

Appendices for Report 74 -
Wood properties of 26-year-old *Pinus radiata*
from the Tikitere stocking trial

Appendix I - Individual disc measurements

Tree No.	Disc ht. (m)	DOB (mm)	DIB (mm)	Bark depth (mm)	Heart wood (mm)	Juv. wood (mm)	Heart wood (%)	Juv. wood (%)	Compression wood					Basic density (kg/m ³)	Ring count
									1	2	3	4	O'all		
(%)															
100 spha															
61	5	725	685	20	300	420	19	38	25	20	10	0	15	345	21
	11.5	607	585	11	220	360	14	38	5	0	0	0	5	351	17
62	5	660	625	17.5	215	370	12	35	5	5	0	0	5	337	21
	9.3	616	585	15.5	195	335	11	33	5	0	5	5	5	340	19
63	5	675	635	20	240	390	14	38	10	15	10	5	10	387	21
	12.5	533	511	11	175	365	12	51	15	5	5	25	10	394	16
64	5	716	660	28	310	390	22	35	5	0	5	15	5	382	22
	9.1	600	600	0	270	380	20	40	20	10	5	10	10	395	19
65	5	685	640	22.5	340	410	28	41	30	45	20	0	25	350	21
	9.3	640	610	15	330	405	29	44	30	30	0	0	15	367*	19
66	5	555	530	12.5	250	360	22	46	25	45	0	0	15	354	22
	10	505	486	9.5	180	335	14	48	5	10	20	5	10	358	19
67	0	648	586	31	215	280	13	23	5	10	0	0	5	415	25
	5.8	503	482	10.5	210	288	19	36	5	5	5	10	5	375	21
	14	430	416	7	155	320	14	59	5	5	5	10	5	360	15
	18.2	335	323	6	94	265	8	67	0	0	15	10	10	355	12
	22.5	240	230	5	0	230	0	100	5	0	10	15	10	350	9
68	5.1	568	530	19	202	351	15	44	10	25	40	25	25	397	21
	9.4	550	516	17	180	373	12	52	15	40	15	5	20	395	18
69	0	895	820	37.5	295	495	13	36	5	10	5	5	5	355	23
	5.8	770	729	20.5	275	410	14	32	10	10	10	5	10	341	21
	10	695	665	15	160	375	6	32	5	5	10	10	10	382	18
	15.6	416	399	8.5	75	315	4	62	5	5	10	10	10	370	13
	19.9	329	313	8	40	313	2	100	5	5	10	15	10	372	10
	22.1	207	198	4.5	35	198	3	100	0	0	5	0	5	349	8
70	5	700	645	27.5	305	425	22	43	10	5	5	5	5	397*	21
	13.4	520	480	20	200	305	17	40	5	15	10	10	10	418*	16
71	0	830	748	41	260	364	12	24	5	0	0	5	5	402	24
	5.2	660	625	17.5	236	337	14	29	10	10	10	15	10	384	21
	9.4	600	573	13.5	178	345	10	36	5	10	10	25	15	382	18
	13.8	480	457	11.5	146	316	10	48	0	5	5	0	5	385	15
	18	360	344	8	95	288	8	70	0	5	5	10	5	381	12
	24	223	209	7	65	209	10	100	5	10	15	10	10	360	7
72	4.8	671	640	15.5	145	390	5	37	20	10	30	50	25	363	21
	9	592	564	14	145	377	7	45	15	40	50	15	30	364	18
73	5.2	693	644	24.5	295	386	21	36	10	15	10	10	10	375*	21
	9.4	632	590	21	250	398	18	46	5	10	15	10	10	383	18
76	5.2	768	738	15	320	420	19	32	25	20	10	15	20	368	22
	10.6	738	710	14	270	417	14	34	15	15	5	15	15	382	19
77	5.7	744	705	19.5	340	425	23	36	5	5	10	10	5	357	22
	11.2	667	645	11	240	375	14	34	5	5	10	15	10	373	19
78	5.1	558	519	19.5	195	321	14	38	5	5	5	10	5	430	22
	10.9	482	457	12.5	140	340	9	55	0	0	10	5	5	418	17
79	4.7	642	599	21.5	300	405	25	46	10	20	15	5	15	338	21
	10.1	582	552	15	290	415	28	57	0	5	15	15	10	329	17

* Resinous samples

Appendix I - Individual disc measurements (contd.)

Tree No.	Disc ht. (m)	DOB (mm)	DIB (mm)	Bark Depth (mm)	Heart wood (mm)	Juv. wood (mm)	Heart wood (%)	Juv. wood (%)	Compression wood					Basic density (kg/m ³)	Ring count
									1	2	3	4	O'all		
									(%)						
100 spha (contd.)															
80	5.7	633	606	13.5	260	350	18	33	5	5	5	10	10	427	22
	11.1	587	560	13.5	230	370	17	44	5	5	10	5	5	438	18
81	3.5	550	498	26	270	345	29	48	0	5	5	10	5	431	22
	8.9	463	439	12	250	330	32	57	0	5	5	5	5	410	18
82	5.1	738	692	23	250	384	13	31	10	10	10	5	10	347	22
	10.5	662	630	16	190	402	9	41	20	20	5	10	15	345	18
83	4.1	640	604	18	215	401	13	44	20	25	10	5	15	383	22
	9.6	605	579	13	147	395	6	47	30	5	5	25	15	372	19
86	5.7	760	723	18.5	280	385	15	28	0	5	10	10	10	375	21
	11.1	635	603	16	220	385	13	41	0	5	5	10	5	377	17
87	0.5	732	657	37.5	210	363	10	31	0	5	5	5	5	386	24
	3.3	631	577	27	200	350	12	37	5	5	10	10	10	365	22
	8.7	565	532	16.5	170	355	10	45	0	0	5	5	5	367	17
	14.1	433	410	11.5	150	321	13	61	15	5	0	30	15	363	14
	19.6	297	282	7.5	68	282	6	100	0	5	5	10	5	347	10
	23.7	162	154	4	20	154	2	100	0	5	70	20	25	334	6
88	4.2	685	640	22.5	300	375	22	34	5	10	15	5	10	370	22
	8.5	633	604	14.5	265	408	19	46	15	15	10	20	15	367	18
89	0.9	910	813	48.5	310	390	15	23	5	0	15	25	10	336	24
	3.7	800	740	30	265	380	13	26	5	20	20	25	20	335	22
	7.9	730	689	20.5	170	385	6	31	0	10	25	10	10	348	18
	12.1	617	583	17	125	354	5	37	5	25	5	10	10	356	15
	13.8	466	445	10.5	105	340	6	58	5	20	25	5	15	350	13
	19.3	327	312	7.5	56	312	3	100	5	10	5	5	5	351	9
	25.5	162	155	3.5	25	155	3	100	0	5	5	10	5	333	8
91	5.6	805	755	25	340	415	20	30	10	10	15	25	15	398	22
	11.1	759	715	22	285	430	16	36	10	5	5	15	10	392	18
200 spha															
31	5.3	590	554	18	300	360	29	42	5	5	5	0	5	396	22
	9.5	560	542	9	315	380	34	49	0	0	0	5	5	436*	19
32	5.1	570	539	15.5	250	295	22	30	5	5	0	0	5	407	22
	11.2	485	468	8.5	225	320	23	47	0	0	0	0	0	404	18
33	5.1	513	490	11.5	245	285	25	34	0	0	0	0	0	374	22
	11.3	476	460	8	225	300	24	43	15	15	5	0	10	351	18
34	6.4	435	418	8.5	175	300	18	52	5	0	0	5	5	414	21
	10.6	386	373	6.5	170	285	21	58	0	5	10	0	5	387	17
35	5.3	546	518	14	270	350	27	46	0	5	10	5	5	434	21
	11.5	511	489	11	255	340	27	48	30	10	5	20	20	435	18
36	5.4	663	625	19	240	375	15	36	5	5	10	10	5	387	22
	9.6	605	575	15	220	375	15	43	5	15	10	5	10	400	19
37	5	636	593	21.5	176	404	9	46	10	5	20	35	20	393	21
	14.2	528	505	11.5	138	333	7	43	10	5	5	5	5	398	18
38	5.5	554	526	14	160	335	9	41	5	0	5	20	10	364	22
	11	510	485	12.5	142	343	9	50	5	15	5	5	5	368	18

* Resinous samples

Appendix I - Individual disc measurements (contd.)

Tree No.	Disc ht. (m)	DOB (mm)	DIB (mm)	Bark Depth (mm)	Heart wood (mm)	Juv. wood (mm)	Heart wood (%)	Juv. wood (%)	Compression wood					Basic density (kg/m ³)	Ring count
									1	2	3	4	O'all		
200 spha (contd.)															
39	3	474	442	16	270	333	37	57	5	10	5	5	5	372	22
	8.4	455	435	10	276	345	40	63	5	5	10	10	10	373	19
40	5.1	465	442	11.5	240	285	29	42	5	5	5	5	5	349	22
	9.2	443	425	9	230	305	29	52	5	0	10	25	10	348	19
41	5.1	535	490	22.5	310	370	40	57	5	5	10	5	5	398	21
	9.3	495	460	17.5	290	340	40	55	5	5	5	10	5	391	20
42	0	564	520	22	230	290	20	31	5	5	5	0	5	357	25
	5.1	445	427	9	215	277	25	42	5	25	20	5	15	344	22
	11.3	401	391	5	205	295	27	57	5	15	35	5	15	339	18
	15.5	373	355	9	175	280	24	62	10	5	5	5	5	333	16
	19.3	323	310	6.5	125	260	16	70	0	10	10	5	5	341	13
	23.3	275	265	5	90	247	12	87	0	0	5	5	5	320	11
43	5.2	533	510	11.5	255	345	25	46	5	5	10	25	10	350	22
	11.3	475	458	8.5	210	325	21	50	0	5	5	0	5	347	18
44	0	855	795	30	350	370	19	22	0	0	5	10	5	357*	25
	5	750	710	20	390	460	30	42	5	0	5	10	5	334	21
	10	685	653	16	370	420	32	41	0	0	5	10	5	354	19
	16	565	545	10	250	370	21	46	0	0	20	15	15	356	16
	19	445	429	8	150	385	12	81	5	5	15	20	10	374	12
	23	325	312	6.5	110	312	12	100	0	0	0	10	5	357	9
45	0	600	549	25.5	220	340	16	38	5	0	0	0	0	372	25
	5	485	459	13	200	335	19	53	0	0	5	15	5	348	22
	12.5	412	399	6.5	180	295	20	55	0	0	0	10	5	348	18
	17	355	343	6	125	270	13	62	0	5	20	10	15	355	15
	20.5	318	309	4.5	100	277	10	80	0	0	5	15	15	362	12
	23.5	275	265	5	85	265	10	100	0	0	0	15	10	364	10
46	0	682	630	26	380	355	36	32	0	5	5	0	5	373*	24
	5	583	561	11	360	390	41	48	10	5	0	5	10	312	19
	10	545	526	9.5	350	410	44	61	0	0	5	5	5	322	17
	17	425	407	9	250	375	38	85	10	5	5	10	10	316	14
	21.5	354	340	7	180	310	28	83	0	0	15	0	10	306	13
47	5	512	478	17	215	320	20	45	0	0	10	5	5	379	22
	11	452	427	12.5	195	315	21	54	0	0	0	5	5	381	18
56	5.1	668	630	19	280	382	20	37	15	10	5	25	15	373	22
	9.3	608	578	15	230	385	16	44	5	5	15	20	10	383	18
57	5.2	596	563	16.5	402	399	51	50	0	0	5	10	5	378	21
	9.4	547	520	13.5	381	394	54	57	0	5	5	5	5	385	18
58	0	765	695	35	305	350	19	25	20	30	15	5	20	340	25
	3	668	606	31	350	407	33	45	20	15	5	5	10	346	22
	7.5	593	558	17.5	275	377	24	46	15	25	10	5	10	363	18
	11.7	505	480	12.5	200	330	17	47	5	15	15	5	10	366	16
	16.2	394	378	8	135	327	13	75	10	35	30	20	25	363	12
	20.5	229	220	4.5	65	220	9	100	5	10	10	5	10	372	8
59	5.7	546	517	14.5	195	334	14	42	5	5	35	15	15	365	21
	9.9	505	475	15	170	317	13	45	5	5	5	5	5	374	19
60	5.2	675	642	16.5	360	370	31	33	5	5	5	15	10	377	22
	9.4	630	605	12.5	345	390	33	42	5	5	10	15	10	354	20

* Resinous samples

Appendix I - Individual disc measurements (contd.)

