.03 g
135	Ecol Lab				1101; 20/09/11; 1579.47 g
136	Ecol Lab				1102; 20/09/11; 1455.15 g
137	Ecol Lab				1103; 20/09/11; 1221.57 g
138	Ecol Lab				1104; 20/09/11; 1430.60 g
139	Ecol Lab				1105; 20/09/11; 1763.24 g
140	Ecol Lab				1155; 21/09/11; 1286.98 g
141	Ecol Lab				1156; 21/09/11; 1480.91 g
142	Ecol Lab				1158; 21/09/11; 1089.34 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
143	Ecol Lab				1202; 21/09/11; 1812.96 g
144	Ecol Lab				1203; 21/09/11; 1738.75 g
145	Ecol Lab				1204; 21/09/11; 1291.90 g
146	Ecol Lab				1030; 22/09/11; 1496.04 g
147	Ecol Lab				1031; 22/09/11; 1210.42 g
148	Ecol Lab				1032; 22/09/11; 1231.45 g
149	Ecol Lab				1050; 23/09/11; 1159.17 g
150	Ecol Lab				1052; 23/09/11; 1128.13 g
151	Ecol Lab				1053; 23/09/11; 1040.94 g
152	Ecol Lab				1054; 23/09/11; 2205.35 g
153	Ecol Lab				1055; 23/09/11; 1760.53 g
154	Ecol Lab				1057; 23/09/11; 1702.58 g
155	Ecol Lab				1058; 23/09/11; 2209.90 g
156	Ecol Lab				1059; 23/09/11; 2042.04 g
157	Ecol Lab				1019; 28/09/11; 1426.19 g
158	Ecol Lab				1102; 23/09/11; 2173.46 g
159	Ecol Lab				1103; 23/09/11; 2152.06 g
160	Ecol Lab				1105; 23/09/11; 1812.86 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
161	Ecol Lab				1020; 28/09/11; 1599.11 g
162	Ecol Lab				1022; 28/09/11; 1640.64 g
163	Ecol Lab				1023; 28/09/11; 1884.10 g
164	Ecol Lab				1103; 29/09/11; 1380.98 g
165	Ecol Lab				1105; 29/09/11; 1731.55 g
166	Ecol Lab				1106; 29/09/11; 2201.47 g
167	Ecol Lab				1107; 29/09/11; 1592.06 g
168	Ecol Lab				1108; 29/09/11; 1972.08 g
169	Ecol Lab				1110; 29/09/11; 1834.19 g
170	Ecol Lab				1000; 30/09/11; 583 g
171	Ecol Lab				1001; 30/09/11; 742 g
172	Ecol Lab				1003; 30/09/11; 762 g
173	Ecol Lab				1004; 30/09/11; 669 g
174	Ecol Lab				1004; 30/09/11; 810 g
175	Ecol Lab				1005; 30/09/11; 905 g
176	Ecol Lab				1557; 30/09/11; 2636 g
177	Ecol Lab				1514; 30/09/11; 2058 g
178	Ecol Lab				1515; 30/09/11; 1841 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
179	Ecol Lab				1516; 30/09/11; 1671 g
180	Ecol Lab				1518; 30/09/11; 1680 g
181	Ecol Lab				1520; 30/09/11; 1712 g
182	Ecol Lab				1521; 30/09/11; 1606 g
183	Ecol Lab				1523; 30/09/11; 1649 g
184	Ecol Lab				1524; 30/09/11; 13399 g
185	Ecol Lab				1526; 30/09/11; 1635 g
186	Ecol Lab				
101	Ecol Lab	0950; 04/10/11	183.4 g to LCR	BA	
101	Ecol Lab	1001; 04/10/11	198.0 g to Scion	Posted to Scion	1005; 04/10/11; 736.2 g
102	Ecol Lab	1008; 04/10/11	181.6 g to LCR	BA	
102	Ecol Lab	1010; 04/10/11	169.3 g to Scion	Posted to Scion	1011; 04/10/11; 924.0 g
103	Ecol Lab	1012; 04/10/11	189.7 g to LCR	BA	
103	Ecol Lab	1013; 04/10/11	193.9 g to Scion	Posted to Scion	1015; 04/10/11; 1014.4 g
107	Ecol Lab	1016; 04/10/11	182.9 g to LCR	BA	
107	Ecol Lab	1017; 04/10/11	180.0 g to Scion	Posted to Scion	1019; 04/10/11; 1248.60 g
108	Ecol Lab	1020; 04/10/11	194.8 g to LCR	BA	
108	Ecol Lab	1021; 04/10/11	196.1 g to Scion	Posted to Scion	1023; 04/10/11; 1434.7 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
109	Ecol Lab	1025; 04/10/11	185.5 g to LCR	BA	
109	Ecol Lab	1026; 04/10/11	170.8 g to Scion	Posted to Scion	1030; 04/10/11; 1186.4 g
110	Ecol Lab	1031; 04/10/11	171.0 g to LCR	BA	
110	Ecol Lab	1032; 04/10/11	167.4 g to Scion	Posted to Scion	1035; 04/10/11; 149.50 g
111	Ecol Lab	1334; 03/10/11	185.12g to LCR	BA	
111	Ecol Lab	1335; 03/10/11	217.00g to PFR	Posted to PFR	1336; 03/10/11; 722.29 g
112	Ecol Lab	1336; 03/10/11	205.60g to LCR	BA	
112	Ecol Lab	1337; 03/10/11	183.90g to PFR	Posted to PFR	1339; 03/10/11; 580.00g
113	Ecol Lab	1338; 03/10/11	170.36 g to LCR	BA	
113	Ecol Lab	1339; 03/10/11	203.3 g to PFR	Posted to PFR	1341; 03/10/11; 890.9 g
114	Ecol Lab	1342; 03/10/11	200.7 g to LCR	BA	
114	Ecol Lab	1343; 03/10/11	196.05 g to PFR	Posted to PFR	1344; 03/10/11; 672.6 g
115	Ecol Lab	1345; 03/10/11	195.20 g to LCR	BA	
115	Ecol Lab	1345; 03/10/11	184.1 g to PFR	Posted to PFR	1346; 03/10/11; 716.96 g
116	Ecol Lab	1347; 03/10/11	196.9 g to LCR	BA	
116	Ecol Lab	1350; 03/10/11	177.6 g to PFR	Posted to PFR	1349; 03/10/11; 830.60 g
117	Ecol Lab	1350; 03/10/11	192.8 g to LCR	BA	
117	Ecol Lab	1345; 03/10/11	173.5 g to PFR	Posted to PFR	1351; 03/10/11; 817.7 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
118	Ecol Lab	1352; 03/10/11	201.9 g to LCR	BA	
118	Ecol Lab	1352; 03/10/11	197.1 g to PFR	Posted to PFR	1353; 03/10/11; 1083.0 g
119	Ecol Lab	1354; 03/10/11	171.5 g to LCR	BA	
119	Ecol Lab	1355; 03/10/11	181.2 g to PFR	Posted to PFR	1357; 03/10/11; 721.03 g
120	Ecol Lab	1358; 03/10/11	171.2 g to LCR	BA	
120	Ecol Lab	1359; 03/10/11	207.9 g to PFR	Posted to PFR	1400; 03/10/11; 883.1 g
121	Ecol Lab	1401; 03/10/11	188.74 g to PFR	Posted to PFR	
121	Ecol Lab	1401; 03/10/11	199.7 g to Scion	Posted to Scion	1402; 03/10/11; 1013.4 g
122	Ecol Lab	1403; 03/10/11	176.7 g to PFR	Posted to PFR	
122	Ecol Lab	1405; 03/10/11	199.43 g to Scion	Posted to Scion	1407; 03/10/11; 839.7 g
123	Ecol Lab	1408; 03/10/11	197.6 g to PFR	Posted to PFR	
123	Ecol Lab	1409; 03/10/11	176.6 g to Scion	Posted to Scion	1411; 03/10/11; 597.3 g
124	Ecol Lab	1410; 03/10/11	179.4 g to PFR	Posted to PFR	
124	Ecol Lab	1411; 03/10/11	185.6 g to Scion	Posted to Scion	1412; 03/10/11; 746.0 g
125	Ecol Lab	1413; 03/10/11	178.2 g to PFR	Posted to PFR	
125	Ecol Lab	1414; 03/10/11	193.3 g to Scion	Posted to Scion	1415; 03/10/11; 925.2 g
126	Ecol Lab	1415; 03/10/11	173.4 g to PFR	Posted to PFR	
126	Ecol Lab	1416; 03/10/11	178.2 g to Scion	Posted to Scion	1417; 03/10/11; 947.9 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
127	Ecol Lab	1418; 03/10/11	164.9 g to PFR	Posted to PFR	
127	Ecol Lab	1419; 03/10/11	173.2 g to Scion	Posted to Scion	1420; 03/10/11; 582.6 g
128	Ecol Lab	1421; 03/10/11	189.3 g to PFR	Posted to PFR	
128	Ecol Lab	1422; 03/10/11	155.4 g to Scion	Posted to Scion	1423; 03/10/11; 783.2 g
129	Ecol Lab	1424; 03/10/11	177.3 g to PFR	Posted to PFR	
129	Ecol Lab	1425; 03/10/11	161.5 g to Scion	Posted to Scion	1427; 03/10/11; 465.3 g
130	Ecol Lab	1040; 04/10/11	193.4 g to LCR	BA	
130	Ecol Lab	1045; 04/10/11	187.4 g to Scion	Posted to Scion	1050; 04/10/11; 656.3 g
131	Ecol Lab	1051; 04/10/11	192.1 g to LCR	BA	
131	Ecol Lab	1053; 04/10/11	172.6 g to Scion	Posted to Scion	1054; 04/10/11; 1333.3 g
132	Ecol Lab	1100; 04/10/11	174.8 g to LCR	BA	
132	Ecol Lab	1102; 04/10/11	187.16 g to Scion	Posted to Scion	1105; 04/10/11; 1243.7 g
133	Ecol Lab	1106; 04/10/11	187.2 g to LCR	BA	
133	Ecol Lab	1107; 04/10/11	177.7 g to Scion	Posted to Scion	1115; 04/10/11; 1376.0 g
134	Ecol Lab	1116; 04/10/11	183.0 g to LCR	BA	
134	Ecol Lab	1117; 04/10/11	190.3 g to Scion	Posted to Scion	1120; 04/10/11; 975.1 g
135	Ecol Lab	1121; 04/10/11	200.2 g to LCR	BA	
135	Ecol Lab	1122; 04/10/11	192.8 g to Scion	Posted to Scion	1125; 04/10/11; 1172.0 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
136	Ecol Lab	1126; 04/10/11	198.3 g to LCR	BA	
136	Ecol Lab	1127; 04/10/11	187.0 g to Scion	Posted to Scion	1129; 04/10/11; 1066.0 g
137	Ecol Lab	1130; 04/10/11	197.2 g to LCR	BA	
137	Ecol Lab	1131; 04/10/11	178.3 g to Scion	Posted to Scion	1135; 04/10/11; 846.2 g
138	Ecol Lab	1136; 04/10/11	183.2 g to LCR	BA	
138	Ecol Lab	1138; 04/10/11	193.5 g to Scion	Posted to Scion	1139; 04/10/11; 1052.2 g
139	Ecol Lab	1140; 04/10/11	183.1 g to LCR	BA	
139	Ecol Lab	1141; 04/10/11	177.6 g to Scion	Posted to Scion	1142; 04/10/11; 1393.2 g
140	Ecol Lab	1143; 04/10/11	174.3 g to LCR	BA	
140	Ecol Lab	1144; 04/10/11	187.4 g to Scion	Posted to Scion	1148; 04/10/11; 958.4 g
141	Ecol Lab	1146; 04/10/11	175.7 g to LCR	BA	
141	Ecol Lab	1149; 04/10/11	162.4 g to Scion	Posted to Scion	1150; 04/10/11; 1142.7 g
142	Ecol Lab	1300; 04/10/11	172.13 g to LCR	BA	
142	Ecol Lab	1302; 04/10/11	188.8 g to Scion	Posted to Scion	1305; 04/10/11; 727.2 g
143	Ecol Lab	1306 04/10/11	184.3 g to LCR	BA	
143	Ecol Lab	1307; 04/10/11	176.7 g to Scion	Posted to Scion	1310; 04/10/11; 1454.0 g
144	Ecol Lab	1311; 04/10/11	190.3 g to LCR	BA	
144	Ecol Lab	1312; 04/10/11	177.3 g to Scion	Posted to Scion	1315; 04/10/11; 1371.6 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
145	Ecol Lab	1316; 04/10/11	174.7 g to LCR	BA	
145	Ecol Lab	1317; 04/10/11	177.3 g to Scion	Posted to Scion	1318; 04/10/11; 941.4 g
146	Ecol Lab	1319; 04/10/11	179.0 g to LCR	BA	
