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Fielden Springs Management Limited
c/o Mr Martin Kidd
16 Field Park
Bracknell
RG12 2DZ

Monday 17th February 2020

Dear Mr Kidd,

Re: Picus 3 Sonic Tomograph and IML PD500 Micro-Drill Assessment of 1x English Oak at Berrycroft, Field Park, Bracknell, Berkshire RG12 2DZ.

Further to your request, please find enclosed the results of the three Picus Sonic Tomograph tests performed at 5cm, 25cm and 50cm above ground level on the mature Oak at the above address.

Given the size, geometry and nature of the base of the tree with visible cavities, large buttress roots and internal folds in the wood, the investigation of the decay at the level prescribed using the Picus 3 has the potential to provide variable results. However, with the use of the IML PD500 Micro-Drill to further investigate the evident decay, and provide supplementary data we have, we feel, been able to provide a defendable assessment of the decay, albeit one that will need re-assessing in the future. As is the case with all the technology used the skill is in the interpretation of all the combined data alongside the visible attributes of the tree.

Attempting to Picus a tree of this geometry so close to the soil horizon (5cm) presents a challenge in gaining an accurate and defendable reading. The initial request was made in order to provide a reading for comparison with previous Picus data. You will note from the readings performed at 5cm and 25cm are as requested but we changed the height of the third test to 50cm. We did this to perform a test on a cross-section of the stem we felt may still be affected by potential decay but less affected by the abstract geometry of the regions closer to ground level. The reading at 50cm I feel is a fairer reflection of what I expected the results to be at a lower cross-section.

T1 – English Oak (*Quercus robur*)

Mature specimen of Oak located in generous grass amenity space south of the access, driveways and turning head of Berrycroft. The tree is a centrepiece and focual viewpoint of the dwellings which are arranged in an arc on the northern side of the tree. The access into Berrycroft also faces directly towards the tree, which is substantial in size and age.

At the base on the northern, north-eastern and south-western aspects are large open wounds to buttress roots. On the western aspect of the stem are a tier of fungal fruiting body remnants (likely bracket fungus) which have been snapped off. This has prevented a positive identification of the genus and species of fungus. The remnants of the fruiting bodies are located at 30cm, 75cm and 90cm above ground level. When tapping the stem with a sounding mallet, a region of degraded sapwood and loose bark was encountered on the western aspect (in the region of the fruiting bodies). Tapping the base of the stem on the southern and eastern aspects also hinted at basal decay close to the sapwood. The stem itself shows signs of torsional force (a corkscrew-like rotation) as evidenced by the seams of included bark and helical cracks which twist up and around the stem.

The main branching union is at approx. 2.5-3m above ground level and features nine large stems and scaffold limbs supporting a broad but generally well-balanced crown. Physiologically the tree appears to have stagnated and features poor shoot extension growth of the shoot tips resulting in a somewhat thin looking crown. It is unclear from the basis of one visual inspection conducted in winter whether this is a result of pest or disease activity, is linked to decay associated with the fungal fruiting bodies or is attributed to senescence (age-related decline). Although one would suggest that it is a combination all threes. Despite this, the tree is a stunning specimen of clear and obvious importance.

Fig.1 – Stem of T1 as seen from the North

Fig.2 – Stem of T1 as seen from the East

Fig.3 – Stem of T1 as seen from the South

Fig.4 – Stem of T1 as seen from the West

Fig.5 – Full image of T1 as seen from the West

Picus Sonic Tomograph

The Picus uses a series of sensors positioned at strategic locations around the tree to both send and receive sound waves generated by the tapping of the sensors with a hammer. Once all the sensors have been tapped the software generates a tomograph depicting the condition of the wood as a series of colours dependant on the speed of the sound waves between the sensors. As sound travels more quickly through healthy wood and more slowly through degenerate/dead wood the tomograph generated should, if correctly interpreted, give an accurate depiction of the levels of decay within the tree. For detailed information on the 'Picus 3' Sonic Tomograph, please refer to the appended information sheet.