Tree No.	Disc ht. (m)	DOB (mm)	DIB (mm)	Bark Depth (mm)	Heart wood (mm)	Juv. wood (mm)	Heart wood (%)	Juv. wood (%)	Compression wood					Basic density (kg/m ³)	Ring count
									1	2	3	4	O'all		
200 spha (contd.)															
60a	5	455	432	11.5	210	285	24	44	0	5	5	5	5	378	22
	11.2	405	389	8	180	280	21	52	0	5	5	5	5	360	18
60b	5.2	505	483	11	235	310	24	41	0	5	5	5	5	360	22
	13.1	453	434	9.5	220	325	26	56	0	5	5	5	5	359	17
206	5	594	559	17.5	245	349	19	39	5	10	25	10	15	374	21
	10.4	580	553	13.5	210	340	14	38	10	10	5	5	5	377	19
207	5.7	706	655	25.5	250	410	15	39	10	10	20	15	15	379	21
	11.1	695	662	16.5	320	450	23	46	10	10	10	10	10	375	18
210	5.2	616	583	16.5	305	374	27	41	10	5	5	25	10	384	22
	10.6	518	490	14	246	337	25	47	5	5	5	10	5	386	18
400 spha															
1	0	540	480	30	200	305	17	40	5	5	5	0	5	371	26
	5.2	405	388	8.5	210	300	29	60	5	15	15	5	10	353	22
	9.4	370	356	7	180	280	26	62	5	10	5	15	10	346	19
	13.5	345	330	7.5	140	270	18	67	0	5	5	10	5	353	17
2	4.3	401	386	7.5	260	295	45	58	5	5	10	10	10	352	22
	8.5	367	353	7	235	285	44	65	5	5	0	0	5	364	20
3	5.3	555	520	17.5	325	340	39	43	0	0	5	5	5	398	22
	13.2	470	453	8.5	280	318	38	49	5	15	10	5	10	400	18
4	0.5	790	728	31	270	375	14	27	5	10	0	5	5	352	25
	5.6	650	628	11	310	410	24	43	5	5	5	5	5	334	22
	9.8	600	574	13	305	395	28	47	5	10	5	5	5	339	20
	14	535	516	9.5	270	378	27	54	0	5	5	0	5	344	18
	18.1	490	472	9	216	352	21	56	0	0	5	5	5	351	16
5	5.3	558	538	10	205	335	15	39	0	5	60	30	25	344	21
	11.5	521	505	8	220	355	19	49	0	0	5	5	5	346	18
6	0	668	583	42.5	210	316	13	29	5	5	15	5	5	415	26
	5.2	518	488	15	202	332	17	46	5	5	10	10	10	393	22
	13	475	454	10.5	180	324	16	51	0	0	5	5	5	405	18
	21	371	357	7	125	290	12	66	5	5	10	15	10	392	14
7	3.9	322	308	7	160	251	27	66	5	0	0	0	5	394	23
	8.1	306	293	6.5	155	251	28	73	0	5	10	5	5	377	21
8	3.2	392	374	9	222	265	35	50	5	5	0	10	5	410	23
	7.4	363	350	6.5	212	256	37	53	5	5	15	10	10	406	21
	11.2	330	317	6.5	186	252	34	63	0	0	0	5	5	392	20
12	0	745	704	20.5	290	390	17	31	0	0	5	5	0	380	25
	5	598	560	19	300	400	29	51	10	15	10	10	10	346	22
	11	581	548	16.5	290	420	28	59	0	5	0	0	5	355	19
	17.3	470	453	8.5	195	340	19	56	15	10	10	5	10	338	16
	21.8	408	391	8.5	120	305	9	61	0	5	5	20	10	341	14
	25.8	365	353	6	80	300	5	72	0	0	0	5	0	350	12
	28.9	289	279	5	60	279	5	100	5	5	0	5	5	328	10
13	5	475	442	16.5	225	310	26	49	10	5	0	0	5	403	21
	9.1	448	427	10.5	195	315	21	54	0	0	5	5	5	416	19

* Resinous samples

Appendix I - Individual disc measurements (contd.)

Tree No.	Disc ht. (m)	DOB (mm)	DIB (mm)	Bark Depth (mm)	Heart wood (mm)	Juv. wood (mm)	Heart wood (%)	Juv. wood (%)	Compression wood					Basic density (kg/m ³)	Ring count
									1	2	3	4	O'all		
400 spha (contd.)									(%)						
14	0	470	438	16	210	295	23	45	0	0	10	20	10	456	25
	5	357	340	8.5	215	260	40	58	5	5	10	10	10	405	23
	9.2	318	303	7.5	180	245	35	65	5	0	5	30	15	410	20
	12.8	286	273	6.5	160	225	34	68	0	0	30	20	20	418	18
	16.8	263	249	7	120	210	23	71	0	0	5	5	5	405	16
	20.7	219	207	6	90	180	19	76	0	0	5	0	0	398	14
16	4.9	495	467	14	290	305	39	43	5	5	10	10	10	353	22
	12.7	459	445	7	285	310	41	49	10	20	15	10	15	349	18
	20.6	378	366	6	200	285	30	61	5	5	10	10	10	368	14
17	5.2	460	430	15	265	340	38	63	10	10	10	10	10	352	22
	14.4	359	347	6	210	295	37	72	5	5	10	5	5	342	18
18	4.5	390	368	11	215	300	34	66	0	0	5	5	5	403	22
	9.9	340	330	5	195	260	35	62	0	0	0	0	0	381	20
19	5.2	448	432	8	245	285	32	44	5	5	15	10	10	389	22
	13.2	397	387	5	200	275	27	50	5	10	15	25	15	384	18
21	5.2	424	408	8	248	313	37	59	0	0	0	5	5	388	21
	9.2	405	389	8	227	305	34	61	0	0	0	5	5	396	20
22	5.8	450	422	14	270	300	41	51	0	0	5	5	5	369	22
	10	409	388	10.5	245	285	40	54	0	0	0	5	0	366	20
23	5	622	584	19	300	385	26	43	0	5	30	45	20	344	23
	10	568	539	14.5	310	380	33	50	5	5	10	10	10	336	21
24	5	515	485	15	245	370	26	58	5	0	5	5	5	373	22
	10	440	428	6	220	330	26	59	5	5	5	10	5	360	20
25	0	703	633	35	360	405	32	41	5	0	0	5	5	329	25
	6.5	592	568	12	365	405	41	51	0	0	5	5	5	311	22
	10.6	598	573	12.5	335	395	34	48	0	0	5	5	5	324	20
	15	533	510	11.5	310	375	37	54	10	5	0	0	5	326	18
	19	480	458	11	235	330	26	52	0	0	0	10	5	326	16
	23.5	400	388	6	188	290	23	56	0	0	5	5	5	329	14
	28	350	340	5	140	290	17	73	25	25	0	5	15	341	12
26	5.7	580	538	21	230	370	18	47	0	0	5	10	5	358	22
	10	547	512	17.5	210	335	17	43	0	10	20	15	10	366	21
27	1	288	271	8.5	195	192	52	50	0	0	0	5	5	380	24
	5	255	242	6.5	170	202	49	70	0	0	0	5	5	384	19
	11	229	218	5.5	120	192	30	78	0	0	0	5	5	381	15
	17	179	172	3.5	70	163	17	90	0	0	5	5	5	355	13
	23	137	130	3.5	32	130	6	100	0	0	0	5	5	341	8
29	5	540	515	12.5	285	380	31	54	0	0	5	10	5	371	22
	10	480	462	9	240	355	27	59	0	5	5	5	5	379	20
30	5	615	583	16	350	380	36	42	0	10	10	5	5	391	22
	10	543	521	11	325	355	39	46	5	10	5	0	5	392	20
30.1	5	447	420	13.5	235	320	31	58	5	5	5	5	5	382	22
	8	418	400	9	230	305	33	58	5	5	5	5	5	383	21
	12	353	341	6	185	270	29	63	0	5	5	5	5	380	18

* Resinous samples

Appendix I - Individual disc measurements (contd.)

Tree No.	Disc ht. (m)	DOB (mm)	DIB (mm)	Bark Depth (mm)	Heart wood (mm)	Juv. wood (mm)	Heart wood (%)	Juv. wood (%)	Compression wood					Basic density (kg/m ³)	Ring count
									1	2	3	4	O'all		
400 spha (contd.)															
401	5	465	439	13	305	300	48	47	0	5	5	5	5	362	22
	10	418	400	9	285	297	51	55	0	0	0	5	5	366	20
402	5	407	389	9	180	295	21	58	0	5	5	10	5	390	22
	10	374	360	7	175	285	24	63	0	0	5	5	5	372	20

* Resinous samples

Appendix II - Individual disc density data by stocking

Tree no.	Disc ht. (m)	Basic density		
		Juv.	Outer	Disc
(kg/m³)				
100 spha				
61	5	338	349	345
	11.5	337	362	351
62	5	331	341	337
	9.3	338	342	340
63	5	373	396	387
	12.5	390	399	394
64	5	371	387	382
	9.1	402	391	395
65	5	345	354	350
	9.3	378	359	367*
66	5	338	369	354
	10	332	383	358
67	0	398	419	415
	5.8	355	388	375
	14	354	368	360
	18.2	348	379	355
	22.5	350		350
68	5.1	377	414	397
	9.4	399	390	395
69	0	358	352	355
	5.8	338	343	341
	10	403	370	382
	15.6	366	377	370
	19.9	372		372
70	22.1	349		349
	5	399	395	397*
	13.4	413	422	418*
71	0	412	398	402
	5.2	356	395	384
	9.4	372	388	382
	13.8	370	400	385
	18	370	405	381
72	24	360		360
	4.8	344	375	363
	9	351	377	364
73	5.2	383	368	375*
	9.4	389	378	383
76	5.2	355	378	368
	10.6	370	389	382
77	5.7	368	350	357
	11.2	364	378	373
78	5.1	407	447	430
	10.9	407	434	418
79	4.7	320	351	338
	10.1	323	342	329
80	5.7		427	427
	11.1	432	444	438
81	3.5	413	451	431
	8.9	390	444	410
82	5.1	334	353	347
	10.5	335	352	345
83	4.1	365	396	383
	9.6	357	389	372