146	Ecol Lab	1320; 04/10/11	192.8 g to Scion	Posted to Scion	1321; 04/10/11; 1126.3 g
147	Ecol Lab	1322; 04/10/11	179.5 g to LCR	BA	
147	Ecol Lab	1323; 04/10/11	181.4 g to Scion	Posted to Scion	1325; 04/10/11; 845.9 g
148	Ecol Lab	1326; 04/10/11	182.7 g to LCR	BA	
148	Ecol Lab	1327; 04/10/11	186.4 g to Scion	Posted to Scion	1330; 04/10/11; 865.5 g
149	Ecol Lab	1456; 03/10/11	169.0 g to PFR	Posted to PFR	
149	Ecol Lab	1457; 03/10/11	188.9 g to LCR	BA	1459; 03/10/11; 804.7 g
150	Ecol Lab	1501; 03/10/11	184.8 g to PFR	Posted to PFR	
150	Ecol Lab	1501; 03/10/11	171.9 g to Scion	Posted to Scion	1502; 03/10/11; 785.0 g
151	Ecol Lab	1503; 03/10/11	173.5 g to PFR	Posted to PFR	
151	Ecol Lab	1503; 03/10/11	190.8 g to LCR	BA	1504; 03/10/11; 667.3 g
152	Ecol Lab	1505; 03/10/11	198.6 g to PFR	Posted to PFR	
152	Ecol Lab	1505; 03/10/11	171.7 g to Scion	Posted to Scion	1506; 03/10/11; 1847.1 g
153	Ecol Lab	1507; 03/10/11	182.3 g to PFR	Posted to PFR	
153	Ecol Lab	1507; 03/10/11	190.8 g to LCR	BA	1508; 03/10/11; 1334.9 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
154	Ecol Lab	1509;03/10/11	196.9 g to PFR	Posted to PFR	
154	Ecol Lab	1509;03/10/11	182.4 g to Scion	Posted to Scion	1510;03/10/11; 1330.8 g
155	Ecol Lab	1511;03/10/11	178.5 g to PFR	Posted to PFR	
155	Ecol Lab	1513;03/10/11	173.4 g to Scion	Posted to Scion	1515;03/10/11; 1872.2 g
156	Ecol Lab	1514;03/10/11	193.3 g to PFR	Posted to PFR	
156	Ecol Lab	1515;03/10/11	189.9 g to Scion	Posted to Scion	1517;03/10/11; 1657.6 g
157	Ecol Lab	1518;03/10/11	185.7 g to PFR	Posted to PFR	
157	Ecol Lab	1518;03/10/11	190.7 g to Scion	Posted to Scion	1519;03/10/11; 1054.8 g
158	Ecol Lab	1521;03/10/11	190.5 g to PFR	Posted to PFR	
158	Ecol Lab	1522;03/10/11	180.6 g to Scion	Posted to Scion	1523;03/10/11; 1811.66 g
159	Ecol Lab	1524;03/10/11	189.17 g to LCR	BA	
159	Ecol Lab	1525;03/10/11	176.7 g to PFR	Posted to PFR	1527;03/10/11; 1782.66 g
160	Ecol Lab	1526;03/10/11	181.5 g to LCR	BA	
160	Ecol Lab	1527;03/10/11	181.15 g to PFR	Posted to PFR	1531;03/10/11; 1445.7 g
161	Ecol Lab	1532;03/10/11	176.0 g to LCR	BA	
161	Ecol Lab	1532;03/10/11	184.6 g to PFR	Posted to PFR	1533;03/10/11; 1236.0 g
162	Ecol Lab	1534;03/10/11	187.0 g to LCR	BA	
162	Ecol Lab	1534;03/10/11	171.6 g to PFR	Posted to PFR	1535;03/10/11; 1298.3 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
163	Ecol Lab	1536;03/10/11	226.0 g to LCR	BA	
163	Ecol Lab	1536;03/10/11	224.7 g to PFR	Posted to PFR	1537;03/10/11; 1430.2 g
164	Ecol Lab	1538;03/10/11	165.6 g to LCR	BA	
164	Ecol Lab	1538;03/10/11	168.7 g to PFR	Posted to PFR	1539;03/10/11; 1052.4 g
165	Ecol Lab	1540;03/10/11	188.1 g to LCR	BA	
165	Ecol Lab	1540;03/10/11	188.5 g to PFR	Posted to PFR	1541;03/10/11; 1345.7 g
166	Ecol Lab	1542;03/10/11	194.3 g to LCR	BA	
166	Ecol Lab	1542;03/10/11	175.9 g to PFR	Posted to PFR	1543;03/10/11; 1833.9 g
167	Ecol Lab	1545;03/10/11	190.1 g to LCR	BA	
167	Ecol Lab	1550;03/10/11	170.0 g to PFR	Posted to PFR	1559;03/10/11; 1238.0 g
168	Ecol Lab	1559;03/10/11	182.4 g to LCR	BA	
168	Ecol Lab	1559;03/10/11	191.6 g to PFR	Posted to PFR	1600;03/10/11; 1625.8 g
169	Ecol Lab	1601;03/10/11	170.5 g to LCR	BA	
169	Ecol Lab	1602;03/10/11	197.7 g to PFR	Posted to PFR	1603;03/10/11; 1473.6 g
170	Ecol Lab	1604;03/10/11	156.9 g to PFR	Posted to PFR	
170	Ecol Lab	1605;03/10/11	192.0 g to Scion	Posted to Scion	1606;03/10/11; 225.7 g
171	Ecol Lab	1606;03/10/11	177.1 g to PFR	Posted to PFR	
171	Ecol Lab	1608;03/10/11	188.4 g to Scion	Posted to Scion	1611;03/10/11; 380.0 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
172	Ecol Lab	1612;03/10/11	135.0 g to PFR	Posted to PFR	
172	Ecol Lab	1612;03/10/11	155.0 g to Scion	Posted to Scion	1613;03/10/11; 482.4 g
173	Ecol Lab	1614;03/10/11	193.3 g to PFR	Posted to PFR	
173	Ecol Lab	1615;03/10/11	198.7 g to Scion	Posted to Scion	1616;03/10/11; 296.2 g
174	Ecol Lab	1617;03/10/11	177.8 g to PFR	Posted to PFR	
174	Ecol Lab	1618;03/10/11	165.2 g to Scion	Posted to Scion	1619;03/10/11; 456.3 g
175	Ecol Lab	1620; 03/10/11	182.6 g to PFR	Posted to PFR	
175	Ecol Lab	1620; 03/10/11	162.7 g to Scion	Posted to Scion	1621;03/10/11; 564.6 g
176	Ecol Lab	1622; 03/10/11	186.15 g to PFR	Posted to PFR	
176	Ecol Lab	1623; 03/10/11	172.7 g to Scion	Posted to Scion	1625;03/10/11; 2273.0 g
177	Ecol Lab	1626; 03/10/11	180.0 g to PFR	Posted to PFR	
177	Ecol Lab	1626; 03/10/11	196.0 g to Scion	Posted to Scion	1627;03/10/11; 1670.4 g
178	Ecol Lab	0935;04/10/11	175.6 g to PFR	Posted to PFR	
178	Ecol Lab	0936;04/10/11	177.17 g to Scion	Posted to Scion	0937;04/10/11; 1475.8 g
179	Ecol Lab	0938;04/10/11	185.7 g to PFR	Posted to PFR	
179	Ecol Lab	0939;04/10/11	193.4 g to Scion	Posted to Scion	0941;04/10/11; 1282.68 g
180	Ecol Lab	0942;04/10/11	198.8 g to Scion	Posted to PFR	
180	Ecol Lab	0943;04/10/11	190.6 g to Scion	Posted to Scion	0945;04/10/11; 1282.75 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
181	Ecol Lab	0946;04/10/11	200.0 g to LCR	BA	
181	Ecol Lab	0947;04/10/11	186.5 g to PFR	Posted to PFR	0947;04/10/11; 1322.9 g
182	Ecol Lab	0948;04/10/11	198.4 g to LCR	BA	
182	Ecol Lab	0949;04/10/11	170.5 g to Scion	Posted to Scion	0950;04/10/11; 1235.2 g
183	Ecol Lab	0951;04/10/11	179.9 g to PFR	Posted to PFR	
183	Ecol Lab	0952;04/10/11	182.9 g to Scion	Posted to Scion	0953;04/10/11; 1292.9 g
185	Ecol Lab	0953;04/10/11	180.6 g to PFR	Posted to PFR	
185	Ecol Lab	0954;04/10/11	207.0 g to Scion	Posted to Scion	
185	Ecol Lab	0955;04/10/11	194.0 g to LCR	BA	0958;04/10/11; 986.0 g
186	Ecol Lab	06/10/11			1007; 06/10/11; 1826 g
187	Ecol Lab	06/10/11			1009; 06/10/11; 1609 g
188	Ecol Lab	06/10/11			1010; 06/10/11; 1348 g
189	Ecol Lab	06/10/11			1013; 06/10/11; 1507 g
190	Ecol Lab	06/10/11			1013; 06/10/11; 1569 g
191	Ecol Lab	06/10/11			1014; 06/10/11; 1638 g
192	Ecol Lab	06/10/11			1017; 06/10/11; 1502 g
193	Ecol Lab	06/10/11			1018; 06/10/11; 1717 g
194	Ecol Lab	06/10/11			1019; 06/10/11; 1601 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
195	Ecol Lab	07/10/11			1025; 07/10/11; 1068.17g
196	Ecol Lab	07/10/11			1026; 07/10/11; 1287.04 g
197	Ecol Lab	07/10/11			1028; 07/10/11; 1093.64 g
198	Ecol Lab	11/10/11			1305; 11/10/11; 2157.00 g
199	Ecol Lab	11/10/11			1306; 11/10/11; 1685.86 g
200	Ecol Lab	11/10/11			1307; 11/10/11; 1855.88 g
201	Ecol Lab	11/10/11			1308; 11/10/11; 1997.88 g
202	Ecol Lab	11/10/11			1309; 11/10/11; 1644.77 g
203	Ecol Lab	11/10/11			1310; 11/10/11; 1933.72 g
204	Ecol Lab	11/10/11			1311; 11/10/11; 2171.83 g
205	Ecol Lab	11/10/11			1312; 11/10/11; 2053.84 g
206	Ecol Lab	11/10/11			1314; 11/10/11; 2009.45 g
186	Ecol Lab	1000;19/10/11	194.5 g to LCR	BA	
186	Ecol Lab	1001;19/10/11	198.5 g for PFR	Posted to PFR	1002;19/10/11; 1417.9 g
187	Ecol Lab	1003;19/10/11	188.6 g to LCR	BA	
187	Ecol Lab	1004;19/10/11	195.08 g for PFR	Posted to PFR	1005;19/10/11; 1153.0 g
188	Ecol Lab	1006;19/10/11	180.79 g to LCR	BA	
188	Ecol Lab	1007;19/10/11	200.0 g for PFR	Posted to PFR	1008;19/10/11; 926.3 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
189	Ecol Lab	1009; 19/10/11	194.9 g to LCR	BA	
189	Ecol Lab	1010; 19/10/11	185.86 g for PFR	Posted to PFR	1011; 19/10/11; 1117.8 g
190	Ecol Lab	1012; 19/10/11	189.8 g to LCR	BA	
190	Ecol Lab	1013; 19/10/11	199.4 g for PFR	Posted to PFR	1014; 19/10/11; 1165.9 g
191	Ecol Lab	1016; 19/10/11	188.57 g to LCR	BA	
191	Ecol Lab	1017; 19/10/11	199.2 g for PFR	Posted to PFR	1018; 19/10/11; 1215.9 g
192	Ecol Lab	1020; 19/10/11	194.83 g to LCR	BA	
192	Ecol Lab	1021; 19/10/11	187.6 g for PFR	Posted to PFR	1023; 19/10/11; 1168.5 g
193	Ecol Lab	1025; 19/10/11	199.5 g for PFR	Posted to PFR	
193	Ecol Lab	1026; 19/10/11	194.13 g to Scion	Posted to Scion	1027; 19/10/11; 1316.2 g
194	Ecol Lab	1028; 19/10/11	193.6 g for PFR	Posted to PFR	
194	Ecol Lab	1030; 19/10/11	183.4 g to Scion	Posted to Scion	1031; 19/10/11; 1220.5 g
195	Ecol Lab	1032; 19/10/11	198.6 g for PFR	Posted to PFR	
195	Ecol Lab	1033; 19/10/11	199.3 g to Scion	Posted to Scion	1034; 19/10/11; 658.5 g
196	Ecol Lab	1036; 19/10/11	179.4 g for PFR	Posted to PFR	
196	Ecol Lab	1037; 19/10/11	196.06 g to Scion	Posted to Scion	1039; 19/10/11; 905.3 g
197	Ecol Lab	1041; 19/10/11	199.2 g for PFR	Posted to PFR	
197	Ecol Lab	1042; 19/10/11	183.1 g to Scion	Posted to Scion	1043; 19/10/11; 705.6 g

