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**Tree Health and
Safety Assessment**

8 The Junipers
Wokingham
Berkshire

June 2014

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1. Instructions

- 1.1 [REDACTED] has asked us to carry out a detailed inspection of one oak tree at 8 The Junipers, Wokingham.
- 1.2 This followed a previous inspection by a tree surgeon who expressed some concern about the condition of the tree. The Local Planning Authority's tree officer, [REDACTED] has confirmed that the tree is subject to a Tree Preservation Order (TPO) and recommended that it should be formally assessed prior to any written application for pruning or removal.

2. Inspection Methodology

- 2.1 The tree inspection and this report is the work of Jasper Fulford-Dobson CEnv, MArborA, TechCert (ArborA), ND Arb, NC Hort, who has twenty-four years' experience of working with trees in the private and public sectors and is a Chartered Environmentalist, professional member of the Arboricultural Association, associate of the Institute of Chartered Foresters and a LANTRA certified professional tree inspector.
- 2.2 The inspection was carried out on Friday 6th June and conducted from ground level, involving visual observation (Visual Tree Assessment: Mattheck and Breloer, 1994 and Lonsdale, 1999). The base was sounded with a rubber hammer and probed for defects with a chisel and steel rod. All dimensions were measured as far as reasonably practical.
- 2.3 Further diagnostic decay testing was deemed necessary and the results of three Resistograph F300E measurements can be seen in appendix I.
- 2.4 A second oak tree (T1), adjacent to the subject tree (T2) was also inspected at the same time.

3. The Tree(s)



3.1 T1 English oak

Height = 16.5m

Diameter of trunk at 1.5m = 45cm

This early-mature oak is adjacent to the subject tree I was initially asked to inspect. It seemed only sensible for me to inspect this tree whilst on-site.

Both trees are part of a group of tall, slender "drawn-up" oak trees in relatively small rear gardens close to the neighbouring houses and associated garages of The Junipers.

The main union is located at 5m and is predominantly tensile in nature. The main scaffold stems naturally incline slightly northwards over the garage of the neighbouring dwelling. There are no obvious signs of any significant defects or decay and it is in a relatively sound and healthy condition for its species and age. It is therefore not reasonably foreseeable that the tree or a part of it will fail at this time.

My risk assessment has resulted in a THREAT category of 2 "minimal".

[REDACTED] has advised me that she has arranged to have some pruning work carried out on this tree; to reduce the stems and branches back from the neighbouring property. She is under the impression this tree is not protected by any TPO.

3.2 T2 English oak

Height = 17m

Diameter of trunk at 1.5m = 55cm

Basal diameter of trunk = 91cm

Crown spread = 7m (north), 5.5m (east), 5m (south), 3m (west)

This early-mature oak is the subject tree I was initially asked to inspect.

██████████ advised me that a fungal fruiting bracket had been found at the base of the trunk and that it was thought to be that of the *Ganoderma* species; a common root and butt decay fungus found on a wide range of broadleaf hosts including oak.

It is important to highlight at this point, that without hard evidence of seeing the offending bracket, my recommendations for the future management of this tree will be based on my actual observations and some speculation on the type of fungus and decay present.

There is discolouration and patches of dead bark at the base on the north and north-west sides, which is the most likely location of where the fungal bracket was growing. A 1m steel rod was inserted into the area of dysfunction at the base on the north side which extended 40cm into the cross section (approx' half of the total basal diameter). Manual sound tests with the rubber hammer indicate that whilst all the buttresses appear sound, there is some decay and hollowing behind the areas of bark discolouration on the north and north-west sides.

There is a further area of sapwood dysfunction on the east side at the base of the trunk, which I suspect to be early stages of a secondary infection by another type of fungus; possibly *Armillaria gallica* (honey fungus).

The Resistograph measurements appear to indicate that a cone of advanced basal decay on the north and north-west quadrant extends up from the root system and that approximately 35% of the basal cross section is either hollow or decayed. The weakest part of the tree is therefore the roots and root plate, which could fail in time if no action is taken.

In addition to the basal decay; there are two old pruning wounds on the trunk at 2.5m and 4m (north side). Both have fair callous woundwood formation. The upper wound at 4m has some dark coloured staining on its lower side but there is no obvious sign of any decay and this is not considered to be significant at this time.

The main union has a slight bark inclusion, but is predominantly tensile in nature and the main stems above are upright and in fair condition. There is a large branch/sub stem growing north east which naturally inclines towards the neighbouring house and garage. There is a small dead branch lodged in the mid-crown; again not significant. Leaf, bud and shoot density is normal for the age and species suggesting that overall health and vitality is in fair condition at present.

My risk assessment has resulted in a THREAT category of 4 "moderate".