Tree no.	Disc ht. (m)	Basic density		
		Juv.	Outer	Disc
(kg/m³)				
100 spha (contd.)				
86	5.7	351	386	375
	11.1	367	383	377
87	0.5	374	392	386
	3.3	345	378	365
	8.7	361	376	367
	14.1	353	381	363
	19.6	347		347
88	23.7	334		334
	4.2	358	379	370
	8.5	360	375	367
89	0.9		336	336
	3.7	338	334	335
	7.9	346	350	348
	12.1	347	362	356
	13.8	342	363	350
91	19.3	351		351
	25.5	333		333
	5.6	380	406	398
	11.1	374	407	392
	200 spha			
31	5.3	365	423	396
	9.5	414	455	436*
32	5.1	389	414	407
	11.2	388	417	404
33	5.1	339	392	374
	11.3	323	371	351
34	6.4	390	444	414
	10.6	358	438	387
35	5.3	414	452	434
	11.5	419	459	435
36	5.4	379	392	387
	9.6	385	412	400
37	5	378	405	393
	14.2	383	410	398
38	5.5	335	387	364
	11	340	400	368
39	3	352	401	372
	8.4	359	398	373
40	5.1	323	371	349
	9.2	329	373	348
41	5.1	377	417	398
	9.3	386	398	391
42	0	342	364	357
	5.1	310	366	344
	11.3	320	372	339
	15.5	317	364	333
	19.3	327	373	341
43	23.3	320		320
	5.2	317	380	350
	11.3	319	380	347

* Resinous samples

Appendix II - Individual disc density data by stocking (contd.)

Tree no.	Disc ht. (m)	Basic density		
		Juv.	Outer	Disc
(kg/m ³)				
200 spha (contd.)				
44	0	372	352	357*
	5	318	345	334
	10	347	359	354
	16	350	361	356
	19	370	387	374
45	23	357		357
	0	350	387	372
	5	322	384	348
	12.5	320	383	348
	17	333	393	355
46	20.5	362		362
	23.5	364		364
	0	419	352	373*
	5	297	328	312
	10	316	331	322
47	17	316	314	316
	21.5	306	309	306
	5	345	407	379
	11	364	401	381
	56	5.1	370	375
57	9.3	386	379	383
	5.2	367	393	378
58	9.4	376	400	385
	0	333	343	340
	3	337	354	346
	7.5	370	356	363
	11.7	371	361	366
59	16.2	357	380	363
	20.5	372		372
	5.7	351	377	365
	9.9	363	385	374
	60	5.2	367	382
60a	9.4	344	362	354
	5	342	408	378
60b	11.2	337	388	360
	5.2	328	381	360
206	13.1	346	376	359
	5	364	382	374
207	10.4	364	391	377
	5.7	368	389	379
210	11.1	359	390	375
	5.2	367	396	384
400 spha				
1	10.6	373	398	386
	0	352	381	371
	5.2	325	391	353
	9.4	319	398	346
2	13.5	330	397	353
	4.3	323	400	352
3	8.5	336	413	364
	5.3	361	427	398
400 spha (contd.)				
4	13.2	383	418	400
	0.5	334	359	352
	5.6	310	355	334
	9.8	322	355	339
	14	335	357	344
5	18.1	344	360	351
	5.3	311	366	344
6	11.5	318	367	346
	0	384	430	415
7	5.2	359	424	393
	13	382	426	405
	21	382	415	392
	3.9	369	441	394
	8.1	351	446	377
8	3.2	380	444	410
	7.4	375	443	406
12	11.2	366	434	392
	0	364	391	380
	5	331	365	346
	11	348	367	355
	17.3	329	351	338
13	21.8	334	355	341
	25.8	346	365	350
	28.9	328		328
	5	369	442	403
	9.1	383	463	416
14	0	434	479	456
	5	367	472	405
	9.2	379	483	410
	12.8	394	477	418
	16.8	384	461	405
16	20.7	379	452	398
	4.9	332	367	353
	12.7	342	355	349
	20.6	361	379	368
	5.2	337	376	352
17	14.4	336	357	342
	4.5	372	473	403
18	9.9	342	445	381
	5.2	340	427	389
19	13.2	350	418	384
	5.2	358	430	388
21	9.2	363	440	396
	5.8	336	405	369
22	10	335	400	366
	5	318	369	344
23	10	318	357	336
	5	357	403	373
24	10	338	391	360

* Resinous samples

Appendix II - Individual disc density data by stocking (contd.)

Tree no.	Disc ht. (m)	Basic density		
		Juv.	Outer (kg/m ³)	Disc
400 spha (contd.)				
25	0	317	338	329
	6.5	300	328	311
	10.6	316	332	324
	15	320	331	326
	19	315	338	326
	23.5	321	347	329
	28	341	339	341
26	5.7	346	373	358
	10	351	378	366
27	1	349	420	380
	5	363	442	384
	11	355	456	381
	17	355		355
	23	341		341
29	5	355	392	371
	10	359	403	379
30	5	360	416	391
	10	380	403	392
30.1	5	360	419	382
	8	360	415	383
	12	363	412	380
401	5	321	404	362
	10	327	413	366
402	5	343	459	390
	10	333	444	372

* Resinous samples

Appendix III - Log and tree values

Tree no.	Log height class	Length (m)	Volume (m ³)	Bark depth (mm)	Heart wood (%)	Juv. wood (%)	Compr. wood (%)	Basic density (kg/m ³)
100 spha								
61	2nd	6.5	2.071	17	17	38	11	347
62	2nd	4.3	1.237	17	11	34	5	339
63	2nd	7.5	1.957	17	13	42	10	389
64	2nd	4.1	1.281	28	22	35	5	382
65	2nd	4.3	1.320	20	29	42	21	357
66	2nd	5	1.015	11	19	47	13	356
67	Butt	5.8	1.311	23	16	28	5	399
	2nd	8.2	1.305	9	17	46	5	369
	3rd	4.2	0.458	7	12	62	7	358
	4th	4.3	0.265	6	6	78	10	354
	Tree		3.340	14	15	44	6	378
68	2nd	4.3	0.924	18	13	48	23	396
69	Butt	5.8	2.742	30	14	34	7	349
	2nd	4.2	1.606	18	10	32	10	360
	3rd	5.6	1.323	13	5	40	10	379
	4th	6.5	0.506	8	3	70	9	366
	Tree		6.177	21	10	38	9	359
70	2nd	8.4	2.132	24	20	42	7	406*
71	Butt	5.2	1.940	31	13	26	7	395*
	2nd	4.2	1.186	16	12	32	12	383
	3rd	4.4	0.928	13	10	41	11	383
	4th	4.2	0.540	10	9	56	5	384
	5th	6	0.382	8	8	78	6	376
	Tree		4.976	20	11	37	9	387
72	2nd	4.2	1.200	15	6	41	27	363
73	2nd	4.2	1.258	23	20	40	10	379*
76	2nd	5.4	2.224	15	17	33	18	375
77	2nd	5.5	1.972	16	20	35	7	363
78	2nd	5.8	1.089	17	12	45	5	425
79	2nd	5.4	1.407	19	26	50	13	334
80	2nd	5.4	1.444	14	18	39	8	433
81	2nd	5.4	0.935	22	30	51	5	424
82	2nd	5.4	1.857	20	11	35	12	346
83	2nd	5.5	1.512	16	10	45	15	379
86	2nd	5.4	1.880	17	14	34	8	376

* Resinous samples

Appendix III - Log and tree values (contd.)

Tree no.	Log height class	Length (m)	Volume (m ³)	Bark depth (mm)	Heart wood (%)	Juv. wood (%)	Compr. wood (%)	Basic density (kg/m ³)
100 spha (contd.)								
87	Butt	2.85	0.856	33	11	33	7	377
	2nd	5.4	1.306	22	11	40	8	366
	3rd	5.4	0.957	15	11	51	9	365
	4th	5.5	0.535	10	11	74	12	358
	5th	4.1	0.166	7	5	100	10	344
	Tree		3.820	20	11	49	8	366
88	2nd	4.3	1.308	19	21	39	12	369
89	Butt	2.8	1.329	40	14	25	15	336
	2nd	4.2	1.686	26	10	29	15	341
	3rd	5.9	1.559	18	6	39	11	349
	4th	5.5	0.638	10	5	72	12	350
	5th	6.2	0.296	7	3	100	5	347
	Tree		5.507	24	9	40	13	343
91	2nd	5.5	2.335	24	18	33	13	395
200 spha								
31	2nd	4.2	0.991	15	31	45	5	409
32	2nd	6.1	1.221	13	22	36	3	406
33	2nd	6.2	1.100	10	25	37	4	364
34	2nd	4.2	0.518	8	19	54	5	403
35	2nd	6.2	1.235	13	27	47	12	435
36	2nd	4.2	1.190	17	15	39	7	393
37	2nd	9.2	2.192	18	8	45	15	395
38	2nd	5.45	1.096	13	9	45	8	366
39	2nd	5.4	0.816	14	38	59	7	372
40	2nd	4.1	0.605	10	29	46	7	349
41	2nd	4.2	0.745	20	40	56	5	395
42	Butt	5.1	0.907	17	22	36	9	352
	2nd	6.2	0.816	7	26	49	15	341
	3rd	4.2	0.460	7	26	59	10	336
	4th	3.8	0.331	8	21	66	5	336
	5th	4	0.261	6	14	77	5	332
	Tree		2.776	10	23	51	10	342
43	2nd	6.1	1.126	10	23	48	8	349
44	Butt	5	2.231	26	24	31	5	347*
	2nd	5	1.827	18	31	42	5	343
	3rd	6	1.705	14	28	43	9	354
	4th	3	0.567	9	18	59	13	363
	5th	4	0.442	7	12	87	8	368
	Tree		6.771	18	26	43	7	350

* Resinous samples

Appendix III - Log and tree values (contd.)

Tree no.	Log height class	Length (m)	Volume (m ³)	Bark depth (mm)	Heart wood (%)	Juv. wood (%)	Compr. wood (%)	Basic density (kg/m ³)
200 spha (contd.)								
45	Butt	5	1.005	20	17	44	2	362
	2nd	7.5	1.089	10	20	54	5	348
	3rd	4.5	0.489	6	17	58	9	351
	4th	3.5	0.293	5	12	70	15	358
	5th	3	0.195	5	10	89	13	363
	Tree		3.072	12	17	55	6	355
46	Butt	5	1.397	19	39	39	7	346*
	2nd	5	1.161	10	43	54	8	317
	3rd	7	1.216	9	42	70	7	319
	4th	4.5	0.497	8	34	84	10	312
	Tree		4.271	13	40	57	8	326
47	2nd	6	0.968	15	20	49	5	380
56	2nd	4.2	1.206	17	18	40	13	377
57	2nd	4.2	0.969	15	52	53	5	381
58	Butt	3	1.002	33	25	34	16	343
	2nd	4.5	1.199	25	29	45	10	354
	3rd	4.2	0.894	15	21	46	10	364
	4th	4.5	0.660	11	16	58	16	365
	5th	4.3	0.323	7	12	81	21	365
	Tree		4.077	21	23	48	13	356
59	2nd	4.2	0.813	15	14	43	10	370
60	2nd	4.2	1.283	15	32	37	10	367
60a	2nd	6.2	0.823	10	23	47	5	371
60b	2nd	7.9	1.308	10	25	48	5	360
206	2nd	5.4	1.311	16	17	38	11	376
207	2nd	5.4	1.839	22	18	42	13	377
210	2nd	5.4	1.230	15	26	44	8	385
400 spha								
1	Butt	5	0.778	22	22	48	7	364
	2nd	4	0.457	8	28	61	10	350
	3rd	4	0.379	7	22	64	8	349
	Tree		1.615	14	24	55	8	357
2	2nd	4.2	0.451	7	45	62	8	358
3	2nd	7.9	1.475	15	39	45	7	398
4	Butt	5.1	1.851	22	18	33	5	344
	2nd	4.2	1.194	12	26	45	5	336
	3rd	4.2	0.983	11	28	50	5	341
	4th	4.1	0.787	9	24	55	5	347
	Tree		4.815	15	23	43	5	342

* Resinous samples

Appendix III - Log and tree values (contd.)

