



# Urban Tree Experts

BS5837 – Tree Surveys – Ecological Consulting

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2 July 2024

Miss P Phoon  
37 Send Road  
Reading  
RG4 8EH

Ref: SPH/VTa-DD-24/20.06

Dear Miss Phoon

## Re: Visual tree assessment and decay detection.

Thank you for your instructions to undertake a further visual inspection and decay detection upon the oak tree located in the rear garden of 37 Send Road, Reading, RG4 8EH. A summary of our findings is included in accordance with your instructions.

### Site visit:

The site visit was undertaken on 20 June 2024 by Simon Holmes MSc. MICFor of Urban Tree Experts. The conditions were dry and bright, access to the tree was provided by yourself.

The tree measurements were recorded using a TruPulse™ hypsometer and rounded down diameter tape; the results are recorded in Table 1 below.

Table 1

| Tree Number | Tree Species | Height (m) | Diameter (mm) @ 1.5m AGL | Age Class |
|-------------|--------------|------------|--------------------------|-----------|
| T001        | Oak          | 20         | 1030                     | Mature    |

Key to abbreviations:

m = metres, mm = millimetres, cm = centimetres, AGL = above ground level, est = estimated

Age Class: Mature - trees within the final third of the useful life expectancy for the species.

### Decay Detection

The tree was re-tested with the Resi PD400 micro drill. For convenience we have once more set out the test protocols and procedures with a synopsis of the equipment used at Appendix 1. It was also sounded with a nylon mallet and hollow intonations were heard on the north, east and south sides.



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## Tree Location:

The tree is located within the rear garden of 37 Send Road. It is 11.6 metres from the rear elevation of the property and 9.4 metres from the conservatory. Further properties are located to the east and west of the tree and a footpath 3 metres to the south.

## Findings and opinion:

Fungal fruiting bodies (FFB) are visible around the base of the main stem and were also present during the 2022 inspection, when comparing the images the FFB have enlarged and there are new FFB developing. See Figures 1, 2 and 3 below and on page 3.

Figure 1. Fungal fruiting bodies 2022, left and 2024 right



Figure 2. Fungal fruiting bodies 2022, left and 2024 right.





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Figure 3. New fungal fruiting bodies 2024.



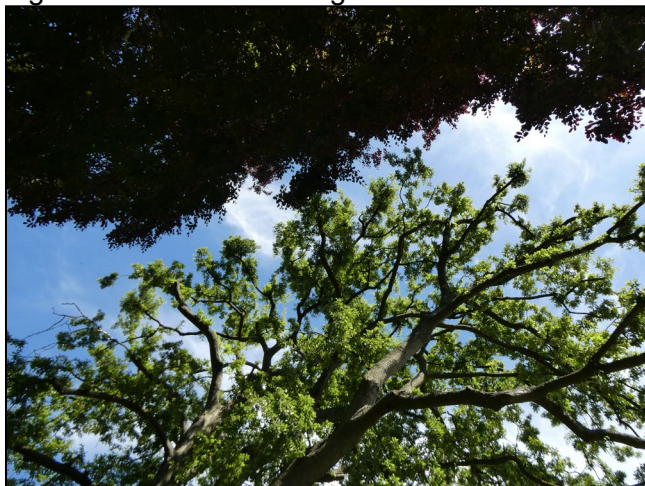
When tested with a nylon mallet, hollow intonations with loose and dead bark were recorded from the north, east and south sides between ground level and 60cm AGL.

The canopy was in leaf during this inspection allowing a visual examination of the physiological condition. The canopy is suppressed by a neighbouring beech tree and has peripheral die back and a sparse appearance with low levels of leaf cover and small leaves on the southeast side (see Figure 4 below) with dense clusters of leaves on the west side that are frequently associated with stress see Figure 5 below.

Figure 4. Canopy foliage comparison.



Figure 5. Clusters of foliage.





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The tree was drilled with the Resi PD 400 decay detection micro drill a total of six times. Four drillings were conducted around the base of the tree (measurements 1-4) and a further two drillings were conducted at 1.5 metres AGL to assess the extent of decay. The measurements undertaken around the base of the tree indicate that decay is extensive on the north and south sides of the tree (measurements 1 and 3). This correlates well with the tests undertaken in 2022.