Sample no.	Lab name	Time removed date (hours; dd/mm/yy)	Reason	Sample location	Time returned; date; mass of stored sample (hours; dd/mm/yy; grams)
198	Ecol Lab	1045; 19/10/11	196.1 g for PFR	Posted to PFR	
198	Ecol Lab	1046; 19/10/11	185.76 g to Scion	Posted to Scion	1047; 19/10/11; 1655.3 g
199	Ecol Lab	1049; 19/10/11	187.7 g for PFR	Posted to PFR	
199	Ecol Lab	1050; 19/10/11	179.0 g to Scion	Posted to Scion	1051; 19/10/11; 1297.7 g
200	Ecol Lab	1052; 19/10/11	200.0 g to LCR	BA	
200	Ecol Lab	1054; 19/10/11	180.4 g to Scion	Posted to Scion	1055; 19/10/11; 1429.8 g
201	Ecol Lab	1057; 19/10/11	176.18 g to LCR	BA	
201	Ecol Lab	1059; 19/10/11	194.4 g to Scion	Posted to Scion	1100; 19/10/11; 1605.0 g
202	Ecol Lab	1245; 19/10/11	1282.3 g to LCR	BA	
202	Ecol Lab	1246; 19/10/11	191.8 g to Scion	Posted to Scion	1248; 19/10/11; 1282.3 g
203	Ecol Lab	1250; 19/10/11	193.1 g to LCR	BA	
203	Ecol Lab	1251; 19/10/11	196.3 g to Scion	Posted to Scion	1253; 19/10/11; 1520.8 g
204	Ecol Lab	1255; 19/10/11	189.0 g to LCR	BA	
204	Ecol Lab	1257; 19/10/11	176.0 g to Scion	Posted to Scion	1300; 19/10/11; 1791.8 g
205	Ecol Lab	1302; 19/10/11	200.0 g to LCR	BA	
205	Ecol Lab	1304; 19/10/11	194.9 g to Scion	Posted to Scion	1305; 19/10/11; 1608.4 g
206	Ecol Lab	1307; 19/10/11	201.1 g to LCR	BA	
206	Ecol Lab	1308; 19/10/11	192.1 g to Scion	Posted to Scion	1310; 19/10/11; 1567.5 g