The tomograph depicts the varying levels of decay as differing colours which can roughly be interpreted as follows, however these can alter dependant on the type of decay evident;

Colour	Condition of timber
	Sound timber
	Sound timber
	Incipient decay
	Incipient decay
	decay
	Advanced decayed
	Severe decay

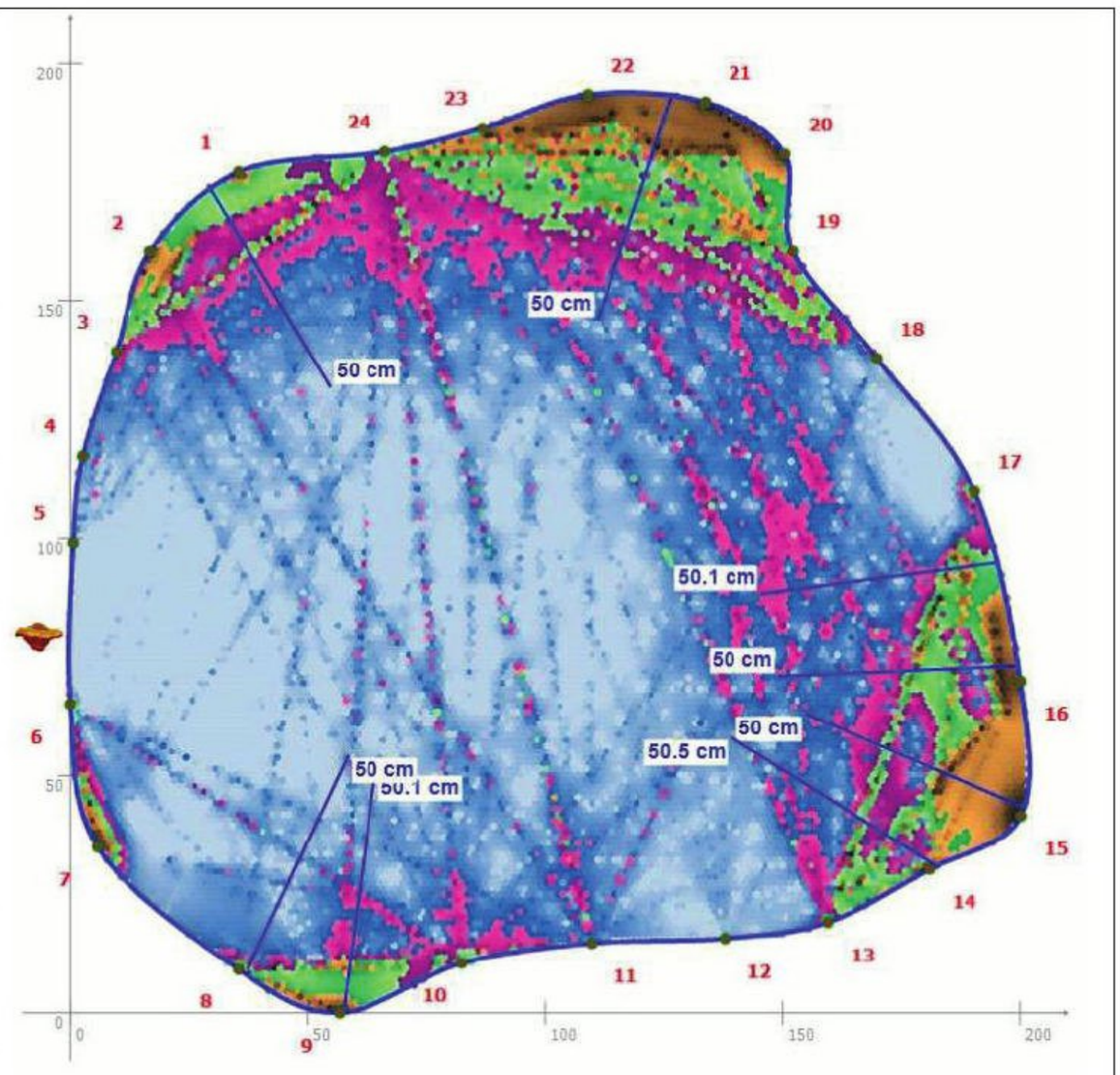

Fig.6 – Results of Picus Sonic Tomograph on T1 at 5cm above ground level

Analysis of Picus test results at 5cm:

As can be seen from the image above, the results show that the entirety of the base of the stem is decaying, with only marginal slips of sound wood at the edges on the east and south-east aspects. The extent and nature of the decay may be variable, but there is a clear deterioration in the nature of the wood that will be compromising the structural integrity of the tree. Further investigation was undertaken with IML PD500 Micro-Drill to investigate nature of the evident decay. The position of Micro-Drill readings (detailed further in this report) have been added to the image.

Colour	Condition of timber
	Sound timber
	Sound timber
	Incipient decay
	Incipient decay
	decay
	Advanced decayed
	Severe decay

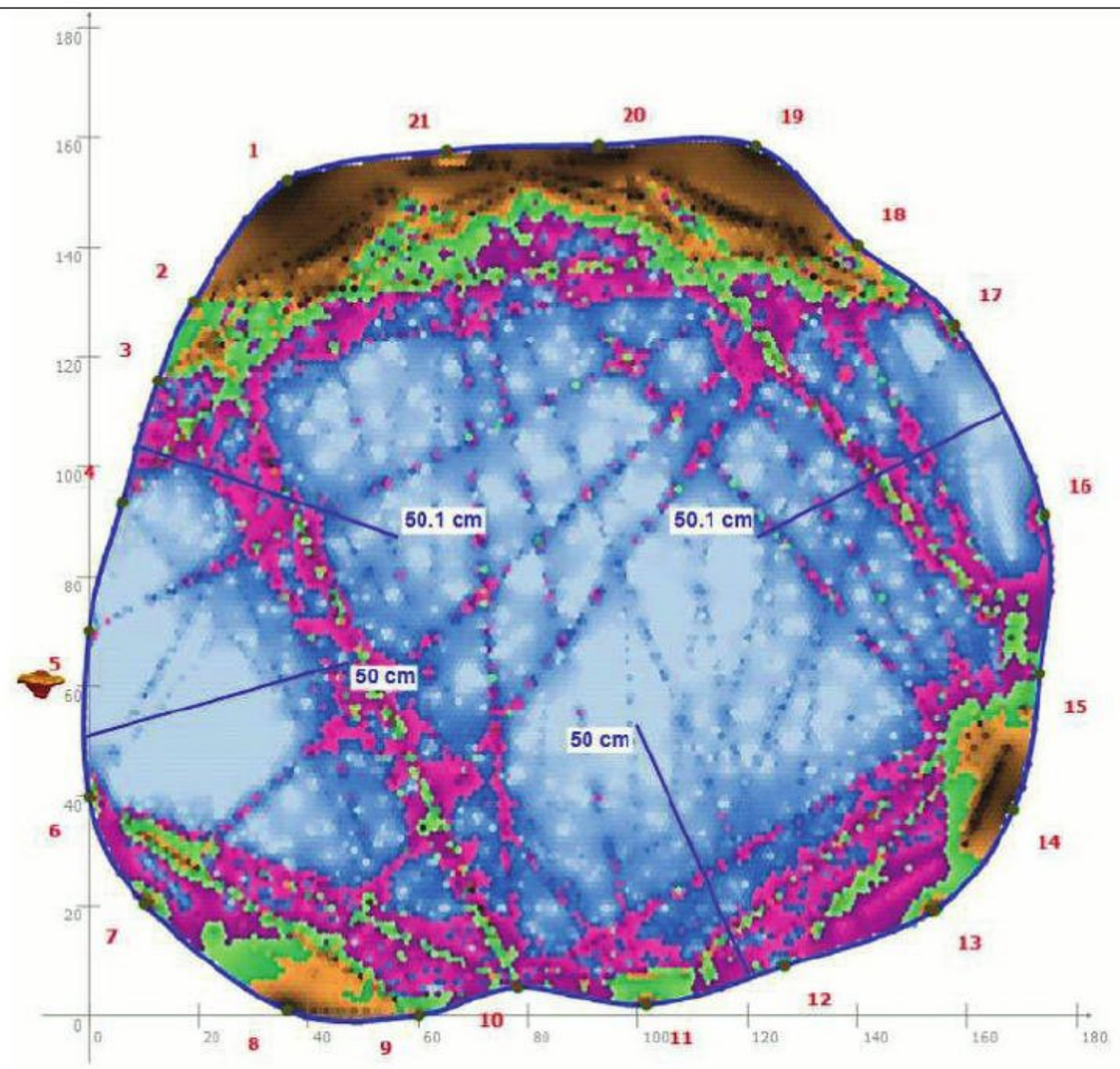

Fig.7 – Results of Picus Sonic Tomograph on T1 at 25cm above ground level

Analysis of Picus test results at 20cm:

As can be seen from the image above, the results show that the majority of the base of the stem is decayed, with only marginal slips of sound wood at the edges on the east and south-east aspects. The extent and nature of the decay may be variable, but there is a clear deterioration in the nature of the wood that will be compromising the structural integrity of the tree. Further investigation was undertaken with IML PD500 Micro-Drill to investigate nature of the evident decay. The position of Micro-Drill readings (detailed further in this report) have been added to the image.

Colour	Condition of timber
	Sound timber
	Sound timber
	Incipient decay
	Incipient decay
	decay
	Advanced decayed
	Severe decay