The micro drillings conducted at 1.5 metres AGL show a drop in amplitude (wood density) behind the bark at 38 centimetres on the northern side (measurement 5) which is most probably the early stages of decay, with no significant decay detected on the southern side, measurement 6.

It is not possible to draw direct comparisons between the micro drillings however what is clear from the 2022 and 2024 tests is the extent to which the main stem is decayed at ground level on the north and south sides.

### Conclusions:

The evidence of new and enlarged FFB indicates that the pathogen is active, and that wood decay continues. However, the wood decay process is considered to be slow resulting in a white rot of the stem close to and below ground level, this may also extend to the roots. The extent of decay indicates that the pathogen has been active for an extensive period. It is not possible to provide a direct comparison between the decay detected in 2022 and those of this survey due to the many variables, for example, testing locations, distance when taking tree measurements etc.

The pathogen has not been positively identified but is most probably a *Ganoderma spp.* such as *Ganoderma adspersum* that is considered general saprotrophic on dead sections of the host. It can opportunistically colonise the sap wood but so does the activity of *Hypholoma fasciculare*.

The peripheral die back and sparse appearance is most probably the result of damage to the vascular system due to the action of *Ganoderma*, see sections of dead bark and vascular tissues in Figure 6 below.

Figure 6. Deadbark and vascular tissues.





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The 2022 tree height was recorded as 25 metres and our measurements taken for this survey indicate the tree is approximately 20 metres tall. The 2022 recommendations to reduce the tree by 10 metres +/- 1 metre may not have been completed fully. However, due to the complexity in measuring the tree height on site and establishing a base line we compared a telegraph pole adjacent to the tree. The average light weight telegraph pole is 9 metres tall, thus suggesting that the tree is over 15 metres (the height that would have resulted following the reduction), see Figure 7 below.

Figure 7. Telegraph pole for comparison.



It is evident by the canopy pruning that the height has been reduced and lateral growth too and that the tree has a framework for redevelopment.

The clustering leaves seen in Figure 5 are most probably due to a combination of effects linked to the canopy reduction and stress placed on the vascular system and by possible root related decay.

The tree should be considered high risk due to its size, condition, location and frequency of use in the target areas.

### **Recommendations:**

We recommend that the canopy is further reduced by 5 metres +/- 1 metre and the lateral spread by an average of 3 metres to leave a framework for growth and be balanced to meet the natural characteristics of the tree. The work is required to further reduce the biomechanical loading being applied to the main stem where the presence of decay has been detected and to reduce the risks associated with premature failure. This work will require the prior approval of the local planning authority as the tree is covered by a tree preservation order, (TPO).

The tree should be visually inspected by a suitably qualified arborist in July 2025 to assess the physiological condition and pruning works with a further inspection in the summer of 2027 to assess the structural and physiological condition.



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We trust that our investigations and findings are of assistance to you. Should you have any queries or concerns please do not hesitate to contact us.