RFQ 12239: PTA Soil Detection Plan: Moehau Range, Coromandel Forest Park, Puketi, Herekino and Waipoua forests, July–October 2011

Key: 'LCR' = Landcare Research; 'PFR' = Plant & Food, 'BA' = Bioassay

Appendix 1C – Analytical Data Form

(Dates: dd/mm/yy)

Date	Sample no.	Air-dried	Moist incubated	Flooded / baited	Plated to Phyt.-selective media	PTA	DNA seq. confirmed
26/08/11	092	26/08/11	05/09/11	09/09/11	12/09/11	No	No
26/08/11	093	26/08/11	05/09/11	09/09/11	12/09/11	No	No
26/08/11	094	26/08/11	05/09/11	09/09/11	12/09/11	No	No
26/08/11	095	26/08/11	05/09/11	09/09/11	12/09/11	No	No
26/08/11	096	26/08/11	05/09/11	09/09/11	12/09/11	No	No
26/08/11	097	26/08/11	05/09/11	09/09/11	12/09/11	No	No
26/08/11	098	26/08/11	05/09/11	09/09/11	12/09/11	No	No
26/08/11	099	26/08/11	05/09/11	09/09/11	12/09/11	No	No
26/08/11	100	26/08/11	05/09/11	09/09/11	12/09/11	No	No
26/08/11	101	26/08/11	05/09/11	09/11/11	12/09/11	PTA	Yes
07/10/11	102	07/10/11	10/10/11	14/10/11	17/10/11	PTA	Yes
07/10/11	103	07/10/11	10/10/11	14/10/11	17/10/11	PTA	No
07/10/11	107	07/10/11	10/10/11	14/10/11	17/10/11	PTA	Yes
07/10/11	108	07/10/11	10/10/11	14/10/11	17/10/11	PTA	Yes
07/10/11	109	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	110	07/10/11	10/10/11	14/10/11	17/10/11	No	No
14/10/11	111	14/10/11	17/10/11	21/10/11	25/10/11	PTA	Yes
14/10/11	112	14/10/11	17/10/11	21/10/11	25/10/11	-	No

Date	Sample no.	Air-dried	Moist incubated	Flooded / baited	Plated to Phyt.-selective media	PTA	DNA seq. confirmed
14/10/11	113	14/10/11	17/10/11	21/10/11	25/10/11	PTA	Yes
14/10/11	114	14/10/11	17/10/11	21/10/11	25/10/11	PTA	Yes
14/10/11	115	14/10/11	17/10/11	21/10/11	25/10/11	PTA	Yes
14/10/11	116	14/10/11	17/10/11	21/10/11	25/10/11	PTA	Yes
14/10/11	117	14/10/11	17/10/11	21/10/11	25/10/11	PTA	Yes
14/10/11	118	14/10/11	17/10/11	21/10/11	25/10/11	-	No
14/10/11	122	14/10/11	17/10/11	21/10/11	25/10/11	-	No
14/10/11	123	14/10/11	17/10/11	21/10/11	25/10/11	-	No
14/10/11	124	14/10/11	17/10/11	21/10/11	25/10/11	-	No
14/10/11	125	14/10/11	17/10/11	21/10/11	25/10/11	-	No
14/10/11	126	14/10/11	17/10/11	21/10/11	25/10/11	-	No
14/10/11	127	14/10/11	17/10/11	21/10/11	25/10/11	-	No
14/10/11	128	14/10/11	17/10/11	21/10/11	25/10/11	PTA	Yes
14/10/11	129	14/10/11	17/10/11	21/10/11	25/10/11	PTA	Yes
07/10/11	130	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	131	07/10/11	10/10/11	14/10/11	17/10/11	PTA	No
07/10/11	132	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	133	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	134	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	135	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	136	07/10/11	10/10/11	14/10/11	17/10/11	No	No