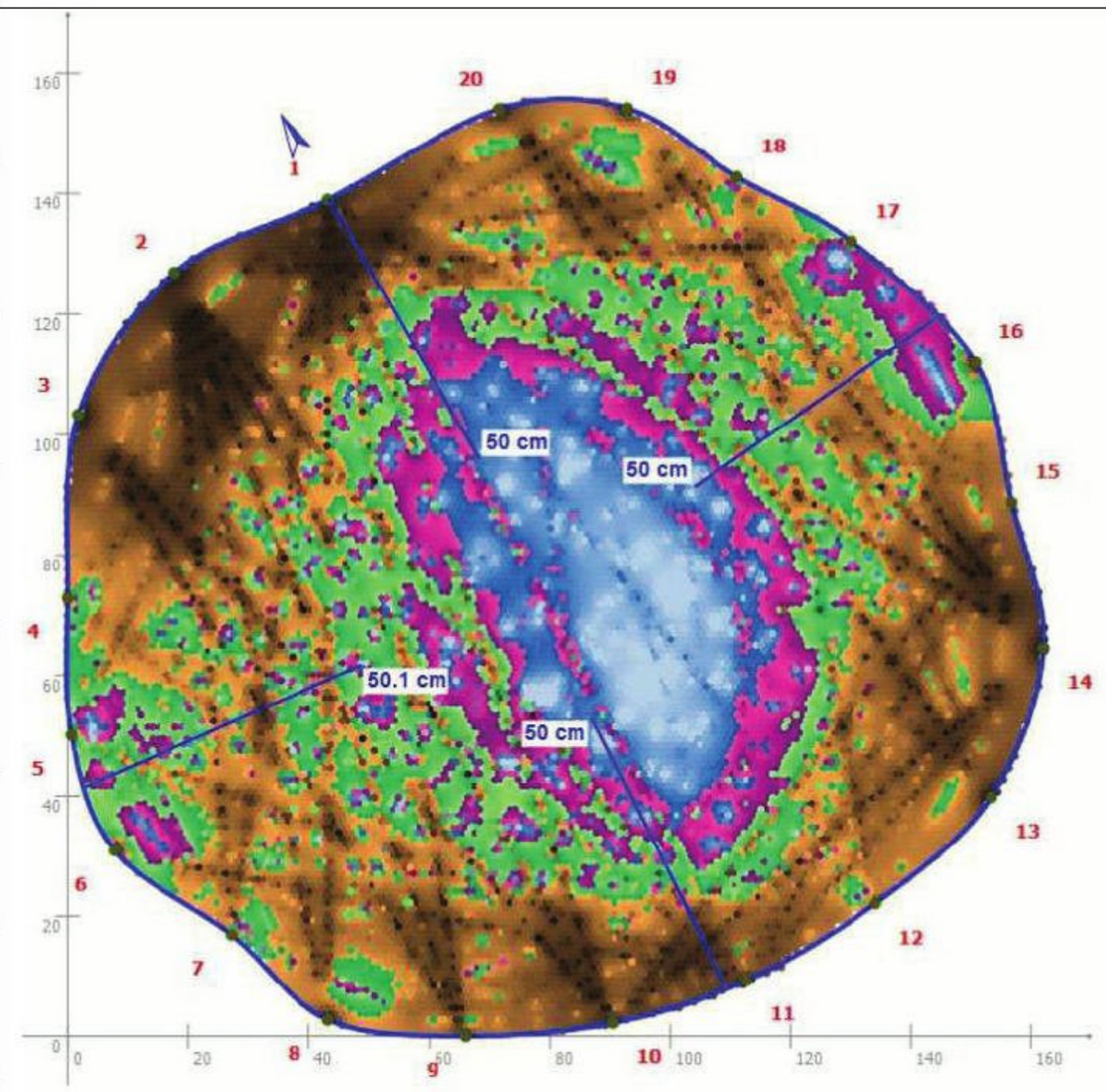

Fig.8 – Results of Picus Sonic Tomograph on T1 at 50cm above ground level

Analysis of Picus test results at 50cm:

As can be seen from the image above, the results show a centralised region of stem decaying (blue and pink) surrounded by zones of early (green) decay, surrounded by a residual wall of sapwood (light and dark brown). Also visible are two zones of decay on the east aspect (sensors 16 & 17) and western aspect (sensors 5 & 6). These match with the results of the Micro-Drill investigation and give a fairer reflection of the likely decay, which will likely to be, as the previous readings at 5cm & 25cm show, worse as basal decay is often cone shaped (wider at the bottom than at the top). Added to the image are an overlay of the position of Micro-Drill readings (detailed further in this report).

Supplementary Tests: To further ascertain the extent of internal decay in relation to residual wall thickness of healthy sapwood, the Picus test was supplemented with testing by means of IML PD500 Micro Drill. The combined test results, together with the visual appraisal of the tree has been used to provide a management recommendation.

Micro-Drill Assessment: The IML PD500 is a calibrated micro drill which measures the resistance to the progress of a 500mm long, 2mm diameter drilling needle bit. The results are appended as a graph (one for each test performed) which displays two colours; blue represents the feed rate and green represents the penetration resistance. The graph is read from right to left and can be interpreted to evaluate relative wood strength, decay pockets, variations in ring growth, structural condition of cell walls and tree responses to environmental conditions.

The variation in resistance results in increases and decreases in the amount of torque applied to the drill shaft. By means of sophisticated mechanical and electronic sensors, variations in torque are translated into graphical output which depicts the internal conditions encountered by the drill at the specific point of drilling. Each of the appended drill tests undertaken is supplemented by a brief description of the analysis and discussed in the conclusions section below.