Yours sincerely

Simon Holmes MSc. MICFor.  
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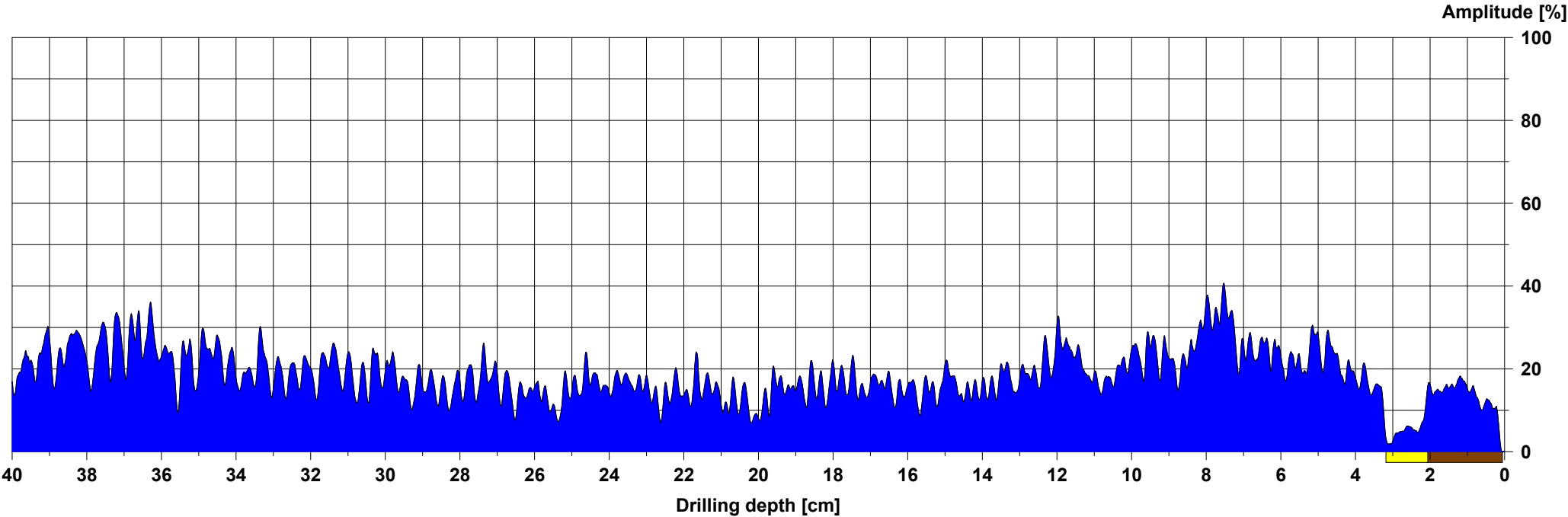
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# APPENDIX 1

Measuring / object data

|                  |              |               |                |            |              |
|------------------|--------------|---------------|----------------|------------|--------------|
| Measurement no.: | 11           | Speed         | : 2500 r/min   | Diameter:  | 103,00 cm    |
| ID number        | : 5          | Needle state: | ---            | Level      | : 150cm      |
| Drilling depth   | : 40,00 cm   | Tilt          | : 0°           | Direction: | North        |
| Date             | : 20.06.2024 | Offset        | : 70 / 261     | Species    | : Turkey Oak |
| Time             | : 14:19:49   | Avg. curve    | : off / off    | Location   | : 37 Send Rd |
| Feed             | : 100 cm/min | Name          | : Miss P Phoon |            |              |



Assessment

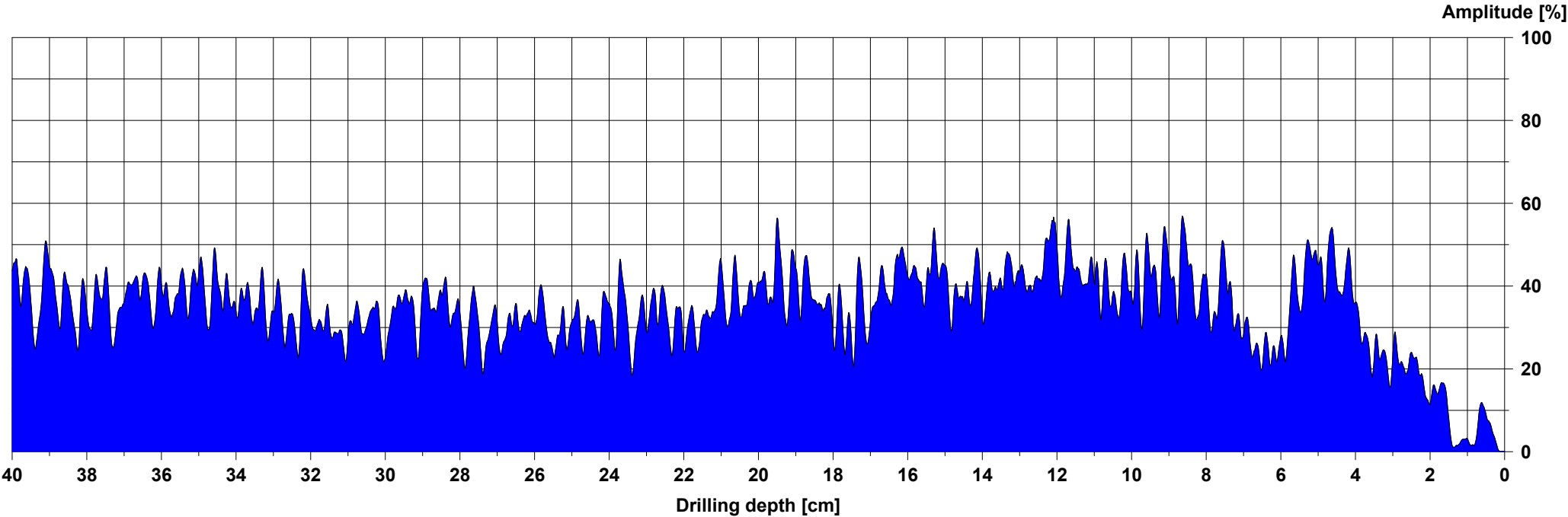
From 0,06 cm to 2,09 cm : Bark  
From 2,06 cm to 3,18 cm : Decay