Date	Sample no.	Air-dried	Moist incubated	Flooded / baited	Plated to Phyt.-selective media	PTA	DNA seq. confirmed
07/10/11	137	07/10/11	10/10/11	14/10/11	17/10/11	PTA	Yes
07/10/11	138	07/10/11	10/10/11	14/10/11	17/10/11	PTA	Yes
07/10/11	139	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	140	07/10/11	10/10/11	14/10/11	17/10/11	PTA	Yes
07/10/11	141	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	142	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	143	07/10/11	10/10/11	14/10/11	17/10/11	PTA	Yes
07/10/11	144	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	145	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	146	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	147	07/10/11	10/10/11	14/10/11	17/10/11	PTA	Yes
07/10/11	148	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	149	07/10/11	10/10/11	14/10/11	17/10/11	No	No
07/10/11	150	07/10/11	10/10/11	14/10/11	17/10/11	No	No
14/10/11	151	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	152	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	153	14/10/11	17/10/11	21/10/11	25/10/11	Yes	Yes
14/10/11	154	14/10/11	17/10/11	21/10/11	25/10/11	Yes	No
14/10/11	161	14/10/11	17/10/11	21/10/11	25/10/11	Yes	No
14/10/11	162	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	163	14/10/11	17/10/11	21/10/11	25/10/11	No	No

Date	Sample no.	Air-dried	Moist incubated	Flooded / baited	Plated to Phyt.-selective media	PTA	DNA seq. confirmed
14/10/11	164	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	165	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	166	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	167	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	168	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	169	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	173	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	174	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	175	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	176	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	177	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	178	14/10/11	17/10/11	21/10/11	25/10/11	Yes	No
14/10/11	179	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	180	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	181	14/10/11	17/10/11	21/10/11	25/10/11	No	No
14/10/11	182	14/10/11	17/10/11	21/10/11	25/10/11	PTA	Yes
14/10/11	183	14/10/11	17/10/11	21/10/11	25/10/11	PTA	No
14/10/11	185	14/10/11	17/10/11	21/10/11	25/10/11	No	No
21/10/11	186	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	187	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	188	21/10/11	24/10/11	28/10/11	28/10/11	No	No

Date	Sample no.	Air-dried	Moist incubated	Flooded / baited	Plated to Phyt.-selective media	PTA	DNA seq. confirmed
21/10/11	189	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	190	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	191	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	192	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	193	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	194	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	195	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	196	21/10/11	24/10/11	28/10/11	28/10/11	PTA	No
21/10/11	197	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	198	21/10/11	24/10/11	28/10/11	28/10/11	PTA	No
21/10/11	199	21/10/11	24/10/11	28/10/11	28/10/11	PTA	No
21/10/11	200	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	201	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	202	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	203	21/10/11	24/10/11	28/10/11	28/10/11	PTA	Yes
21/10/11	204	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	205	21/10/11	24/10/11	28/10/11	28/10/11	No	No
21/10/11	206	21/10/11	24/10/11	28/10/11	28/10/11	No	No

Appendix 2 – Master Worksheet

Sample	Site	Details	GPS	Date delivered to LCR (dd/mm/yy)	Tree sampling details
92	Site 26 Tree 1	Coromandel 3 (Piraunui Track)	E1835120 N5887334	22/06/2011	Site is 100 m north of coordinates & map. Beehive in hollow. One of two emergent kauri within young regenerating forest – all other kauri are rickers. Not large trees. Diverse understorey of podocarp saplings, kanuka, Pseudopanax, Astelia etc. On ridge line. Split & hollowing north side – branch dieback. Old gum bleed profuse > 2 m high
93	Site 26 Tree 2	Coromandel 3 (Piraunui Track)	E1835124 N5887175	22/06/2011	Healthy ricker near coordinates/map. Historically disturbed (cleared) logging? Gorse, manuka, soft mingimingi, rewarewa, tanekaha regenerating on edge of drop-off to track
94	Site 26 Tree 3	Coromandel 3 (Piraunui Track)	E1835100 N5887068	22/06/2011	Growing on vertical bank of track. One hole sample from track below without root mass. Relatively open understorey
95	Site 26 A Tree 1	Coromandel 3 (Piraunui Track)	E1835236 N5887448	18/08/2011	Site 26 repeated at a location reported by DOC contractor that reported suspect tree off Piraunui Track. Tree 1 is the reported tree. Located on a ridge with historical disturbance. Central leader has rotted away from top. Lower foliage appears healthy. Not classic symptoms of PTA. Major bleeding in past on western side over 2 m high and older bleed on north-seastern side to similar height but extending higher to a lesser extent. Many sapling/young ricker kauri around tree are healthy. Marker tape on track with direction and distance at E1835166 N5887387. (4x photos)
96	Site 26 A Tree 2	Coromandel 3 (Piraunui Track)	E1835275 N5887466	18/08/2011	In a damper sloping area below ridge in a rimu and kauri grove. Tree selected because foliage showing dieback sign but no resin bleeds at base of any kauri in vicinity. (2x photos).
97	Site 26 A Tree 3	Coromandel 3 (Piraunui Track)	E1835186 N5887433	18/08/2011	Selected because of distance and direction from Trees 1 and 2. No trees in vicinity symptomatic. Drier north-facing site with gorse and regenerating forest

Sample	Site	Details	GPS	Date delivered to LCR (dd/mm/yy)	Tree sampling details
98	Moe1 Tree 1	Moehau Range (Skyline stoat tripline)	E1817674 N5954708	18/08/2011	around. (1x photo) The likely reported tree is large and hollow with no gum bleeds or other symptoms and is very difficult to sample around because of steep terrain with a 4 m drop between sides of tree at base off the skyline stoat-trap track. Other trees on the skyline trap track selected. No kauri in vicinity of this ridge from bottom show any symptoms or bleeds at all. Difficult to select trees to sample around because none are better candidates than any others. Stony soil with no humus layer. Difficult to collect soil because of stones/rocks. Site is between stoat traps 20 and 21 on skyline. 3x photos of site in general.
99	Moe1 Tree 2	Moehau Range (Skyline stoat tripline)	E1817689 N5954659	18/08/2011	Sony soil, steep slope, bedrock <100 mm deep in some holes. Mineral soil layer very thin. Small crowning tree (not ricker shape) on ridge.
100	Moe1 Tree 3	Moehau Range (Skyline stoat tripline)	E1817625 N5954748	18/08/2011	Very large ricker (not crowning yet) but is an emergent on ridge top. Same comments as Trees 1 and 2.
101	1 Graft	Site 1	E 1650454 N6054519	24/08/2011	No data sheet provided
102	2 Graft	Site 1	E1650469 N 6054519	24/08/2011	No data sheet provided
103	3 Graft Ford Rikker	Site 1	E1650394 N6054540	24/08/2011	No data sheet provided
104	Puk 2 Tree 1	Waipoua	E1651562 N6054098	2/09/2011	Dead spar adjacent (no bleed on its base), tree has a few scars from being climbed with spikes.
105	Puk 2 Tree 2	Waipoua	E1651565 N6054155	2/09/2011	Tree at toe of kauri ridge. One healthy kauri below it then drop into broadleaf-dominated gully. NNW side has old bleeding. Same side has dead branches.
106	Puk 2 Tree 3	Waipoua	E165144 N6054079	2/09/2011	Double-stemmed tree. Foliage are thick on N-facing side.