Micro-Drill Testing Locations

Test No.	Location of test
MP 1	Applied into major buttress root on northern aspect.
MP 2	Applied into damaged buttress root on north-east aspect, directly above the top of the open wound.
MP 3	Applied into the base of the stem proper on the eastern aspect (at approx. 25cm above ground level)
MP 4	Applied into a minor buttress root on the south-eastern aspect
MP 5	Applied into one of three major buttress roots on the south-eastern aspect.
MP 6	Applied into the second of three major buttress roots on the south-eastern aspect.
MP 7	Applied into the third of three major buttress roots on the south-eastern aspect.
MP 8	Applied into the base of the stem proper on the southern aspect (at approx. 25cm above ground level).
MP 9	Applied into the major buttress root on the south-western aspect (close to the bottom of the right side of a large open split/wound).
MP 10	Applied into the major buttress root on the south-western aspect (close to the top of the right side of a large open split/wound).
MP 11	Applied into the major buttress root on the south-western aspect (close to the bottom of the left side of a large open split/wound).
MP 12	Applied into the major buttress root on the south-western aspect (close to the top of the left side of a large open split/wound).
MP 13	Applied into the base of the stem proper on the western aspect (at approx. 25cm above ground level).
MP 14	Applied into the base of the stem proper on the north-western aspect. (approx. 25cm above ground level).
MP 15	Applied into the stem proper on the northern aspect (at 50cm above ground level).
MP 16	Applied into the stem proper on the eastern aspect (at 50cm above ground level).
MP 17	Applied into the stem proper on the southern aspect (at 50cm above ground level).
MP 18	Applied into the stem proper on the western aspect (at 50cm above ground level).

Analysis of Micro-Drill test results:

The results of the micro-drill testing of reveals advanced root and basal decay within the tree. Decay has been found within some of the buttress roots as well as the stem proper. The decay identified within the buttress roots was found on the south-eastern (MP4, MP5, MP6 & MP7), south-western aspect (MP9, MP10, MP11 & MP12). The upper portion of these roots is comprised of a thin region of sound wood to a thickness of approx. 10cm in the worst affected places. In all readings, regions of moderate to severe decay were detected within the buttress root or root proper. As the total thickness of the buttress roots cannot be calculated, it is not possible to determine what percentage of the total thickness of buttress root is affected.

The stem proper was tested at 25cm above ground level on the eastern (MP3), southern (MP8), western (MP13) and north-western (MP14) aspects. The results of these tests show decaying sapwood to 13cm depth and cavity thereafter on the eastern aspect. The test on the southern aspect shows solid wood to 50cm, however the latter 14cm (from 36cm onwards) shows signs of early wood degradation. The test on the western aspect shows no solid sapwood to a depth of 48-49cm, which matches with the tapping test performed with the sounding mallet. This test also corroborates the presence of the fungal fruiting bodies (and thus is the most likely region to be most severely affected). The test on the north-western aspect shows a region of solid sapwood to a depth of 22cm with severe decay and possible cavity formation thereafter. This is clearly linked to the cavity encountered on the western test. It is possible that the shape of the decayed wood in this section of the tree is ‘wedge’ shaped; i.e. protrudes deep into the tree and possibly links to heartwood hollowing but is flanked either side by vertical columns of supporting structural wood.

The stem proper was tested at 50cm above ground level on the northern (MP15), eastern (MP16), southern (MP17) and western (MP18) aspects. Each of these tests shows solid sapwood to the maximum depth of the test but indicates early wood degradation from 26cm onwards in the test on the western aspect. This was not unexpected given the results of the testing at 25cm and corroborates the findings of the tests undertaken on the same cardinal points at that height. It also shows that the decay significantly narrows between ground level and 50cm, which matches with the decay mode of many genus and species of fungi that could act upon English Oak.