Recommended action:-

Reduce the overall height to below the canopy of the adjacent trees; to reduce the wind loading on the crown and the likelihood of windthrow.

Height of the tree after reduction should be between 13m and 15m.

The over-extended lateral branches particularly on the north side should be reduced back by approx' 2m to ensure a well-balanced crown shape.

The crown should be "cleaned out" by removing the dead, broken and weakly attached branches and incorporating a light crown thin of no more than 10%.

Timescale:-

The above work should be completed within 3 months (i.e. by end of August 2014).

4. Tree work informatives

- 4.1 It is essential to check for nesting birds, bat roosts, badgers and hibernating animals such as hedgehogs under trees, before pruning or removing trees, as negligent disturbance is an offence under the EC Habitat Directive 1992 and CROW Act 2000. The Habitat Regulations were amended in August 2007 to include as an offence any damage or destruction of a breeding site or resting place of European Protected species; mainly bats in a tree context. **The recommended work is highly unlikely to result in disturbance to protected species in this instance.**
- 4.2 The trees may be covered by a Tree Preservation Order and may also be owned by third-parties. The contractor and those issuing instructions must satisfy themselves that all necessary permissions from the local planning authority and/or tree owners are in place before touching trees.
- 4.3 All tree work should be carried out in accordance with BS:3998 (2010) "*Tree work – Recommendations*" and English Heritage's "*Technical Specification for Tree Surgery*", dated October 2013.

5. Re-inspection

- 5.1 Both trees should be informally inspected again in late-summer/autumn to check for the presence of fungal fruiting bodies (brackets or mushrooms). If found, photographic evidence should be taken and the brackets/mushrooms should be left in situ. Please send the photographs to us for identification and to assist with future management recommendations.
- 5.2 The trees should be formally re-inspected every three years by a qualified arboriculturist. In the meantime they should be informally checked by the homeowner/duty holder, especially after serious weather conditions (e.g. gales of Force 7+ and heavy rain or snow fall).
- 5.3 Reports of problems from residents, tenants and neighbours are an important element of informal observations and should be acted upon.
- 5.4 If there is any doubt as to the condition of the trees, please do not hesitate to contact us or your tree surgeon for further advice.

6. Key to tree terms

- 6.1 Age class is described as:-

Early mature tree, typically between 2/3 to virtually full size, and approximately halfway through its natural lifespan.

Mature tree having reached its ultimate crown proportions, but with the potential to increase in trunk girth, and > 1/2 way through natural lifespan.

Late-mature tree, fully grown, usually of declining vigour, but with potential for 1/5 left of natural lifespan.

- 6.2 Risk Assessment is taken from Tree Hazard: Risk Evaluation and Treatment System (THREATS - J. Forbes-Laird 2010); scores are given to *likelihood of failure, target value and degree of harm*; which when multiplied together give a *Threat Category* rating on a sliding scale of between 1 "insignificant" to 7 "extreme".
- 6.3 **Tensile** branch union is a shape optimised structure with uniform stress over its surface area with no weak points. **Compression** fork is where the two stems are pushing against each other and **included bark** in forks is where the adjacent parts of the tree are in face to face contact resulting in a weakness due to lack of a woody union.