Sample	Site	Details	GPS	Date delivered to LCR (dd/mm/yy)	Tree sampling details
107	Pan 1 Tree 1	Waipoua	E1647889 N6054498	2/09/2011	Planted. Dead spar and tree with bleeds in same root zone. Stephen took photos.
108	Pan 1 Tree 2	Waipoua	E1647894 N6054515	2/09/2011	Planted tree. Adjacent tree has section with bleeds at base. This tree is about 2 m away on the side with bleeds. Dead tree 2 m away on other side with old bleeds at base.
109	Pan 1 Tree 3	Waipoua	E1647903 N6054460	2/09/2011	*Very old bleed. Mapau, ponga, tarata. Stephen took photos. Mamangi. Planted
110	WK2 Tree 1	Waipoua	E1650580 N6057114	7/09/2011	Tree dead on 66% of circumference, fresh bleeds on live section, in root zone of dead spar, on uphill edge of stand (goes to broadleaf).
111	WK2 Tree 2	Waipoua	E1650546 N6057067	7/09/2011	Lots of dead spars in vicinity. Adjacent tree showing some bleeds.
112	WK2 Tree 3	Waipoua	E1650552 N6057148	7/09/2011	*This tree is much smaller than adjacent kauri trees (now dead spars) and has very small dripline area. Pig track next to tree. Marks on tree possibly from tusks? See photo
113	WK3 Tree 1	Waipoua	E1650241 N6055946	7/09/2011	2 Dead spars in root zone. One healthy tree DBH 800 mm approx. also in root zone. Area of most extensive bleeding on the side with with probable old gum bleeding scars (see photo), also same side as most of the pig(?) rooting and the 2 dead spars. Access via RTT line blue tape from slip dump car of HW.
114	WK3 Tree 2	Waipoua	E1650202 N6055952	7/09/2011	Dead spar approximately 30 m up slope
115	WK3 Tree 3	Waipoua	E1650258 N6055980	7/09/2011	Dead spars upslope, trees downslope have good canopy health. Primary bleed on upslope half also near pig rooting.
116	WP2 Tree 1	Waipoua	E1651052 N6054861	7/09/2011	Bleeds on upslope side. Just downslope an old tree fall has created a trench where root plate has lifted.
117	WP2 Tree 2	Waipoua	E1651029 N6054907	7/09/2011	Bleeds mainly on upslope side but also on sloping face. Dead wood from base to 2 m above, on uphill side with most bleeds.

Sample	Site	Details	GPS	Date delivered to LCR (dd/mm/yy)	Tree sampling details
118	WP2 Tree 3	Waipoua	E1651086 N6054819	7/09/2011	Suppressed ricker in intense competition for light. About 30 m from road dead spar 15 m below.
119	PUK 2 Tree 1	Waipoua	E2562086 N6616030	7/09/2011	Tree died suddenly approximately 10 years ago (on record). Directly below flat top with dead, diseased trees and historically pig rooting. Drought-prone site. 1.5 m. Adjacent tree = 1.2 m
120	PUK 2 Tree 2	Waipoua	E2562086 N6616030	7/09/2011	Extensive pig rooting. Collar dead sapwood rotted at 180 degrees N & W side.
121	PUK 2 Tree 3	Waipoua	E2562086 N6616030	7/09/2011	S & WE side old damage, bleed old spot. Old bark not shed. Old infection damage (recovered)
122	KO1 Tree 1	Waipoua	E1653283 N6054060	9/09/2011	Just off main ridge, just of small spur on TR of small gully, occasional unpusy bleed. Little used flag tape line.
123	KO1 Tree 2	Waipoua	E1653283 N6054023	9/09/2011	* On edge where ridge flattens to SW. **a very seldom used flag tape line. Occasional animal traffic
124	KO1 Tree 3	Waipoua	E1653269 N6054103	9/09/2011	*Side slope of main ridge, shallow spur.
125	WP1 Tree 1	Waipoua	E1653768 N605445	9/09/2011	Active pig track on upslope side next to trunk. Bleeds do not appear to have originated at base.
126	WP1 Tree 2	Waipoua	E1653787 N6054458	9/09/2011	*Pig track nearby. Old bleed on S side appears to originate from vertical split extending from 1.5 m to 5 m above ground. A little dead wood around it.
127	WP1 Tree 3	Waipoua	E1653731 N6054411	9/09/2011	Tree healthy looking. Very deep humus. Some pig rooting into pukahukahu.
128	TO1 Tree 1	Waipoua	E1652469 N6056486	9/09/2011	*Small spur dropping abruptly off ridge. Healthy roots in soil could be from adjacent trees. 3 dead spars in 20 m radius. 2 in same root zone with old basal bleeds still visible. Large gum deposit 1.2–2 m high, not pus-like. This tree was labelled Tree 1 because it was the most symptomatic. However, because of its position in the stand it didn't work to have a tree either side at 180 degrees to each other.

Sample	Site	Details	GPS	Date delivered to LCR (dd/mm/yy)	Tree sampling details
129	TO1 Tree2	Waipoua	E1652470 N6056469	9/09/2011	*Foliage health is good very small canopy area. Bleeds on upslope side and bearing facing Tree 1.
130	TO1 Tree3	Waipoua	E1652448 N6056495	9/09/2011	GPS accuracy not good from here. See distance and bearing field from Tree 1 to find. Bleeds on upslope on bearing towards Trees 1 and 2. Small bracket fungi on same side of bleeds. Top height bracket fungi 1.8 m
131	Puk 1 Tree1	Waipoua	E1650728 N6053868	16/09/2011	*At head of a gully (very flat kauri ridge above) on a small spur. Dead tree in root zone on downslope side. Fresh basal bleed on this side. Tree circumference marked with spray paint approx. 1 m above ground as are others in grove, including adjacent tree. Dead trees and tree with canopy dieback upslope 10–50 m away. Stunted ricker probably. Released by death of 2 adjacent mature trees.
132	Puk 1 Tree2	Waipoua	E1650731 N6053841	16/09/2011	*Sideslope just off of ridge. Dead spar upslope and across slope c. 10 m away. Bleed on upslope side.
133	Puk 1 Tree3	Waipoua	E1650662 N6053862	16/09/2011	*At head of gully between ridge and small spur. In separate drainage zone from T1 and T2. No dead spur upslope, 3 trees of same size class approx. 1 m apart, 2 with lots of fresh bleeds and 1 with none. The tree furthest downslope was the tree sampled although most holes in root zone of other 2 trees as well. Canopy score on tree with no bleeds 1. On other tree with bleeds 3.
134	TM1 Tree 1	Waipoua	E1647848 N6059395	20/09/2011	*Poor drainage site. Soil waterlogged at the time of sampling. A lot of moss and liverworts forming ground cover. Asymptomatic tree 7 m away in root zone. Bleeds in north-western side.
135	TM1 Tree 2	Waipoua	E1647826 N6059354	20/09/2011	*On a very flat spur within plateau. ** Compacted gravel track at this point. Water also runs off into root zone. There is a same-cohort tree 10 m downslope with good crown health but profuse bleeding from base 10 m up trunk. Including pussy basal bleeds.
136	TM1 Tree 3	Waipoua	E1647846 N6059431	20/09/2011	*Quite flat ridge. **Track is elevated boardwalk at this point.
137	Y1 Tree 1	Waipoua	E1647925	20/09/2011	*Sideslope off of flat ridge. **Upslope from takas track c. 50 m from historic