Observable in some of the readings (MP5, MP6, MP9, MP11, MP12 & MP18) are a series of repeating 'peaks and troughs', particularly in the heavily decayed regions. These represent attempted decay barriers of dead cell walls (compartmentalisation) placed down by the tree to try and contain the decay. Each barrier has ultimately failed and the decay spreads further into the healthy sapwood. Decay barriers can be observed which appear to be containing the decay for now (see MP6, MP9 or MP12) but will also ultimately fail. This is typical of White Rot, which acts to degrade the tree by the process of de-lignification; in essence, a chemical reaction to removal the tough woody material of the cell walls. Unfortunately, with the fungal fruiting bodies removed from the tree, it has not been possible to positively identify the genus and species of fungus acting upon the tree.

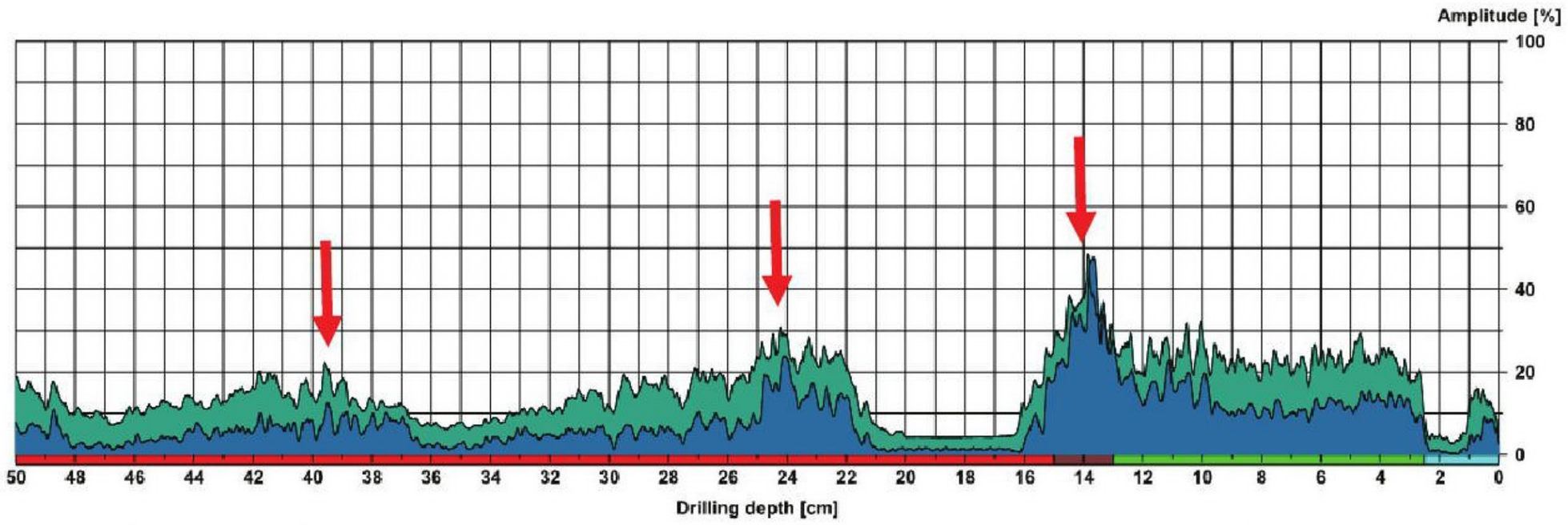

Fig.9 – MP12 shows severe decay and several failed decay barriers (red arrows)