Tree no.	Log height class	Length (m)	Volume (m ³)	Bark depth (mm)	Heart wood (%)	Juv. wood (%)	Compr. wood (%)	Basic density (kg/m ³)
400 spha (contd.)								
5	2nd	6.2	1.326	9	17	44	16	345
6	Butt	5.2	1.180	31	15	36	7	406
	2nd	7.8	1.361	13	16	48	8	399
	3rd	8	1.048	9	14	57	7	400
	Tree		3.589	18	15	47	7	401
7	2nd	4.2	0.298	7	27	70	5	386
8	2nd	4.2	0.433	8	36	52	7	409
	3rd	3.8	0.333	7	36	58	8	399
12	Butt	5	1.589	20	22	39	4	367
	2nd	6	1.446	18	28	55	8	351
	3rd	6.3	1.251	13	24	58	7	348
	4th	4.5	0.633	9	15	58	10	339
	5th	4	0.436	7	7	66	6	345
	6th	3.1	0.246	6	5	83	2	342
	Tree		5.601	15	21	53	6	353
13	2nd	4.1	0.608	14	24	51	5	408
14	Butt	5	0.604	13	29	50	10	437
	2nd	4.2	0.342	8	38	62	12	407
	3rd	3.6	0.235	7	35	67	17	414
	4th	4	0.214	7	29	69	13	412
	5th	3.9	0.161	7	21	73	3	402
	Tree		1.556	10	31	60	11	420
16	2nd	7.8	1.275	12	39	45	12	352
	3rd	7.9	1.030	7	36	54	13	358
17	2nd	9.2	1.103	12	38	65	9	349
18	2nd	5.4	0.518	9	34	65	3	396
19	2nd	8	1.057	7	30	46	12	387
21	2nd	4	0.499	8	36	60	5	392
22	2nd	4.2	0.542	13	40	52	3	368
23	2nd	5	1.240	17	29	46	16	340
24	2nd	5	0.822	12	26	59	5	369
26	2nd	4.3	0.931	19	18	45	7	362
29	2nd	5	0.940	11	29	56	5	375
30	2nd	5	1.200	14	37	44	5	392
30.1	2nd	3	0.396	12	32	58	5	382
	3rd	4	0.434	8	32	60	5	382
401	2nd	5	0.693	11	49	50	5	363
402	2nd	5	0.552	8	22	60	5	382

* Resinous samples

Appendix IV - Basic density data for regression analyses

Tree no.	Basic density, (kg/m ³)						
	Outer wood *	Butt log	2nd log	3rd log	4th log	5th log	Whole tree
100spha							
61	370		347				
62	359		339				
63	413		389				
64	386		382				
65	371		357				
66	414		356				
67	422	399	369	358	354		378
68	440		396				
69	339	349	360	379	366		359
70	379		406*				
71	400	395*	383	383	384	376	387
72	390		363				
73	396		379*				
76	387		375				
77	367		363				
78	505		425				
79	363		334				
80	415		433				
81	465		424				
82	380		346				
83	438		379				
86	392		376				
87	397	377	366	365	358	344	366
88	394		369				
89	344	336	341	349	350	347	343
91	425		395				
200spha							
31	441		409				
32	468		406				
33	420		364				
34	459		403				
35	457		435				
36	422		393				
37	426		395				
38	424		366				
39	392		372				
40	409		349				
41	414		395				
42	392	352	341	336	336	332	342
43	431		349				
44	367	347*	343	354	363	368	350
45	419	362	348	351	358	363	355
46	344	346*	317	319	312		326
47	400		380				
56	379		377				
57	400		381				

Appendix IV - Basic density data for regression analyses (contd.)

Tree no.	Basic density, (kg/m ³)												
	Outer wood *	Butt log	2nd log	3rd log	4th log	5th log	Whole tree						
200spha (contd.)		343	354	364	365	365	356						
58	348												
59	382												
60	420												
60a	410												
60b	400												
206	408												
207	410												
210	383												
400spha		364	350	349			357						
1	388												
2	407												
3	466												
4	381							344	336	341	347		342
5	392												
6	463												
7	424												
8	428												
12	397	367	351	348	339	345	353						
13	479												
14	468							437	407	414	412	402	420
16	405												
17	402												
18	471	321	318	325	326	327	324						
19	478												
21	449												
22	419												
23	394												
24	400												
25	342												
26	386												
27	396							382	382	371	350		375
29	426												
30	438												
30.1	419		382										
401	422												
402	474												
400spha – Sawing study logs									383				
1	427												
2	412												
3	428												
4	433												
5	453												
6	438												
7	461												
8	440												
9	418												
10	412												

Appendix IV - Basic density data for regression analyses (contd.)

Tree no.	Basic density, (kg/m ³)						
	Outer wood *	Butt log	2nd log	3rd log	4th log	5th log	Whole tree
400spha – Sawing study logs (contd.)							
11	424		383				
12	394		345				
13	413		375				
14	402		358				
15	423		367				
16	477		412				
17	415		381				
18	424		374				
19	469		373				
20	366		331				
21	422		375				
22	400		357				
24	434		406				
25	403		361				
26	419		363				
27	415		372				
28	469		388				
29	421		373				
30	392		346				
31	423		407				
99	361		337				

Appendix V - Spiral grain by sampling position

Tree no.	Disc ht. (m)	Spiral grain (°) by ring number from pith									
		2	4	6	8	10	12	14	16	18	20
61	100 spba										
	5	7.75	10	9.75	9.75	8.75	7	6.25	3.25	2.25	2
62	11.5	8	6.25	9	7.5	6.25	3.5	1.75	2.75		
	5	4.25	3	5	4.25	2.25	1.25	-0.5	-1.75	2	1
63	9.3	7.25	7.5	10.5	8.75	9.5	8	7.75	4	2.25	
	5	2	3	3	3.5	3	0	0.25	-2.25	-7.75	-5.25
64	12.5	3.25	-0.75	-4.25	-0.75	-2	-2	-1.25	1.5		
	5	5.25	12	9.75	8.5	5.5	6	6	6	5	4.75
65	9.1	4.75	20.5	8.75	3.25	2	3	5.5	2.25	2.5	
	5	6.5	7.5	9.25	8.75	7.75	4.5	5	3.75	1.75	2
66	9.3	3.25	5.75	5.75	6	4.25	3.5	0.5	-1	-1	
	5	5.25	6.5	9.5	9.5	3.5	1.75	-1.25	-2.5	-3.75	-3
67	10	7.5	7.75	7	4.25	6.5	4	2	-1	-2	
	0	1.75	2.5	2.25	1.5	-0.5	-1	-0.5	0	-1.5	-2.75
68	5.8	4.25	3.25	7	6	4	4.5	2.25	0.5	-1.75	0.5
	14	6.25	8.75	8	6.5	5.5	5.25	4.75			
69	18.2	0.25	0.75	2.25	5.5	4	5				
	22.5	6.75	6.25	2.5	1.5						
70	5.1	5	5.5	7.25	5.75	5.25	2	2.75	-0.5	-0.75	-1.25
	9.4	4	6.75	7	9.25	9.5	7.5	6.75	6	4.25	
71	0	4.5	8	-1.25	1.75	3.25	0.25	-0.75	-1	-0.5	-1.5
	5.8	2.75	7.5	8.75	10.25	12.75	14.5	12	11	9	10.25
72	10	7.25	9.25	9	11	8.75	8.5	8	6	6.5	
	15.6	4	7.5	6.25	5.25	4.25	4.5				
73	19.9	3.5	8	9.25	6.5	9					
	22.1	6	3	5	4.25						
74	5	8.5	10.25	12	13.5	12	12.5	11.75	10.5	9.5	7.75
	13.4	6.5	8	9.25	9.75	7.75	6.75	7.25	7.75		
75	0	6.75	3.75	0.75	-0.25	0.25	-0.25	1.75	-0.5	-2.25	-2.75
	5.2	6	4.25	3.25	1.25	1	0	0	0.25	-0.5	0
76	9.4	2.25	2.25	3	2.5	2.5	1.75	0	-0.25	2	
	13.8	2.5	6	3.5	-0.5	-0.25	2.25	1			
77	18	5	4.5	4	-0.75	2	3.75				
	24	2.5	2.5	-0.25							
78	4.8	3.25	8.25	10	9.25	6.25	2.5	1	-1.75	-4	-3.25
	9	3.5	6.5	4	2	1	-2.25	-2.5	-3	-3	
79	5.2	6.75	7.5	7.75	10.75	9.25	9.25	6.75	5	3	3
	9.4	4	8	9.75	9.75	8.5	9.75	6.25	3.5	1.75	
80	5.2	4.75	6	8.25	8.75	7.25	7.5	7.25	8.25	6.5	6
	10.6	5.75	7.5	8.25	5.5	3.25	1	2	2.5	5.75	
81	5.7	7.75	5.25	1.75	4	2	2.25	2	0	0	-2.25
	11.2	3.5	7.25	8	7.5	7.5	7.5	11.25	7.75	3.25	
82	5.1	4.75	4.5	2.75	4	1	-1	-1.75	-4.75	-2	-0.75
	10.9	6.5	7.75	7.25	2.75	3.75	1.25	-1.25	-2		
83	4.7	5.25	6.5	6.5	4.25	4.25	5.5	4	4.5	3	2
	10.1	4.25	9.5	10.5	5	7	2.5	4.75	6		
84	5.7	Knots	Knots	11	5.75	3.25	4.5	3.5	3	1	0.25
	11.1	7.75	7.5	8.5	7.5	5	5.5	6	4	2	

Appendix V - Spiral grain by sampling position (contd.)