Sample	Site	Details	GPS	Date delivered to LCR (dd/mm/yy)	Tree sampling details
			N6058158		horse track. ***Almost a 5. most of the leaves are brown, a few live ones. Pig rooting nearby but not in the root zone. 4 trees within 20 metres, 1 of them is dead.
138	Y1 Tree 2	Waipoua	E1647965 N6058200	20/09/2011	*A rise up above, then flattening out. Yakas track downslope. **Potential for water coming off of rise to back up in very extreme rain events. ***Canopy shots from four cardinals starting from mag 340 degrees. Dead spar approx. 30 m upslope.
139	Y1 Tree 3	Waipoua	E1647971 N6058176	20/09/2011	*Double stemmed. 2nd stem dbh 0.5 m
140	TM2 Tree 1	Waipoua	E1647488 N6059505	21/09/2011	Old trapline next to tree. *Very little slope. Old dead spar in root zone. Non-symptomatic smaller tree also in root zone and ricker with bleeds in root zone also.
141	TM2 Tree 2	Waipoua	E1647534 N6059472	21/09/2011	Pig rooting fairly old. Bleeding profusely 3–4 m above ground (see photo).
142	TM2 Tree 3	Waipoua	E1647468 N6059516	21/09/2011	*Old trapline track. **Pig rooting old.
143	OSS1 Tree 1	Waipoua	E1652063 N6054324	21/09/2011	*Highway is benched beneath it inot spur. Effectively reducing root zone by 1/3 or more. Cut in bank is N-facing so could affect available water in hot dry periods. This tree if adjacent to an old layby. It has probably been used to dump old slip material and maybe garden waste as the soil around the tree seemed like fill and hydrangeas. Agapathus and Marthesias were growing there. Bleeds primarily on upslope and downslope sides.
144	OSS1 Tree 2	Waipoua	E1652036 N6054251	21/09/2011	On free draining sunny slope, regenerated forest.
145	OSS1 Tree 3	Waipoua	E1652071 N6054347	21/09/2011	*Forming a canopy with 5 other same age cohort trees within 25 m sq area. On same side of stream Tree 1, i.e tree left.
146	WRU1 Tree1	Waipoua	E1642980 N6060124	22/09/2011	

Sample	Site	Details	GPS	Date delivered to LCR (dd/mm/yy)	Tree sampling details
147	WRU1 Tree2	Waipoua	E1642988 N6060186	22/09/2011	Dead spar less 2 m from tree. Dead spar 15 m further up spur. 2 Dead totara tree 10 m across slope from tree (it has been dead a long time, the other still has brown leaves). The tree is situated on a spur just before it drops steeply towards stream.
148	WRU1 Tree3	Waipoua	E1643007 N6060120	22/09/2011	On eastern edge of same-age cohort stand, younger rickers behind.
149	WRU2 Tree1	Waipoua	E1645425 N6059535	23/09/2011	Tree on top of flat ridge. Kauri quite sparse on ridge.
150	WRU2 Tree2	Waipoua	E1645423 N6059588	23/09/2011	Another tree 8 m downslope also healthy looking.
151	WRU2 Tree3	Waipoua	E1645450 N6059489	23/09/2011	No comment
152	R1 Tree1	Waipoua	E2559322 N6621469	23/09/2011	In secondary manuka, Towai, Kioio downslope road. Road fill above tree has affected area. Neighboring tree close to road apparently unaffected so far. This site is non-standard plot layout because sampling isolated trees on SH 12 highway impacts.
153	R1 Tree2	Waipoua	E2561456 N6619021	23/09/2011	Non standard plot layout because sampling 3 trees on highway impact.
154	R1 Tree3	Waipoua	E2563353 N6617307	23/09/2011	Neighbouring mature tree died suddenly after extensive pig rooting c. 1997/98 (can check date). Neighbour ricker in cluster suffered yellowing in past.
155	RR Tree1	Waipoua	no data	23/09/2011	No comment
156	RR Tree2	Waipoua	no data	23/09/2011	No comment
157	RR Tree3	Waipoua	no data	28/09/2011	Old logging back within 50 m 1940s. Pig rooting. Crown dieback decades ago. Stabilised crown thin.
158	RRK Tree1	Waipoua	no data	23/09/2011	No comment

Sample	Site	Details	GPS	Date delivered to LCR (dd/mm/yy)	Tree sampling details
159	RRK Tree2	Waipoua	no data	23/09/2011	No comment
160	RRK Tree3	Waipoua	no data	23/09/2011	6 metres to north = 1 m tree with 2 basal bleeds.
161	RR2 Tree1	Waipoua	E2558737 N6621887	28/09/2011	Tree on margin stand. 2 degree forest to N & E. Dead stump 2 m and 20 m to N.
162	RR2 Tree2	Waipoua	E2558697 N6621841	28/09/2011	No comment
163	RR2 Tree3	Waipoua	E2558744 N6621841	28/09/2011	1/3 trunk dead, no bark.
164	RR3 Tree1	Waipoua	E2562808 N6612716	29/09/2011	See illustrated comment hardcopy; humus 50 cm.
165	RR3 Tree2	Waipoua	E2558975 N6621306	29/09/2011	Roots severely impacted by gravel track.
166	RR3 Tree3	Waipoua	E2558951 N6622239	29/09/2011	25–50 cm humus
167	RR4 Tree1	Waipoua	E2558865 N6621562	29/09/2011	No comment
168	RR4 Tree2	Waipoua	E2558868 N6621525	29/09/2011	Humus 20–40–50 cm.
169	RR4 Tree3	Waipoua	E2558859 N6621603	29/09/2011	No comment
170	Puketi Special Tree 1	Puketi (on S3 Stoat line at top of the Flavel's)	E1665490 N6100067	30/09/2011	Probably wind disturbance. Tree 1 has been dead for several years. Thick layer of humus. Hard to get mineral soil. Other species vicinity in stand are cleared or top blown out are tanekaha and miro.
171	Puketi	Puketi (on S3)	E1665476	30/09/2011	Difficult to obtain mineral soil because of thick humus layer. Kiekie and other