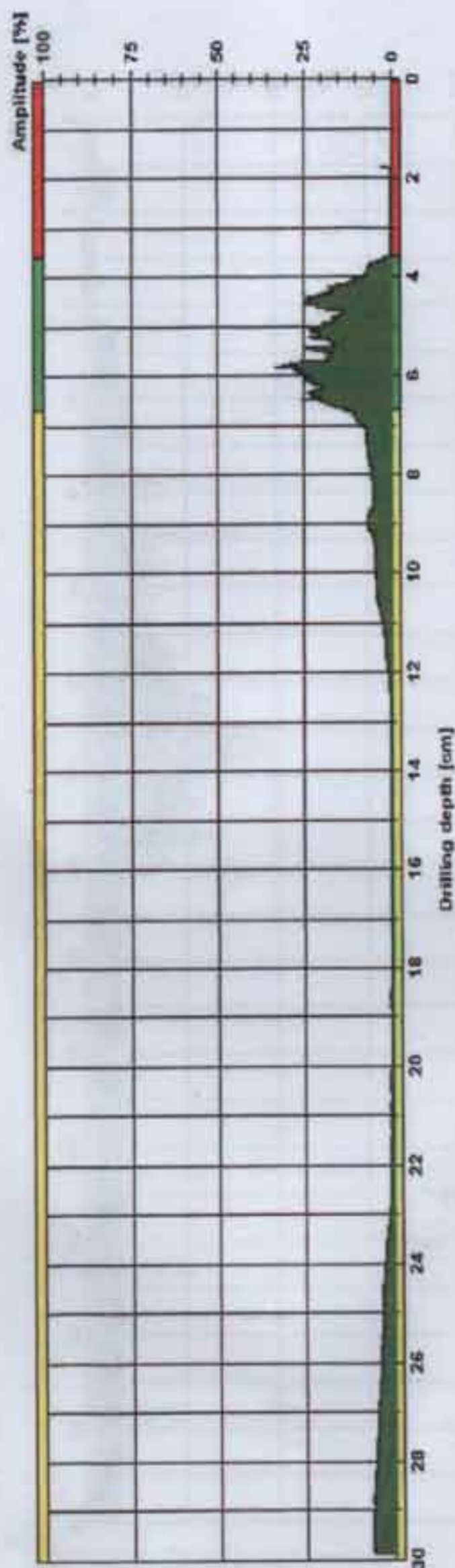
Diagnostic Decay Test Measurements

Measuring / object data

Measurement no.	1	Tilt		Name	JFD
Drilling depth	20.90 cm	Avg. curve	off		
Wood species	Hard (2)	Diameter	91.0 cm		
ID number	T2	Level	0.2 cm		
Date	06.06.2014	Direction	North		
Time	08:21:32	Object species	Quercus robur		
Advance	89 cm/min	Location	Wokingham		

Pole inspector

Start / stop	---
Resulting length	---
Quality detection	---
Cavity detection	---
Result	---



Comment

Test appears to indicate advanced decay in outer 30cm of radius on the north side. This is the point at which the fungal fruiting bracketed was probably located (suspected to be Ganoderma spp).

Assessment

From	0.0 cm	to	3.0 cm	Advanced decay
From	3.0 cm	to	6.7 cm	Sound wood
From	6.7 cm	to	30.0 cm	Advanced decay
From	0.0 cm	to	0.0 cm	
From	0.0 cm	to	0.0 cm	
From	0.0 cm	to	0.0 cm	

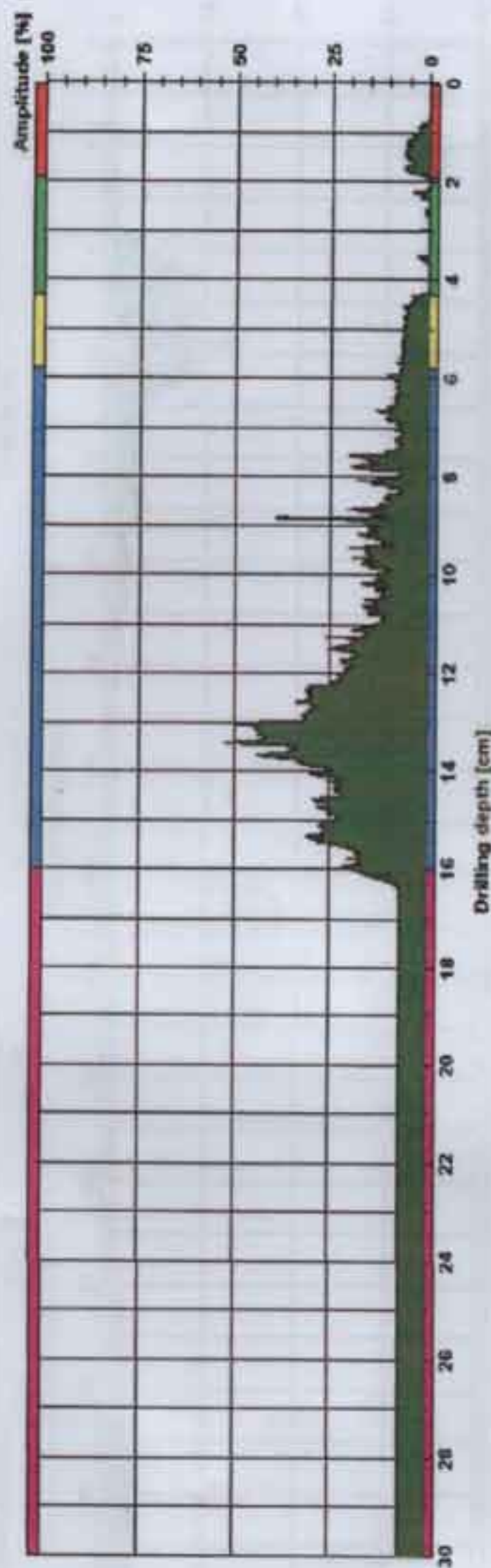
The Junipers oak Lrg

Measuring / object data

Measurement no. :	2	Tilt	---	Name :	JFD
Drilling depth	30.20 cm	Avg. curve	off		
Wood species	Hard (2)	Diameter	91.0 cm		
ID number	T2	Level	0.2 cm		
Date	08.06.2014	Direction	North west		
Time	08:24:22	Object species	Quercus robur		
Advance	20 cm/min	Location	Wokingham		