Comment

Control drilling 1.5 metres above ground level north side, decay detected behind the bark with low amplitude across the entire test.

Measuring / object data

|                  |              |               |                |            |              |
|------------------|--------------|---------------|----------------|------------|--------------|
| Measurement no.: | 12           | Speed         | : 2500 r/min   | Diameter:  | 103,00 cm    |
| ID number        | : 6          | Needle state: | ---            | Level      | : 150cm      |
| Drilling depth   | : 40,00 cm   | Tilt          | : 0°           | Direction: | South        |
| Date             | : 20.06.2024 | Offset        | : 67 / 263     | Species    | : Turkey Oak |
| Time             | : 14:20:55   | Avg. curve    | : off / off    | Location   | : 37 Send Rd |
| Feed             | : 100 cm/min | Name          | : Miss P Phoon |            |              |



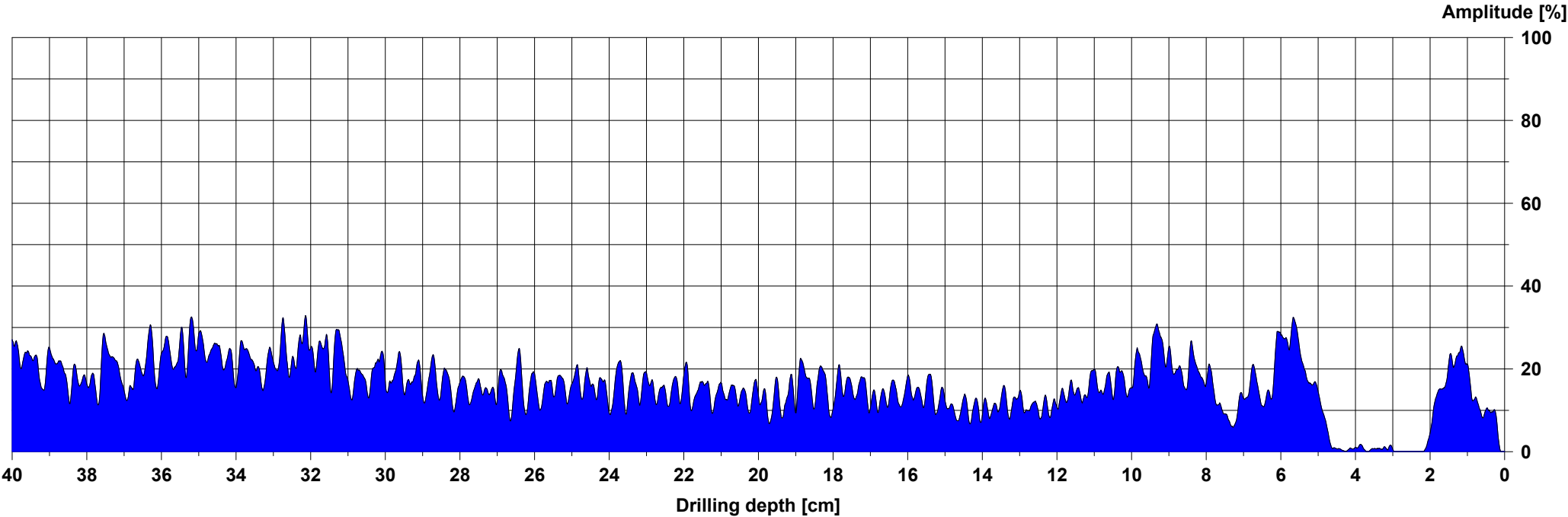
Assessment

Comment