Tree no.	Disc ht. (m)	Spiral grain (°) by ring number from pith									
		2	4	6	8	10	12	14	16	18	20
100 sph (contd.)											
81	3.5	5.25	5	5.25	4.75	7	4.75	3.5	0.75	-0.25	-4.25
	8.9	7	8.25	9.75	9.25	5.5	7.75	6.25	5.25	4.5	
82	5.1	5.75	5	4.25	6.25	5.25	4.5	3.75	4.25	3	3
	10.5	5.5	5.75	6.75	7.25	6	4.25	5	2	3.5	
83	4.1	8	7	5.75	7	8	5.75	5.75	4.75	4.5	3.5
	9.6	7	8	9.75	15.5	16.25	16.25	14.75	9.25	8.25	
86	5.7	5.75	3	5.25	5	5	4.5	4	1.75	1	1.75
	11.1	6.25	9.75	8.75	6.75	6.5	4.75	0	0.25		
87	0.45	2	5	2	0	-0.25	-1.5	-2	-2	-2.5	-4.25
	3.3	4.5	4.5	0.75	4.25	1.25	2.5	1.5	1	0	1.75
	8.7	5.25	8.25	8.5	8.5	7.25	4.5	1	-1.5		
	14.1	5.5	6.75	6	8.5	8.5	6.25	6.25			
	19.6	3.25	5.25	7.5	4.25	3.5					
	23.7	2.75	3	2.25							
88	4.2	2	1.5	2.75	3	-1	-3.5	-2	-2.75	-0.25	-3
	8.5	4.25	5.25	-0.25	-0.25	-1.25	-0.5	0	1.75	1.25	
89	0.9	Knots	-0.25	-1.25	0	-0.75	0	-0.75	1	0.25	0
	3.7	1.75	2	2.25	4	2.5	4.25	3	0.5	2.75	2.5
	7.9	2.25	6	8	7.75	8	5.5	5.5	6.25	6	
	12.1	5	7.25	5.5	5	4.75	4	5.5			
	13.8	5.25	5.5	7.5	7	5.25	4.25				
	19.3	3	5	5.5	4.5						
91	5.6	6	8.5	10.25	8.25	7.25	9	6	4.75	1.75	0.75
	11.1	6.5	10.5	12.5	12.5	9.25	9.5	8.75	8	5.25	
200 sph											
31	5.3	3	1.25	1.5	2.25	1.5	-1.25	-3.5	-3.75	-6.5	-5.5
	9.5	3	6.25	9.5	11	9.5	8.25	6.75	4	1	
32	5.1	4.75	3	2.75	2.75	4.5	4.5	3.25	2.5	1.25	0
	11.2	5.25	5	5	2.75	1.75	2	0.75	2.75	1	
33	5.1	5.75	5.5	4.5	2.5	1.5	-2.25	-3.75	-6	-5.5	-3.25
	11.3	6.5	7.5	6	4.25	1.75	0.5	-1.25	-4	-3.5	
34	6.4	3.25	6.5	6.75	5.75	5	5.75	3	1	-1.25	-0.5
	10.6	6	3.75	4	4.75	5	4.5	3.25	2.5		
35	5.3	5	6.75	9.5	2.75	1	4.75	0.75	1	-0.25	0.75
	11.5	5.5	7	6	6.25	3.75	1.75	-1	0	0	
36	5.4	5.5	7.75	8.75	10	10.5	9	8	5	3.5	2.25
	9.6	5.75	6.5	9.25	10.5	8.5	10.75	8.25	5.75	4.75	
37	5	4.5	4	3.25	4.5	3	0.75	-0.25	-1.75	-1.75	-2.25
	14.2	3.25	3.5	6	9.5	11.75					
38	5.5	5.75	9.25	7.75	9	5.75	5.5	5	3.25	1	1.25
	10.95	2.5	5.75	8.25	6.25	6.25	6.75	5	0.75	2.75	
39	3	8.5	11.25	9.75	10.5	8	5.5	4	3.25	-2.75	-3
	8.4	5.5	16	19.5	17	16.25	13.25	11	7.5	4.5	
40	5.1	4.25	4.75	3	2.5	0	-2.25	-2.5	-2.5	-3.5	-3
	9.2	5.25	4.5	4.75	4.5	2.5	0.5	-2	-0.25	0.5	-4

Appendix V - Spiral grain by sampling position (contd.)

Tree no.	Disc ht. (m)	Spiral grain (°) by ring number from pith									
		2	4	6	8	10	12	14	16	18	20
200 spha (contd.)											
41	5.1	9	6	4	1.25	3.5	1	2.75	1.25	1.5	-2
	9.3	5.75	7	6.75	7	5	4.25	3.25	2.75	2.5	3
42	0	3	1.75	0.25	-1	-3.75	-5	-2.5	-2	-6.5	0.5
	5.1	2.5	5.5	4	0.5	0	-0.5	0.25	0.25	-1.5	-4
	11.3	2.25	6	0.75	2	-0.25	-1.5	-3.75	-3	1	-1.5
	15.5	3.25	6.5	5.25	1	-3.25	-4.25	-6	-3.5		
	19.3	5	4.75	5.75	3.25	0.75	3.25				
	23.3	2.75	4.25	2.75	-2.75	1.5					
43	5.2	6.5	6.25	7.75	5	1	1.5	0.25	1.25	1.25	0.5
	11.3	8.5	8	9.5	8.25	4.5	2	2.25	1	0.5	
44	0	4.5	3	1.5	0.5	3.75	3.5	2.25	1.5	1.25	-0.25
	5	4.75	8.5	13	9.5	8.75	9	6.5	6	6.5	6
	10	7.25	9.25	11.25	11.25	10	10.25	8.25	8	6.25	
	16	6	9	9	9.25	9.5	9.5	9.5			
	19	5.75	4.75	8	8.5	7.75					
	23	6.25	7.75	8.25	5.75						
45	0	2.5	1	3	0.5	0	0.25	1	-0.75	-2.75	-2.25
	5	6.75	6.25	7.75	7	5.5	4	1.5	0	-3.75	-4.75
	12.5	7	12.25	13.75	10	8.75	7.5	4	2.75	1	
	17	8.5	12.5	11.75	11.5	8.75	8	6.25			
	20.5	9	9.75	10.5	11.5	10.75	9.25				
	23.5	7.25	8.5	8.75	10.5	10.5					
46	0	3	0.75	0.5	1.5	3.25	4	4.25	4	4	4.25
	5	8.25	11.75	10.25	13	13.5	13	11.25	11	10.25	
	10	7.5	12.5	14.5	16	19.5	19.5	19	17		
	17	9.75	11.25	10.5	12.5	13	11.25	11.75			
	21.5	6.25	12.25	8.75	9.5	7.5	6.5	7			
47	5	3.75	4.25	4.25	1.75	2.5	2.75	0.5	0.75	0.25	1
	11	2.5	3	4.5	3	5.75	4	1.5	2	1.5	
56	5.1	2.75	-0.25	3.75	5.75	7.5	4.5	2.75	0.5	1	-0.25
	9.3	6.5	10.25	9.75	7.25	7.75	7.25	6	5.75	6.75	
57	5.2	6.5	6.25	7.75	5.5	4	1.75	-1.25	-3	-3.75	-7.5
	9.4	6.25	9.25	11.25	12.5	7.25	6.5	4.75	0	-1.75	
58	0	3	1.5	0.25	0.75	0.5	-0.25	2.25	-3	-4	-3.25
	3	4	7.75	-7.75	4.5	0.25	-4	-1.75	-1.5	-0.5	0.5
	7.5	5.25	4.75	5.25	7	2.75	3.5	3.75	2.25	2	
	11.7	8	5.25	4.75	3.25	4.5	1.5	0.25	1.25		
	16.2	5.5	5.75	3.25	0.75	5.25	5				
	20.5	2.25	2.75	6.25	9.5						
59	5.7	5.75	8	8.5	10.75	5.5	4.75	4	3.25	-0.75	4.5
	9.9	6.75	6.5	6.5	7	3.5	5	4.5	4.75	1.75	
60	5.2			6.5	7.5	6	6.75	6.5	5.25	4	3.5
	9.4	5.25	5.25	7.25	7.75	8.25	6.25	3.75	2.25	2.75	2.5
60a	5	4.25	4.75	3.75	5.5	3.75	1.25	1.5	1.25	0.5	0.5
	11.2	4.5	6	6.25	5.25	4.5	1.75	0.25	0.75	-0.75	
60b	5.2	5	4.25	4.25	3	-1.5	-3.25	0	-1.5	-0.75	0.5
	13.1	5.25	6.5	6.75	3	-0.25	2.25	2.25	1.75		

Appendix V - Spiral grain by sampling position (contd.)

Tree no.	Disc ht. (m)	Spiral grain (°) by ring number from pith									
		2	4	6	8	10	12	14	16	18	20
200 spha (contd.)											
206	5	5.25	7.5	9	8.25	7.25	5	4.75	3.75	3.75	2.5
	10.4	2.5	8.5	9.25	9.5	7.75	6.5	3	3.25	2.75	
207	5.7	3	6.5	7.25	7	7.5	5.5	4.75	3.25	1.75	1.75
	11.1	2	15.25	23	26.5	24.5	21.5	21	16	15.5	
210	5.2	4.75	4.5	3	4	3.25	3.5	0.5	-1	-1.75	0.25
	10.6	5	5	3.75	5.5	6	9	9.75	9.5	9.75	
400 spha											
1	0	3.5	2.5	1.5	-0.25	-1.25	-3.25	-5	-7.75	-8.25	-7.75
	5.2	6	4.5	3.5	3.75	1.75	1.75	1.25	2	-0.25	-1.5
	9.4	8.5	7.25	8.75	6.25	5.5	4.5	1.75	0.25	-0.5	0
	13.5	7.75	9.5	10	8.75	5.75	6	2.75	1.5	0.5	
2	4.3	10.25	10	10.25	10.25	8	10.5	5	3.25	1.5	0.5
	8.5	11.25	10.75	8.5	9	8.25	7	8	4	5.25	3.75
3	5.3	9	10.25	9	8.25	5.75	5.5	3.75	0.25	-6	
	13.2	6.5	2	6	5.25	3	1.25	-2	-1	-0.25	0.25
4	0.5	5	2.5	2	-0.25	1.25	0.5	0.75	0.25	-2.5	-3.25
	5.6	5.25	5	5	7.25	7	5.25	5.5	1.25	1	1.25
	9.8	4.25	6	6.5	7.75	6.25	5	3.75	2	1	-2
	14	4.75	7	9.5	8.75	5.75	5	2.75	0.25	-1.75	
	18.1	7.75	7.75	7.75	6	6	6.25	6	3.75		
5	5.3	8	7.75	7.75	10	12	9.75	11	7.75	8.25	5.5
	11.5	8	10.25	10.5	10.25	11	10.25	11	10	8.25	
6	0	7	3.5	2.25	2.5	2.25	1.25	0	-2	-1	-0.75
	5.2	7.75	9.25	6.25	7.25	4.75	4.25	2.25	1	0	-2.5
	13	10.5	9.75	9	11.75	11.25	10.75	9.5	7.5	5	
	21	5.5	9.75	9.5	8	8.25	7.75	6.25			
7	3.9	6.5	7	5	2.5	3.5	0	-1.5	-2.25	-2.25	-2.5
	8.1	3.75	7	6.75	3.5	2	1.5	1.25	1	0.75	0.75
8	3.2	6.25	6.25	1.25	2.75	0	2	0	1	1	0.5
	7.4	4.5	4	5	2.5	-0.5	-1	-0.25	-1.25	-2	-2
	11.2	6.5	6.25	4.25	2.75	4.75	4.25	4	3.75	3.25	
12	0	4.5	5	3.75	0.25	2.25	0.75	1.25	1.5	1	-0.75
	5	6.75	7.75	7.5	6.75	5.5	4	4.25	2.5	1.25	-2
	11	7	7	9.25	8	7.5	7.75	6.25	6.25	4.25	
	17.3	8	9.75	10	9.25	8.5	7.5	9	4.25		
	21.8	7.75	9.25	9.25	10.25	10	7.75	6.25			
	25.8	6	7.75	7.5	10	11.5	13				
	28.9	7.75	10.5	10	12.75	13					
13	5	4	5.25	6.25	3	5.25	-1.5	2.5	3.75	2.25	0
	9.1	4	10.25	8.5	1.5	1.25	1.75	2	1.25	0	0
14	0	3.75	5.5	4.5	1.25	2.75	2.75	2	-3.25	-1.75	-0.75
	5	0.5	3.25	3.5	2.75	5	2	4.25	-0.75	-1	-4
	9.2	2	7.5	4.75	1.5	2.5	3	3.75	0	0	0.25
	12.8	5.5	4.5	5	6	2.5	3.75	3.5	3		
	16.8	10.25	10.25	9.25	9	5.75	3.5	2.25			
	20.7	4	2.5	6.5	7.5	8.5	6.5				

Appendix V - Spiral grain by sampling position (contd.)