Pole Inspector

Start / stop	---
Resulting length	---
Quality detection	---
Cavity detection	---
Result	---



Assessment

From	0.0 cm	to	1.0 cm	:	Bark
From	1.0 cm	to	4.3 cm	:	Phloem and pith
From	4.3 cm	to	5.8 cm	:	Partial decay
From	5.8 cm	to	10.0 cm	:	Sound timber
From	10.0 cm	to	30.0 cm	:	Decayed timber
From	0.0 cm	to	0.0 cm	:	

Comment

Test appears to show heartwood decay radiating out from the centre. The timber in the outer 10cm shows higher resistance but with slight decay present.

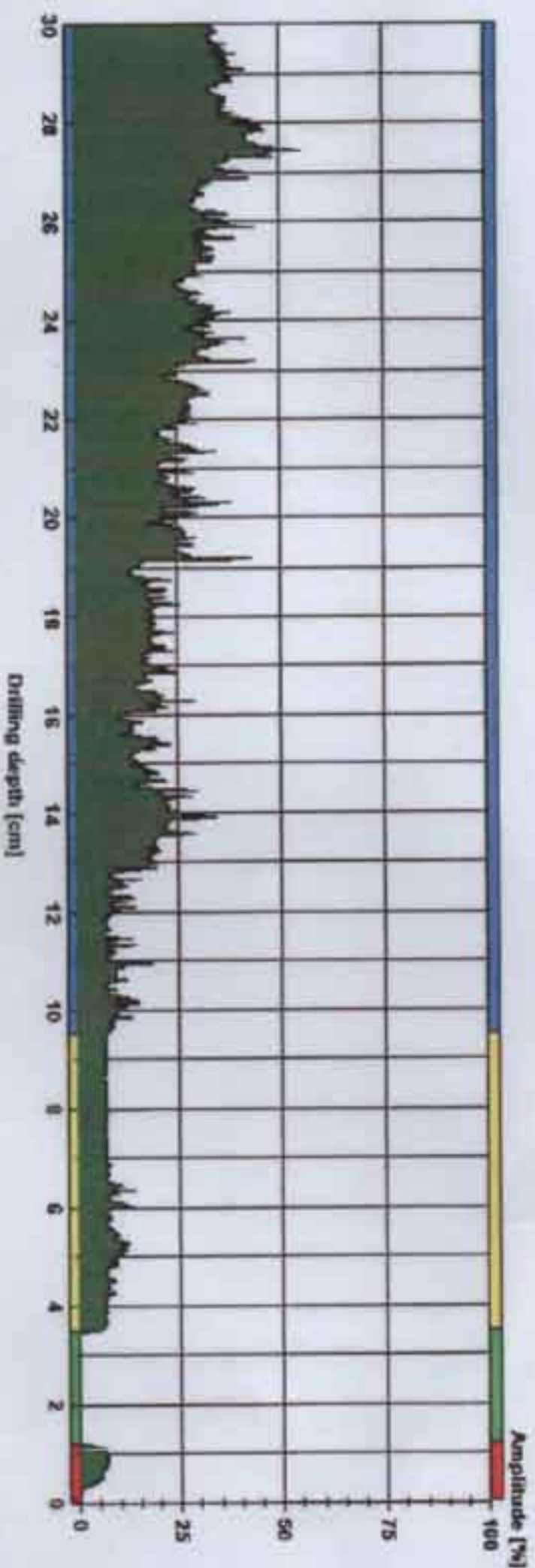
The Junipers oak 17g

Measuring / object data

Measurement no. :	3	TIR	---	Name :	JFD
Drilling depth :	29.97 cm	Avg. curve	---		
Wood species :	Hard (?)	Diameter	91.0 cm		
ID number :	T2	Level	0.2 cm		
Date :	06.06.2014	Direction	South		
Time :	08:26:02	Object species	Quercus robur		
Advance :	28 cm/min	Location	Wellingham		

Pole inspector

Start / stop	---
Resulting length	---
Quality detection	---
Cavity detection	---
Result	---



Assessment

From	0.0 cm	to	1.2 cm	:	Bark
From	1.2 cm	to	3.5 cm	:	Phloem & Pith
From	3.5 cm	to	8.5 cm	:	Partial decay
From	8.5 cm	to	30.0 cm	:	Sound timber
From	0.0 cm	to	8.5 cm	:	
From	0.0 cm	to	0.0 cm	:	

Comment

Test appears to show heartwood has good resistance (i.e. minimal decay). The outer 0.5cm appears to indicate partial decay with lower resistance.

The Junipers are large