Control drilling 1.5 metres above ground level south side. No significant decay at the test location.

Measuring / object data

|                  |              |               |                |            |              |
|------------------|--------------|---------------|----------------|------------|--------------|
| Measurement no.: | 8            | Speed         | : 2500 r/min   | Diameter:  | 103,00 cm    |
| ID number        | : 2          | Needle state: | ---            | Level      | : 10cm       |
| Drilling depth   | : 40,00 cm   | Tilt          | : 0°           | Direction: | East         |
| Date             | : 20.06.2024 | Offset        | : 77 / 258     | Species    | : Turkey Oak |
| Time             | : 14:16:39   | Avg. curve    | : off / off    | Location   | : 37 Send Rd |
| Feed             | : 100 cm/min | Name          | : Miss P Phoon |            |              |



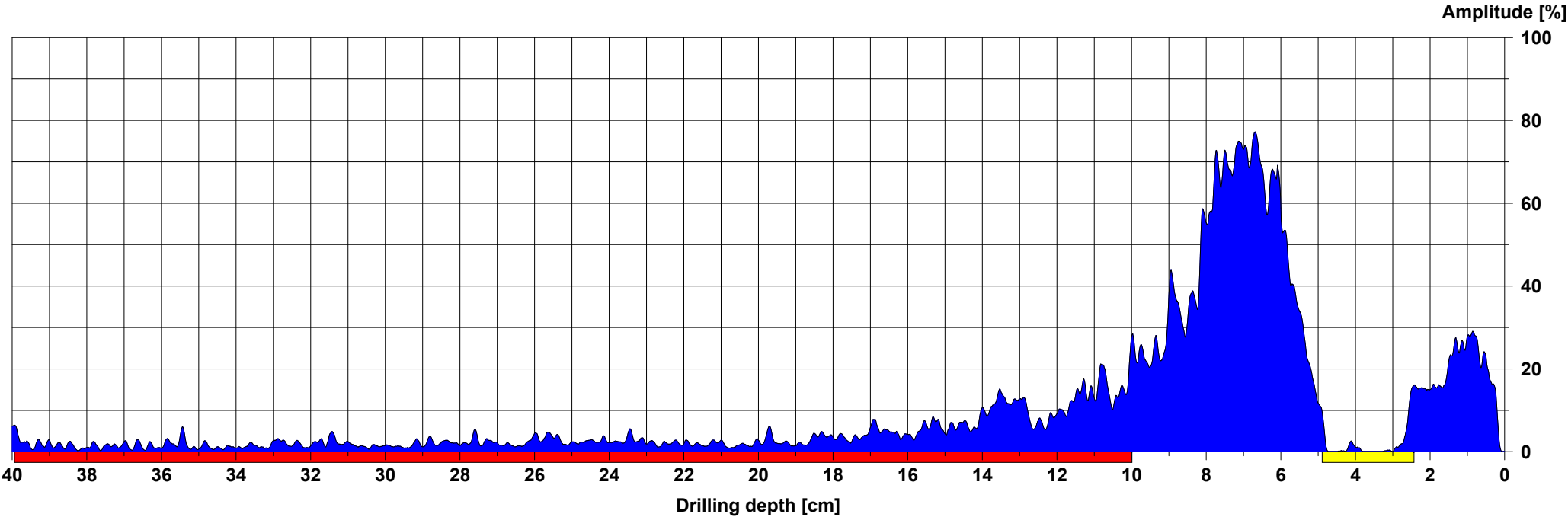
Assessment

Comment

Small area of decay behind bark at 2cm with low amplitude from 5cm indicating incipient decay.