Tree no.	Disc ht. (m)	Spiral grain (°) by ring number from pith									
		2	4	6	8	10	12	14	16	18	20
400 spha (contd.)											
16	4.9	9	11	11.5	10.75	8.25	4.25	1.25	-2.25	-7.25	-6
	12.7	7.25	2.25	2.75	3.25	5	2.25	2.5	0.5	-0.25	
	20.6	5	4.25	4.75	4.5	4.75	4.25	1.5			
17	5.2	6	10.5	9.25	7.5	6	3.25	3.5	2.5	1	1.25
	14.4	5.5	7	7	7.5	6	5.25	5	5.25	4.75	
18	4.5	4.75	10.5	7.5	5	4.25	0.5	-1	-0.5	1.25	0.5
	9.9	10.25	8.5	7.5	4.5	2.25	0	1.5	2	1.5	0.5
19	5.2	6.5	9.75	9.5	7	5.5	4.5	3	3	0.75	-2.25
	13.2	5.75	7.75	6	3.75	3	2.5	3.5	1.25	-0.5	
21	5.2	6	9	6.75	6.75	5	1.75	0.5	-1.75	-2	-4
	9.2	7.5	5.25	8.5	4.75	1.25	-0.75	-0.25	-3	-2.5	-3.25
22	5.8	5.25	5	6.25	5.25	3	0.25	-2.25	-5.25	-5.75	-5.75
	10	5.75	8.75	7	6.5	6.75	4.25	1	-0.5	-1.25	-3.25
23	5	2.5	0.5	2.25	1.5	0.75	-1	-0.5	1.5	-2.5	-0.25
	10	4	3.5	4.5	2	2.5	1.75	2	4.25	3.5	0.5
24	5	3	2	0.5	-1.5	-1.75	-1.75	-2.5	-3.5	-3.25	-2.25
	10	4.5	6.25	6.5	5	2.75	0.5	0.25	-2.5	-2.75	-1.5
25	0	4.5	3.5	3.75	2.75	2	1.5	-0.25	1.5	1.75	2
	6.5	4.75	5.5	6	6	3	2.5	1	1.25	2	1.75
	10.6	6.25	5.5	5.5	5	0.5	-0.5	-2.75	-0.5	0.25	-0.5
	15	8.5	7.5	5.75	5.5	4.25	4.5	2.5	0	0.5	
	19	6.75	6.5	7.25	6.25	5.25	0.5	0.75	1.5		
	23.5	6.5	8.25	7.5	7.5	5.5	5.25	5			
	28	6.5	5.5	6	4.75	8.25	7				
26	5.7	4.25	6.75	6.75	4.25	4.25	0.5	0.75	0.5	1.5	0.75
	10	5.25	6	3.5	2.5	1.5	2	1.5	1.5	-0.25	-0.5
27	1	6.5	7.5	6.25	5	3.75	1	0	-1.25	-0.5	-0.5
	5	10.25	13.75	12.5	10.5	9	6.25	4.25	3.5	3	2.75
	11	12.25	15.25	16.25	13.5	13.5	11.75	9.75			
	17	10	11	11	10	7					
	23	8.75	9.5	9.25	7.25						
29	5	7.5	9	11.25	11.75	7.25	9	5.5	4	1.25	-0.25
	10	9.5	12.25	14	11.75	10	9	9	6.75	3	2
30	5	6.25	7.5	5.5	6.25	5	4.75	-1	0	0	0.25
	10	6	11	9	6.75	8	5	2.25	2.75	2.25	2.25
30.1	5	7		5	4	0.25	1.5	0.5	-2.5	-2.5	-2.25
	8	3.25	10.5	9.5	6.25	6	4.75	2.25	2.75	2.25	1.75
	12	7.5	6.75	4.5	5.25	4.75	-0.5	-1.75	-1.25	-2	
401	5	8	8.25	5	4.25	3	0.5	-2.5	-4.75	-1.5	-0.75
	10	7.25	8.5	6	4	-0.25	-2.25	-2.25	1.5	1.5	0.25
402	5	7.5	8.5	7.75	7.5	6	5.75	2.75	0.5	1	-1
	10	8	7.75	8.5	2.75	1.75	0	1	1	-1	-0.75

Appendix VI – Blemish incidence

[illegible]

Appendix VI – Blemish incidence (contd.)

Tree no.	Disc ht. (m)	Blemishes (number and year)								Total no.
100 spha (contd.)										
86	5.7	2	1990	1	1992					3
	11.1	3	1992	1	1993					4
87	0.4									0
	3.3									0
	8.7	3	1988	1	1989					4
	14.1	1	1991	1	1992					2
	19	1	1997							1
	23.7									0
88	4.2	1	1983	1	1985					2
	8.5	1	1991							1
89	0.9	1	1988	1	1990	1	1994			3
	3.7	1	1988	1	1989	1	1995			3
	7.9									0
89	12.1									0
	13.8	1	1995	1	1996	1	1997			3
	19.3	1	1997							1
	25.5									0
91	5.6	1	1984	2	1988					3
	11.1	1	1983	1	1989					2
200 spha										
31	5.3	1	1984							1
	9.5									0
32	5.1									0
	11.2	1	1990							1
33	5.1									0
	11.3	1	1991							1
	6.4									0
	10.6									0
35	5.3									0
	11.5									0
36	5.4	1	1989	1	1990					2
	9.6									0
37	5	1	1990	1	1991					2
	14.2	1	1987	1	1988	1	1989			3
38	5.5									0
	10.9									0
39	3	2	1984							2
	8.4	1	1984							1
40	5.1									0
	9.2									0
41	5.1	1	1987							1
	9.3									0
42	0	2	1976	2	1977					4
	5.1	1	1986							1
	11.3									0
	15.5									0
	19.3									0
	23.3									0
43	5.2									0
	11.3									0

Appendix VI – Blemish incidence (contd.)

Tree no.		Disc ht. (m)	Blemishes (number and year)										Total no.
200 spha (contd.)													
44	0	2	1980										2
	5												0
	10	1	1982	1	1983								2
	16												0
	19												0
	23	1	1994										1
45	0												0
	5												0
	12.5	1	1984	2	1985	1	1986						4
	17												0
	20.5	1	1989	1	1995	1	1996						3
	23.5	1	1993										1
46	0	1	1987	1	1988								2
	5												0
	10	2	1985										2
	17	2	1987	2	1988	1	1989						5
	21.5	2	1988										2
47	5	1	1985										1
	11												0
56	5.1	1	1984										1
	9.3	1	1983	1	1985	2	1986	1	1987	3	1990		8
57	5.2												0
	9.4												0
58	0												0
	3												0
	7.5												0
	11.7												0
	16.2												0
	20.5												0
59	5.7	1	1980	1	1981	1	1982	1	1983				4
	9.9												0
60	5.2	2	1980	1	1991	1	1994						4
	9.4	1	1997										1
60a	5	1	1984	1	1989								2
	11.2												0
60b	5.2												0
	13.1	1	1992	1	1993								2
206	5	1	1981	2	1982	1	1983	1	1984				5
	10.4	1	1991										1
207	5.7	1	1986	1	1987								2
	11.1												0
210	5.2	3	1985										3
	10.6	2	1983	1	1984	1	1990	1	1991				5
400 spha													
1	0	1	1975										1
	5.2												0
	9.4												0
	13.5												0
2	4.3												0
	8.5	1	1981										1
3	5.3												0
	13.2	1	1985										1

Appendix VI – Blemish incidence (contd.)

Tree no.	Disc ht. (m)	Blemishes (number and year)								Total no.
400 spha (contd.)										
4	0								0	
	5.6	1	1985	1	1986				2	
	9.8	1	1984						1	
	14								0	
	18.1	1	1988						1	
5	5.3								0	
	11.5								0	
6	0								0	
	5.2								0	
	13								0	
	21								0	
7	3.9	3	1977						3	
	8.1								0	
8	3.2								0	
	7.4								0	
	11.2								0	
12	0								0	
	5	3	1979						3	
	11	1	1975	1	1977				2	
	17.3								0	
	21.8								0	
	25.8								0	
	28.9								0	
13	5								0	
	9.1								0	
14	0								0	
	5	1	1977						1	
	9.2								0	
	12.8								0	
	16.8								0	
	20.7								0	
16	4.9	3	1980						3	
	12.7								0	
	20.6								0	
17	5.2								0	
	14.4								0	
18	4.5	1	1986						1	
	9.9								0	
19	5.2								0	
	13.2								0	
21	5.2	1	1980						1	
	9.2								0	
22	5.8								0	
	10								0	
23	5								0	
	10	1	1980	1	1984				2	
24	5	1	1980	1	1981	1	1982		3	
	10								0	
25	0								0	
	6.5								0	
	10.5								0	

Appendix VI – Blemish incidence (contd.)

Tree no.	Disc ht. (m)	Blemishes (number and year)							Total no.
400 spha (contd.)									
25	15								0
	19								0
	23.5								0
	28								0
26	5.7								0
	10								0
27	1								0
	5								0
	11								0
	17								0
	23								0
29	5								0
	10								0
30	5	1	1979	1	1981				2
	10								0
30.1	5								0
	8	1	1980	1	1981	1	1983		3
	12								0
401	5								0
	10								0
402	5								0
	10								0

Appendix VII – Resin pocket and resinous patch incidence

Tree no.	Disc ht. (m)	Rein pockets						Resinous patches			
		Type 1 (number and year)			Type 2 (number and year)			Type1 Total	Type2 Total		
100 spha											
61	5	1	1983	1	1985	1	1986	1	1988	4	0
	11.5	1	1990							1	0
62	5									0	0
	9.3									0	0
63	5									0	0
	12.5									0	0
64	5									0	0
	9.1	1	1991	1	1994	2	1995	1	1997	5	0
65	5									0	0
	9.3	1	1991							1	0
66	5									0	0
	10									0	0
67	0	1	1983	1	1984	1	1988	1	1990	4	0
	5.8	1	1986							1	0
	14	1	1995	1	1996					2	0
	18.2									0	0
68	22.5									0	0
	5.1									0	0
69	9.4									0	0
	0									0	0
	5.8									0	0
	10									0	0
	15.6									0	0
	19.9									0	0
70	22.1									0	0
	5	1	1985	1	1987	2	1988	2	1987-1999	4	2
71	13.4								1	0	1
	0	2	1988	1	1990	1	1991	2	1993-1999	6	0
	5.2	1	1990	1	1995					2	0
	9.4	1	1990							1	0
	13.8	1	1988	2	1997					3	0
	18	1	1990	1	1998			1	1990-1999	2	1
	24	1	1994							1	0

1978-1984
1981-1983
1983-1985&1988-1990
1986-1992

1978-1988

1991&1995

Appendix VII – Resin pocket and resinous patch incidence (contd.)