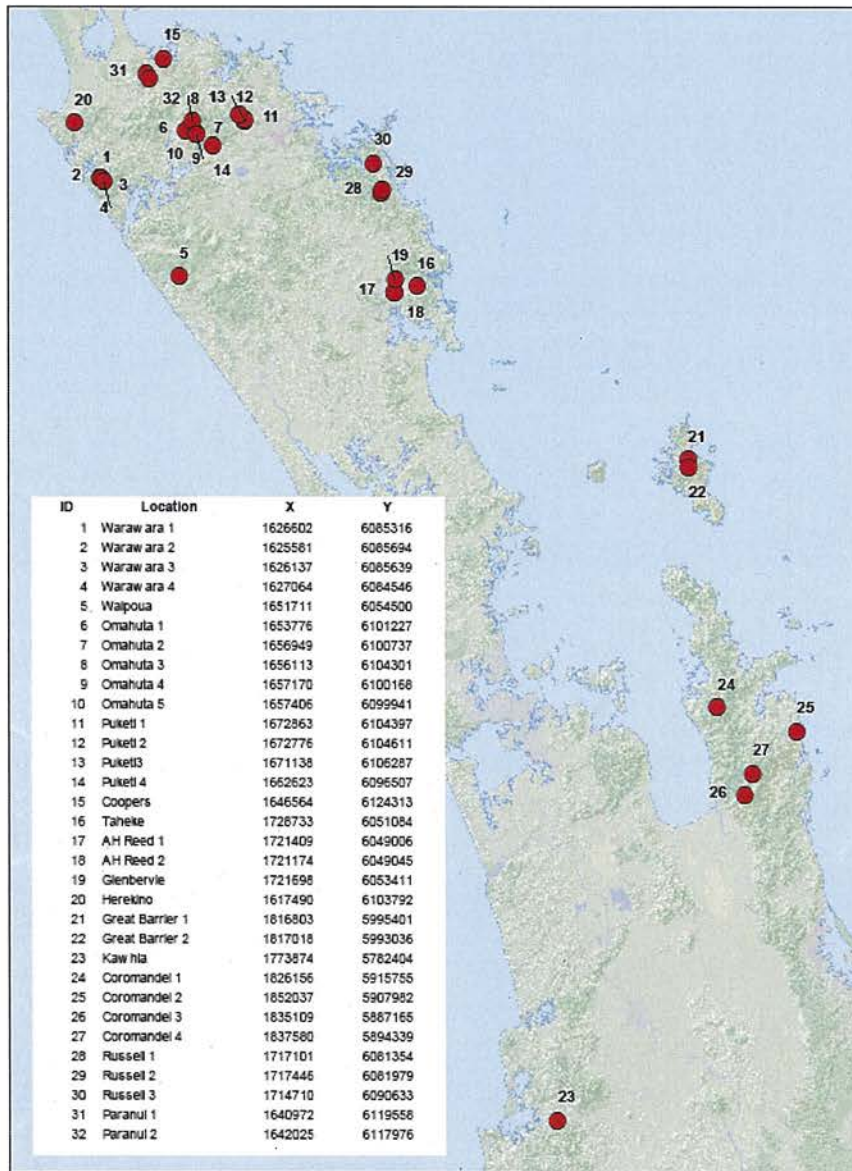
Sample	Site	Details	GPS	Date delivered to LCR (dd/mm/yy)	Tree sampling details
	Special Tree 2	Stoat line at top of the Flavels)	N6100107		trees hindering soil removal.
	Puketi Special Tree 3	Puketi (on S3 Stoat line at top of the Flavels)	E1665527 N6100036	30/09/2011	Difficult to obtain mineral soil because of thick humus layer. Located on trapline 53.
172	Site 20 Tree 1 Herekino	Herekino	E1617490 N6103762	30/09/2011	Hollow tree with top crown blown out with wind or lightning? Some bark shedding and dead wood, otherwise healthy foliage.
173	Site 20 Tree 2 Herekino	Herekino	E1617507 N6103818	30/09/2011	Healthy ricker-- no other symptomatic trees around. See photo of foliage.
174	Site 20 Tree 3 Herekino	Herekino	E1617449 N6103753	30/09/2011	Large ricker. No symptoms.
175	RR5 Tree 1 (170)	Waipoua	E2558653 N6621111	30/09/2011	See illustrated comment hardcopy; old gumbleeders cuts healed. 3 m wide humus mound 1–1.5 m deep.
176	RR5 Tree 2 (171)	Waipoua	E2558834(40) N6621126 (25)	30/09/2011	Water table 20 cm below surface. 1.2 m dead tree on SE side (12 m). Some old bleed bark off.
177	RR5 Tree 3 (172)	Waipoua	E2558722 N6621118	30/09/2011	See illustrated comment hardcopy; 40 m NE of large 2 m kauri in open glade. Tree adjacent to mature rimu.
178	RR6 Tree 1 (173)	Waipoua	E2558853 N6621018	30/09/2011	Humus 30–40 cm.
179	RR6 Tree 2 (174)	Waipoua	E2558851 N6621012	30/09/2011	Hhumus 10–30 cm.
180	RR6 Tree 3 (175)	Waipoua	E2558846 N6620964	30/09/2011	Humus 30–50 cm.

Sample	Site	Details	GPS	Date delivered to LCR (dd/mm/yy)	Tree sampling details
182	RR7 Tree 1 (176)	Waipoua	E2558473 N6621153	30/09/2011	4 m from dead spar without bleeds on E. healthy roots, pig damage.
183	RR7 Tree 2 (177)	Waipoua	E2558436 N6621135	30/09/2011	Humus 30 cm. 10 cm outer. Groved trees bleeding (2) dead (4), 1/2 dead, healthy (1). Logging activity on NE & SE.
184	RR7 Tree 3 (178)	Waipoua	E2558371 N6621103	30/09/2011	Dead bark 10%. Few borer holes, very old, bleeding for decades. Logging activity on E&S. Numerous other trees with extensive candle bleed in stand.
185	RR7 Tree 3A (179)	Waipoua	E2558371 N6621103	30/09/2011	Deep humus 30–50 cm.
186	NUR Tree 1	Waipoua	E2561164 N6616553	6/10/2011	Tree located at 2.5 m N of swingbridge post. See illustrated hardcopy.
187	NUR Tree 2	Waipoua	E2561161 N6616561	6/10/2011	Pig rooting none. 50-cm-deep drain.
188	NUR Tree 3	Waipoua	E2561213 N6616587	6/10/2011	Pig rooting none. Old nursery. 1 brown fresh bleed.
189	WAI OMT Tree 1	Waipoua	E2559121 N6617226	6/10/2011	Pig rooting none.
190	WAI OMT Tree 2	Waipoua	E2559135 N6617243	6/10/2011	Dead mature tree in gully to west (NW), 0.5 m tree with very old bleed but no other bleed trees in this stand on this ridge. Chose healthy tree above symptomatic tree.
191	WAI OMT Tree 3	Waipoua	E2559211 N6617197	6/10/2011	2.5 m dead Kauri 20.0 m to S, dead ricker with bleed, rotten 15 cm, 2.5 m uphill from sampled tree. Falling limbs from sampled tree. Rest of trees in stand healthy. This tree across deep gully on parallel ridge to Trees 1 & 2.
192	MUR Tree 1	Waipoua	E2560181 N6613368	6/10/2011	Pig rooting none.
193	MUR Tree 2	Waipoua	E2560157 N6613382	6/10/2011	Pig rooting none.

Sample	Site	Details	GPS	Date delivered to LCR (dd/mm/yy)	Tree sampling details
194	MUR Tree 3	Waipoua	E2560178 N6613353	6/10/2011	No comment
195	Puk 3 Tree 1	Waipoua	E1650977 N6054282	7/10/2011	One branch nearly completely dead. Some fresh pussy gummosis c. 2 m above base. Large tree 7 m away also displaying gummosis.
196	Puk 3 Tree 2	Waipoua	E1650955 N6054261	7/10/2011	2 other trees inside root zone. 1 showing a small bleed.
197	Puk 3 Tree 2	Waipoua	E1651040 N6054278	7/10/2011	*large borer holes on the side of the tree with dead wood; 1/2 the trunk is rotten the other 1/2 is ok. **Some rotten stem are completely dead, others appear healthy--probably corresponding to trunk dieback. ***On edge of live cambium and dead wood. ****Very difficult to get canopy photo.
198	RR9 Tree 1	Waipoua	E2558443 N6621905	11/10/2016	Pig rooting none.
199	RR9 Tree 2	Waipoua	E2558435 N6621888	11/10/2016	Pig rooting none.
200	RR9 Tree 3	Waipoua	E2558497 N6621921	11/10/2016	Pig rooting none. No insect damage photo, no fungal bodies photo.
201	RR10 Tree 1	Waipoua	E2557506 N6621519	11/10/2016	Pig rooting none.
202	RR10 Tree 2	Waipoua	E2557458 N6621515	11/10/2016	Canopy in good condition. No new bleeds.
203	RR10 Tree 3	Waipoua	E2557551 N6621521	11/10/2016	Pig rooting none. Swamp pool water 2–3 m from tree.
204	RR11 Tree 1	Waipoua	E2558451 N6622092	11/10/2016	Tree growing on ancient stump mound shared with mature totara. Patched dead wood behind dead bark.
205	RR11 Tree 2	Waipoua	E2558395 N6622048	11/10/2016	Flat basin. High water table 10 m from stream.

Sample	Site	Details	GPS	Date delivered to LCR (dd/mm/yy)	Tree sampling details
206	RR11 Tree 3	Waipoua	E2558475 N6622130	11/10/2016	Old logging track. Pig rooting none.

Appendix 3 – Soil Detection Plan (SDP) location map



SDP Locations

 Public Conservation Land

Map prepared: December 2010