Measuring / object data

|                  |              |               |                |            |              |
|------------------|--------------|---------------|----------------|------------|--------------|
| Measurement no.: | 7            | Speed         | : 2500 r/min   | Diameter:  | 103,00 cm    |
| ID number        | : 1          | Needle state: | ---            | Level      | : 10cm       |
| Drilling depth   | : 40,00 cm   | Tilt          | : 0°           | Direction: | North        |
| Date             | : 20.06.2024 | Offset        | : 79 / 257     | Species    | : Turkey Oak |
| Time             | : 14:15:44   | Avg. curve    | : off / off    | Location   | : 37 Send Rd |
| Feed             | : 100 cm/min | Name          | : Miss P Phoon |            |              |



Assessment

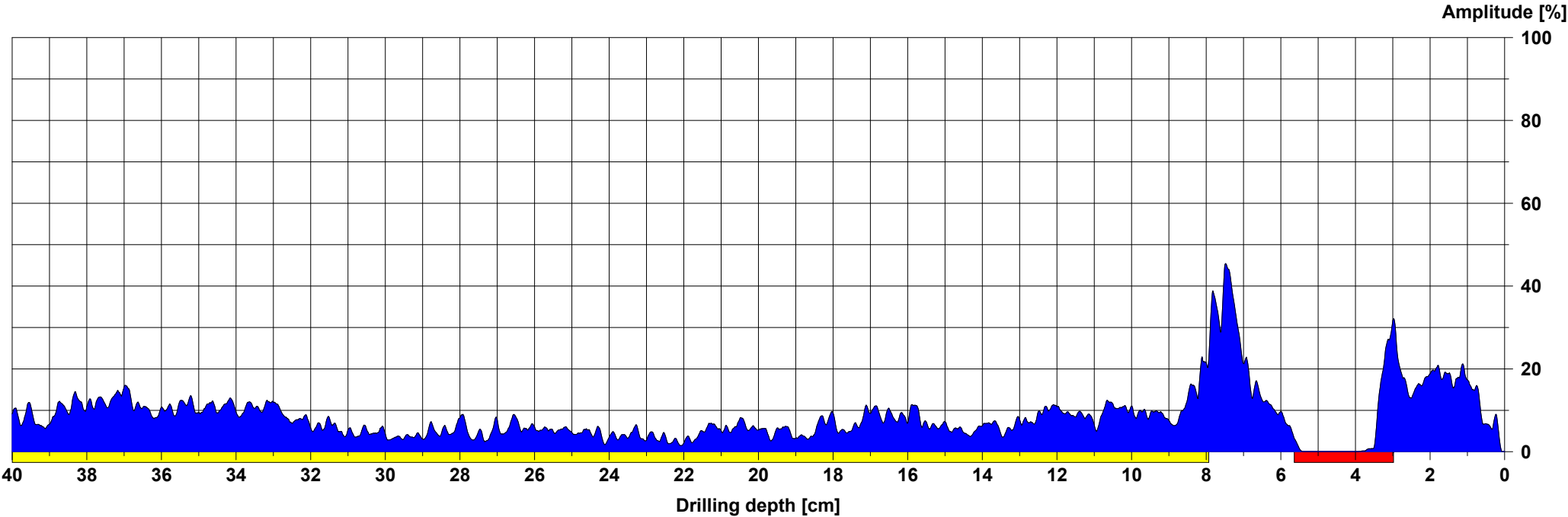
- From 2,43 cm to 4,89 cm : Decay
- From 9,99 cm to 39,94 cm : Cavity

Comment

Small area of decay behind bark at 4cm with significant advanced decay/hollowing from 10cm.