Tree no.	Disc ht. (m)	Rein pockets				Resinous patches	
		Type 1 (number and year)		Type 2 (number and year)	Type1 Total	Type2 Total	
100 spha (contd.)							
72	4.8				0	0	1981-1984
	9				0	0	1981-1983
73	5.2				0	0	1983-1988
	9.4				0	0	
76	5.2	1 1990		2 1988	1	0	1981-1986
	10.6				0	2	
77	5.7	1 1987			1	0	1988-1989
	11.2				0	0	
78	5.1				0	0	
	10.9				0	0	
79	4.7				0	0	
	10.1	1 1989			1	0	
80	5.7	1 1988			1	0	
	11.1				0	0	
81	3.5				0	0	1980-1982
	8.9				0	0	1984-1986
82	5.1	1 1986	1 1987		2	0	
	10.5	1 1986	1 1988	1 1989	3	0	
83	4.1				0	0	1980-1985
	9.6				0	0	1981-1982
86	5.7	1 1993			1	0	
	11.1				0	1	
87	0.4				0	0	
	3.3				0	0	
	8.7	1 1987		1 1996	1	1	
	14.1				0	0	
	19			1 1988	1	0	
	23.7			1 1998	0	1	
88	4.2				0	0	1981-1983&1985-1986
	8.5				0	0	1975-1987
89	0.9				0	0	1980-1986
	3.7	1 1992			1	0	

Appendix VII – Resin pocket and resinous patch incidence (contd.)

Tree no.	Disc ht. (m)	Rein pockets					Resinous patches	
		Type 1 (number and year)		Type 2 (number and year)		Type1 Total	Type2 Total	
100 spha (contd.)								
	7.9					0	0	1983-1988
	12.1					0	0	1984-1986
	13.8					0	0	1986
	19.3					0	0	
	25.5					0	0	
91	5.6	1	1982		1	1	1	
	11.1	1	1987		1	4	2	1984-1990
200 spha								
31	5.3	1	1986			1	0	
	9.5					0	0	
32	5.1					0	0	
33	11.2	1	1989			1	0	
	5.1					0	0	
	11.3					0	0	
34	6.4					0	0	
	10.6					0	0	
35	5.3					0	0	
	11.5					0	0	
36	5.4				1	0	1	
	9.6					0	0	
37	5					0	0	1980-1981
	14.2					0	0	
38	5.5					0	0	
	10.9					0	0	
39	3					0	0	
	8.4				1	0	1	
40	5.1					0	0	
	9.2					0	0	
41	5.1					0	0	
	9.3	1	1987			1	0	
42	0					0	0	
	5.1					0	0	
	11.3					0	0	

Appendix VII – Resin pocket and resinous patch incidence (contd.)

Tree no.	Disc ht. (m)	Rein pockets				Resinous patches	
		Type 1 (number and year)		Type 2 (number and year)	Type1 Total	Type2 Total	
200 spha (contd.)	15.5				0	0	1981-1987 1985-1987
	19.3				0	0	
	23.3				0	0	
	5.2				0	0	
	11.3				0	0	
44	0				0	0	
	5	1 1986	1 1987	1	1	1	
	10	1 1986		1	0	0	
	16			0	0	0	
	19			0	0	0	
	23			0	0	0	
45	0				0	0	
	5				0	0	
	12.5				0	0	
	17				0	0	
	20.5				0	0	
	23.5				0	0	
46	0				0	0	
	5				0	0	
	10	1 1987			1	0	
	17	1 1988			1	0	
	21.5				0	0	
47	5				0	0	
	11				0	0	
56	5.1				0	0	
	9.3				0	0	
57	5.2	1 1987			1	0	
	9.4				0	0	
58	0				0	0	
	3				0	0	
	7.5				0	0	
	11.7				0	0	
	16.2				0	0	
	20.5				0	0	

1981-1987
1985-1987

Appendix VII – Resin pocket and resinous patch incidence (contd.)

Tree no.	Disc ht. (m)	Rein pockets				Resinous patches	
		Type 1 (number and year)		Type 2 (number and year)		Type1 Total	Type2 Total
200 spha (contd.)							
59	5.7					0	1983-1986
	9.9	1				1	1982-1986
60	5.2	1				1	1985-1988
	9.4				1	0	
60a	5					0	
	11.2					0	
60b	5.2					0	
	13.1	1				1	
206	5					0	
	10.4					0	
207	5.7					0	1982-1984&1989
	11.1					0	1981-1987
210	5.2	1				1	
	10.6				1	0	
400 spha							
1	0					0	1974-1976
	5.2					0	
	9.4					0	
	13.5					0	
2	4.3					0	
	8.5					0	
3	5.3					0	
	13.2	1		1		2	
4	0	1				1	1975-1980
	5.6	1				1	
	9.8					0	
	14	1				1	
	18.1				1	0	
5	5.3					0	
	11.5					0	
	0					0	1975-1980
	5.2					0	
6	13					0	1982-1984
	21					0	

Appendix VII – Resin pocket and resinous patch incidence (contd.)

Tree no.	Disc ht. (m)	Rein pockets				Resinous patches	
		Type 1 (number and year)		Type 2 (number and year)		Type1 Total	Type2 Total
400 spha (contd.)							
7	3.9					0	0
	8.1					0	0
8	3.2					0	0
	7.4					0	0
	11.2					0	0
12	0					0	0
	5					0	0
	11					0	0
	17.3					0	0
	21.8					0	0
	25.8					0	0
	28.9					0	0
13	5					0	0
	9.1					0	0
14	0					0	0
	5					0	0
	9.2					0	0
	12.8					0	0
	16.8					0	0
	20.7					0	0
16	4.9					0	0
	12.7					0	0
	20.6	1 1992				1	0
17	5.2					0	0
	14.4					0	0
18	4.5	1 1981				1	0
	9.9					0	0
19	5.2					0	0
	13.2					0	0
21	5.2					0	0
	9.2					0	0
22	5.8					0	0
	10					0	0

Appendix VII – Resin pocket and resinous patch incidence (contd.)

Tree no.	Disc ht. (m)	Rein pockets					Resinous patches	
		Type 1 (number and year)		Type 2 (number and year)		Type1 Total	Type2 Total	
400 spha (contd.)								
23	5	1 1977		1 1984		0	0	1979-1986
	10					0	1	
24	5					0	0	1979-1981
	10					0	0	
25	0					0	0	
	6.5	1 1985	1 1986	1 1993	1 1992	1	0	
	10.5					0	0	
	15					3	0	
	19					0	0	
	23.5					0	0	
26	28	2 1982				0	1	
	5.7					0	0	
	10					0	0	
27	1					0	0	
	5					0	0	
	11					0	0	
	17					0	0	
	23					0	0	
29	5					0	0	
	10					2	0	
30	5					0	0	
	10					0	0	
30.1	5					0	0	
	8					0	0	
	12					0	0	
401	5					0	0	
	10					0	0	
402	5					0	0	
	10					0	0	
	10					0	0	

Appendix VII – Resin pocket and resinous patch incidence

Tree no.	Disc ht. (m)	Rein pockets						Resinous patches			
		Type 1 (number and year)			Type 2 (number and year)			Type1 Total	Type2 Total		
100 spha											
61	5	1	1983	1	1985	1	1986	1	1988	4	0
	11.5	1	1990							1	0
62	5									0	0
	9.3									0	0
63	5									0	0
	12.5									0	0
64	5									0	0
	9.1	1	1991	1	1994	2	1995	1	1997	5	0
65	5									0	0
	9.3	1	1991							1	0
66	5									0	0
	10									0	0
67	0	1	1983	1	1984	1	1988	1	1990	4	0
	5.8	1	1986							1	0
68	14	1	1995	1	1996					2	0
	18.2									0	0
69	22.5									0	0
	5.1									0	0
70	9.4									0	0
	0									0	0
71	5.8									0	0
	10									0	0
72	15.6									0	0
	19.9									0	0
73	22.1									0	0
	5	1	1985	1	1987	2	1988	2	1987-1999	4	2
74	13.4									0	1
	0	2	1988	1	1990	1	1991	2	1993-1999	6	0
75	5.2	1	1990	1	1995					2	0
	9.4	1	1990							1	0
76	13.8	1	1988	2	1997					3	0
	18	1	1990	1	1998					2	1
77	24	1	1994					1	1990-1999	1	0

1991&1995

1978-1984
1981-1983
1983-1985&1988-1990
1986-1992

1978-1988

Appendix VII – Resin pocket and resinous patch incidence (contd.)

Tree no.	Disc ht. (m)	Rein pockets					Resinous patches	
		Type 1 (number and year)		Type 2 (number and year)		Type1 Total	Type2 Total	
100 spha (contd.)								
72	4.8					0	0	
	9					0	0	1981-1984
73	5.2					0	0	1981-1983
	9.4					0	0	1983-1988
76	5.2	1	1990			1	0	
	10.6					0	2	1981-1986
77	5.7	1	1987			1	0	
	11.2					0	0	1988-1989
78	5.1					0	0	
	10.9					0	0	
79	4.7					0	0	
	10.1	1	1989			1	0	
80	5.7	1	1988			1	0	
	11.1					0	0	
81	3.5					0	0	
	8.9					0	0	1980-1982
82	5.1	1	1986	1	1987	2	0	1984-1986
	10.5	1	1986	1	1988	3	0	
83	4.1					0	0	
	9.6					0	0	1980-1985
86	5.7	1	1993			1	0	1981-1982
	11.1					0	1	
	0.4					0	0	
87	3.3					0	0	
	8.7	1	1987			1	1	
	14.1					0	0	
	19					0	1	
	23.7					0	0	
88	4.2					0	0	
	8.5					0	0	1981-1983&1985-1986
89	0.9					0	0	1975-1987
	3.7	1	1992			1	0	1980-1986

Appendix VII – Resin pocket and resinous patch incidence (contd.)

Tree no.	Disc ht. (m)	Rein pockets					Resinous patches	
		Type 1 (number and year)		Type 2 (number and year)		Type1 Total	Type2 Total	
100 spha (contd.)								
	7.9					0	0	1983-1988
	12.1					0	0	1984-1986
	13.8					0	0	1986
	19.3					0	0	
	25.5					0	0	
91	5.6	1	1982		1	1	1	
	11.1	1	1987		1	4	2	1984-1990
200 spha								
31	5.3	1	1986			1	0	
	9.5					0	0	
32	5.1					0	0	
	11.2	1	1989			1	0	
33	5.1					0	0	
	11.3					0	0	
34	6.4					0	0	
	10.6					0	0	
35	5.3					0	0	
	11.5					0	0	
36	5.4				1	0	1	
	9.6					0	0	
37	5					0	0	1980-1981
	14.2					0	0	
38	5.5					0	0	
	10.9					0	0	
39	3					0	0	
	8.4				1	0	1	
40	5.1					0	0	
	9.2					0	0	
41	5.1					0	0	
	9.3	1	1987			1	0	
42	0					0	0	
	5.1					0	0	
	11.3					0	0	

Appendix VII – Resin pocket and resinous patch incidence (contd.)