Measuring / object data

|                  |              |               |                |            |              |
|------------------|--------------|---------------|----------------|------------|--------------|
| Measurement no.: | 9            | Speed         | : 2500 r/min   | Diameter:  | 103,00 cm    |
| ID number        | : 3          | Needle state: | ---            | Level      | : 10cm       |
| Drilling depth   | : 40,00 cm   | Tilt          | : 0°           | Direction: | South        |
| Date             | : 20.06.2024 | Offset        | : 69 / 262     | Species    | : Turkey Oak |
| Time             | : 14:17:40   | Avg. curve    | : off / off    | Location   | : 37 Send Rd |
| Feed             | : 100 cm/min | Name          | : Miss P Phoon |            |              |



Assessment

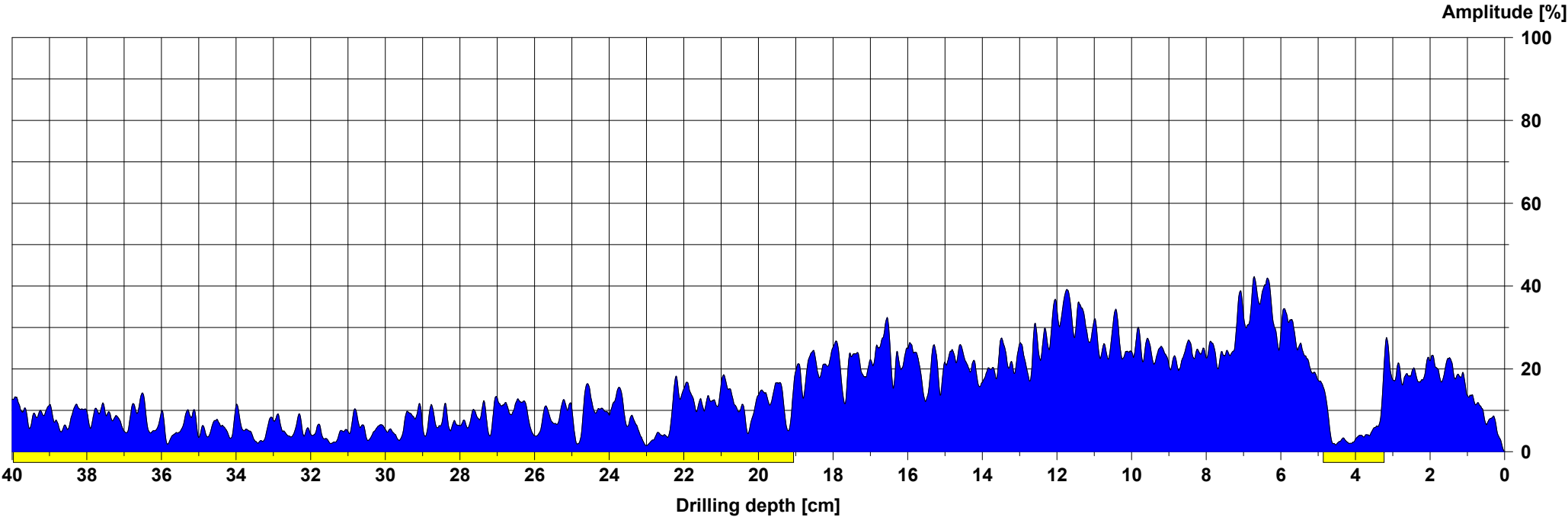
- From 2,98 cm to 5,64 cm : Cavity
- From 7,93 cm to 40,00 cm : Decay

Comment

Small cavity behind bark at 4cm with significant decay from 8cm.

Measuring / object data

|                  |              |               |              |            |                |
|------------------|--------------|---------------|--------------|------------|----------------|
| Measurement no.: | 10           | Speed         | : 2500 r/min | Diameter:  | 103,00 cm      |
| ID number        | : 4          | Needle state: | ---          | Level      | : 10cm         |
| Drilling depth   | : 40,00 cm   | Tilt          | : +1°        | Direction: | West           |
| Date             | : 20.06.2024 | Offset        | : 64 / 269   | Species    | : Turkey Oak   |
| Time             | : 14:18:43   | Avg. curve    | : off / off  | Location   | : 37 Send Rd   |
| Feed             | : 100 cm/min |               |              | Name       | : Miss P Phoon |



Assessment

From 3,23 cm to 4,86 cm : Decay  
From 19,06 cm to 39,97 cm : Decay

Comment

Small area of decay behind bark at 4cm with significant decay from 19cm.