Tree no.	Disc ht. (m)	Rein pockets				Resinous patches	
		Type 1 (number and year)		Type 2 (number and year)	Type1 Total	Type2 Total	
200 spha (contd.)	15.5				0	0	1981-1987 1985-1987
	19.3				0	0	
	23.3				0	0	
	5.2				0	0	
	11.3				0	0	
43	0				0	0	
	5	1 1986	1 1987		1	1	
	10	1 1986			1	0	
	16				0	0	
	19				0	0	
45	23				0	0	
	0				0	0	
	5				0	0	
	12.5				0	0	
	17				0	0	
46	20.5				0	0	
	23.5				0	0	
	0				0	0	
	5				0	0	
	10	1 1987			1	0	
47	17	1 1988			1	0	
	21.5				0	0	
	5				0	0	
56	11				0	0	
	5.1				0	0	
	9.3				0	0	
57	5.2	1 1987			1	0	
	9.4				0	0	
	0				0	0	
58	3				0	0	
	7.5				0	0	
	11.7				0	0	
	16.2				0	0	
	20.5				0	0	

Appendix VII – Resin pocket and resinous patch incidence (contd.)

Tree no.	Disc ht. (m)	Rein pockets					Resinous patches		
		Type 1 (number and year)		Type 2 (number and year)		Type1 Total	Type2 Total		
200 spha (contd.)									
59	5.7					0	0	1983-1986	
	9.9	1				1	0		1982-1986
60	5.2	1				1	0		
	9.4				1	0	1	1985-1988	
60a	5					0	0		
	11.2					0	0		
60b	5.2					0	0		
	13.1	1				1	0		
206	5					0	0		
	10.4					0	0		
207	5.7					0	0	1982-1984&1989	
	11.1					0	0		
210	5.2	1				1	0	1981-1987	
	10.6				1	0	2		
400 spha									
1	0					0	0	1974-1976	
	5.2					0	0		
	9.4					0	0		
	13.5					0	0		
2	4.3					0	0		
	8.5					0	0		
3	5.3					0	0		
	13.2	1	1994			2	0		
4	0	1				1	0		1975-1980
	5.6	1				1	0		
	9.8					0	0		
	14	1				1	0		
	18.1				1	0	1		
5	5.3					0	0		1975-1980
	11.5					0	0		
6	0					0	0	1982-1984	
	5.2					0	0		
	13					0	0		
	21					0	0		

Appendix VII – Resin pocket and resinous patch incidence (contd.)

Tree no.	Disc ht. (m)	Rein pockets				Resinous patches	
		Type 1 (number and year)		Type 2 (number and year)		Type1 Total	Type2 Total
400 spha (contd.)							
7	3.9					0	1985-1988
	8.1					0	
8	3.2					0	
	7.4					0	
	11.2					0	
12	0					0	
	5					0	
	11					0	
	17.3					0	
	21.8					0	
	25.8					0	
	28.9					0	
13	5					0	
	9.1					0	
14	0					0	
	5					0	
	9.2					0	
	12.8					0	
	16.8					0	
	20.7					0	
16	4.9					0	
	12.7					0	
	20.6	1 1992				1	
17	5.2					0	
	14.4					0	
18	4.5	1 1981				1	
	9.9					0	
19	5.2					0	
	13.2					0	
21	5.2					0	
	9.2					0	
22	5.8					0	
	10					0	

Appendix VII – Resin pocket and resinous patch incidence (contd.)

Tree no.	Disc ht. (m)	Rein pockets					Resinous patches			
		Type 1 (number and year)		Type 2 (number and year)		Type1 Total	Type2 Total			
400 spba (contd.)										
23	5				1	1984	0	0	1979-1986	
	10							0	1	
24	5							0	0	1979-1981
	10							0	0	
25	0							0	0	
	6.5	1	1977					1	0	
	10.5							0	0	
	15	1	1985	1	1986	1	1993	3	0	
	19							0	0	
	23.5							0	0	
	28						1	0	1	
26	5.7							0	0	
	10							0	0	
27	1							0	0	
	5							0	0	
	11							0	0	
	17							0	0	
	23							0	0	
29	5							0	0	
	10	2	1982					2	0	
30	5							0	0	
	10							0	0	
30.1	5							0	0	
	8							0	0	
	12							0	0	
401	5							0	0	
	10							0	0	
402	5							0	0	
	10							0	0	

Appendix VIII – Internal checking incidence

Tree no.	Disc ht. (m)	Number of internal checks by year																Total checks			
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993		1994	1995	1996
61	100 spha																				
	5																				
	11.5					SH/H	SH		4												
	5					H	1	H	3					2	5	2	1				
	9.3							H													
	5																				
	12.5																				
	5																				
	9.1																				
	5																				
62	5																				
	9.3																				
	5																				
	10																				
	0																				
	5.8																				
	14																				
	18.2																				
	22.5																				
	5.1																				
63	9.4																				
	0																				
	5.8																				
	10																				
	15.6																				
	22.1																				
	5																				
	13.4																				
	0																				
	5.2																				
64	9.4																				
	13.8																				
	18																				
	24																				
	4.8																				
	9																				
	5																				
	14																				
	15																				
	2																				
65	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	24																				
	9																				
	14																				
66	9																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
67	54																				
	7																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
68	54																				
	7																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
69	54																				
	7																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
70	54																				
	7																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
71	54																				
	7																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
72	54																				
	7																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				
	0																				

H = Heart
SH = Shelling

Appendix VIII – Internal checking incidence (contd.)

Tree no.	Disc ht. (m)	Number of internal checks by year																Total checks			
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993		1994	1995	1996
100 spha (contd.)																					
73	5.2																				0
	9.4																				0
76	5.2														SH						0
	10.6										SH	SH									0
77	5.7										SH										0
	11.2																				0
78	5.1																				0
	10.9												SH								0
79	4.7																				0
	10.1																				0
80	5.7																				0
	11.1																				0
81	3.5																				0
	8.9																				0
82	5.1																				0
	10.5																				0
83	4.1																				0
	9.6										SH										0
86	5.7											SH									0
	11.1																				0
87	0.4	H	6	9	9	3															27
	3.3					H	3	3	1						SH	SH					7
	8.7														SH						0
	14.1																				0
	19																				0
	23.7																				0
88	4.2																				0
	8.5																		SH		0
89	0.9																				0
	3.7																				0
	7.9																				0
	13.8																				0
	19.3																				0
	25.5																				0

H = Heart
SH = Shelling

Appendix VIII – Internal checking incidence (contd.)

Tree no.	Disc ht. (m)	Number of internal checks by year																			Total checks
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	
100 spha (cont.)																					
91	5.6 11.1																				
Tot		0	6	9	9	3	13	32	74	13	11	12	2	4	7	2	2	0	3	2	
200 spha																					
31	5.3 9.5																				0
32	5.1 11.2																				0
33	5.1 11.3																				0
34	6.4 10.6																				0
35	5.3 11.5																				0
36	5.4 9.6																				0
37	5 14.2				SH		SH														0
38	5.5 10.9																				0
39	3 8.4						H		1												1
40	5.1 9.2						H		1												0
41	5.1 9.3																				0
42	0 5.1		H	1	1	1	3	5	7	3	3										24
	11.3																				0
	15.5																				0
	19.3																				0
	23.3																				0
43	5.2 11.3					H	1	8	8	4											21
																					0

H = Heart
SH = Shelling

Appendix VIII – Internal checking incidence (contd.)

Tree no.	Disc ht. (m)	Number of internal checks by year															Total checks				
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992		1993	1994	1995	1996
200 spha (cont.)																					
44	0																				0
	5																				0
	10																				0
	16																				0
	19																				0
45	23																				0
	0	H	1	8		H															9
	5							6													12
	12.5							H		1											1
	17																				0
46	20.5																				0
	23.5																				0
	0																				0
	5																				0
	10																				0
47	17							H							1						2
	21.5																				0
	5																				0
	11																				0
	5.1																				0
56	9.3																				0
	5.2																				0
57	9.4																				0
	0																				0
58	3																				0
	7.5																				0
	11.7																				0
	16.2																				0
	20.5																				0
	5.7						H														0
59	9.9																				0
	5.2																				0
60	9.4																				0

H = Heart
SH = Shelling

Appendix VIII – Internal checking incidence (contd.)

Tree no.	Disc ht. (m)	Number of internal checks by year														Total checks						
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991		1992	1993	1994	1995	1996	1997
200 spha (cont.)																						
60a	5																					0
	11.2																					1
60b	5.2																			1	2	26
	13.1																					13
206	5																					10
	10.4																					0
207	5.7																					0
	11.1																					0
210	5.2																					0
	10.6																					0
Total			1	9	1	1	4	19	31	7	6	2	3	0	9	15	8	3	0	1	2	122
400 spha																						
1	0																					0
	5.2																					0
	9.4																					50
2	13.5																					0
	4.3																					0
	8.5																					0
3	5.3																					3
	13.2																					0
	0.5																					11
4	5.6																					22
	9.8																					0
	14																					0
	18.1																					12
5	5.3																					0
	11.5																					0
6	0																					0
	5.2																					0
	13																					0
	21																					0
	3.9																					0
7	8.1																					20
																						6

H = Heart
SH = Shelling

Appendix VIII – Internal checking incidence (contd.)

Tree no.	Disc ht. (m)	Number of internal checks by year																Total checks			
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993		1994	1995	1996
8	400 spha (cont.)																				
	3.2																				
	7.4																				
	11.2																				
12	0																				
	5																				
	11																				
	17.3																				
	21.8																				
	25.8																				
	28.9																				
	5																				
13	9.1																				
	0																				
	5																				
	9.2																				
16	12.8																				
	16.8																				
	20.7																				
	4.9																				
17	12.7																				
	20.6																				
	5.2																				
	14.4																				
18	4.5																				
	9.9																				
	5.2																				
	13.2																				
21	5.2																				
	9.2																				
	5.8																				
	10																				
23	5																				
	10																				

H = Heart
SH = Shelling

Appendix VIII – Internal checking incidence (contd.)

Tree no.	Disc ht. (m)	Number of internal checks by year																	Total checks			
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994		1995	1996	1997
400 spha (cont.)																						
24	5					SH															0	
	10																				0	
25	0					H													1	1	113	
	6.5																		1	1	19	
	10.5																				0	
	15																				1	
	19																				1	
	23.5																				1	
	28																				0	
26	5.7																				0	
	10																				0	
27	1																				0	
	5																				0	
	11																				0	
	17																				0	
	23																				0	
29	5																				0	
	10																				0	
30	5																				0	
	10																				0	
30.1	5																				4	
	8																				0	
	12																				0	
401	5																				0	
	10																				0	
402	5																				0	
	10																				0	
	10																				3	
Total			0	0	1	0	H	5	2	115	50	50	24	22	5	28	14	16	3	1	2	381

H = Heart
SH = Shelling