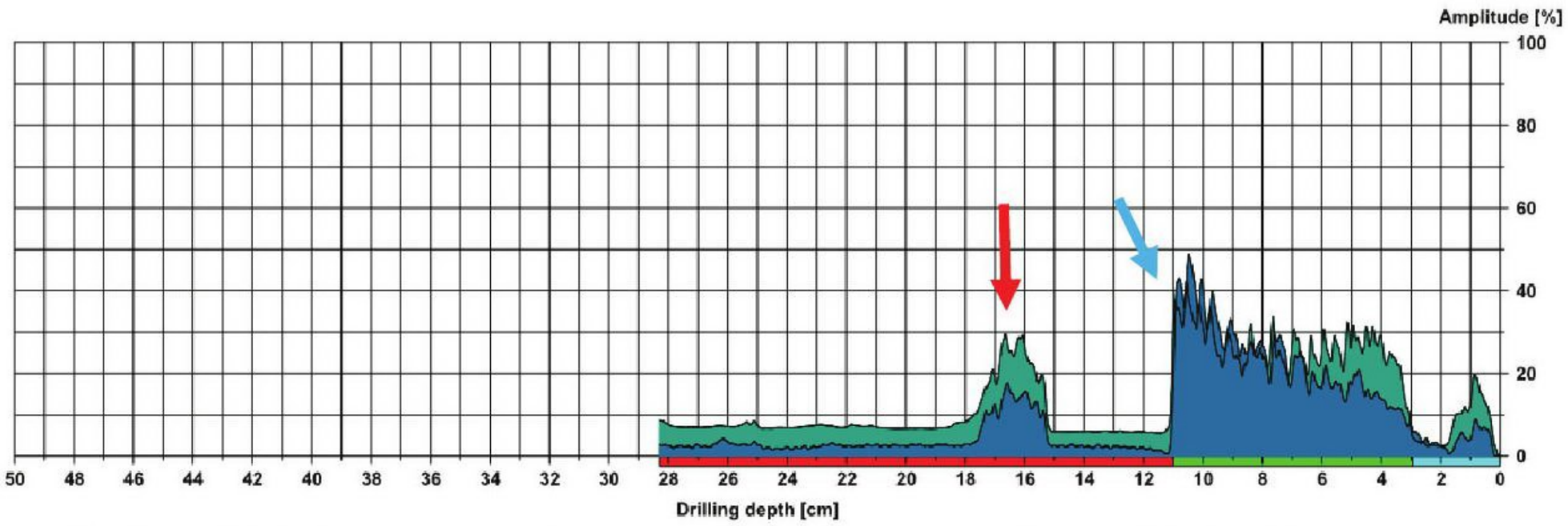

Fig.10 – MP9 shows severe decay and failed barriers (red arrow) behind by a current decay barrier (blue arrow)

The following pages (prior to the conclusions and recommendations page) show the three Picus data sheets (5cm, 25cm & 50cm) overlaid with the positions and reference number of each Micro-Drill test. The pages that follow each Picus sheet are the corresponding Micro-Drill data sheets.

Conclusions and Works Recommendations

T1 has been subject to an enhanced visual inspection and a combination of decay detection testing via Picus Sonic Tomograph and IML PD500 Micro-Drill. Prior to arriving at a management recommendation, consideration has been given to the physiological health of the tree, the extent and distribution of detected decay, the niche benefits of the trees in its location, the age and veteran status of the tree, previous and potential future management and risks to persons and/or property.

From the data collected it is clear that there is significant decay evident within the roots and base of the tree, more likely that not to be due to the fungal decay visually manifesting as the remnants of fruiting bodies on the main stem. The decay will be compromising the structural integrity of both the roots and stem base and therefore it is our opinion that remedial tree works are required to reduce the likelihood of future failure. This should take the form of an overall reduction of the trees canopy. Given the sparse nature of the canopy it is recommended that the prescription for any future reduction be delayed until the tree can be assess in leaf. This will allow for a more targeted reduction based on the vitality of the crown and propensity for future regrowth.

It is recommended that we re-visit the site in May 2020 assess the crown and then provide a detail specification for the reduction of the crown. Until that time, it is further recommended that the grass area is sealed off with temporary fencing to prevent access.

I trust this is of some assistance, should you wish to discuss any of the above please do not hesitate to contact me

Yours sincerely

[redacted]

Alex Garnham
BSc (Hons) Arb MArborA

Picus: Bracknell Berkshire

PICUS© Sonic Tomography

Client:

Fielden Springs Management Limited
c/o Martin Kidd
16 Field Park
Bracknell RG12 2DZ

Tree Expert:

Alex Garnham
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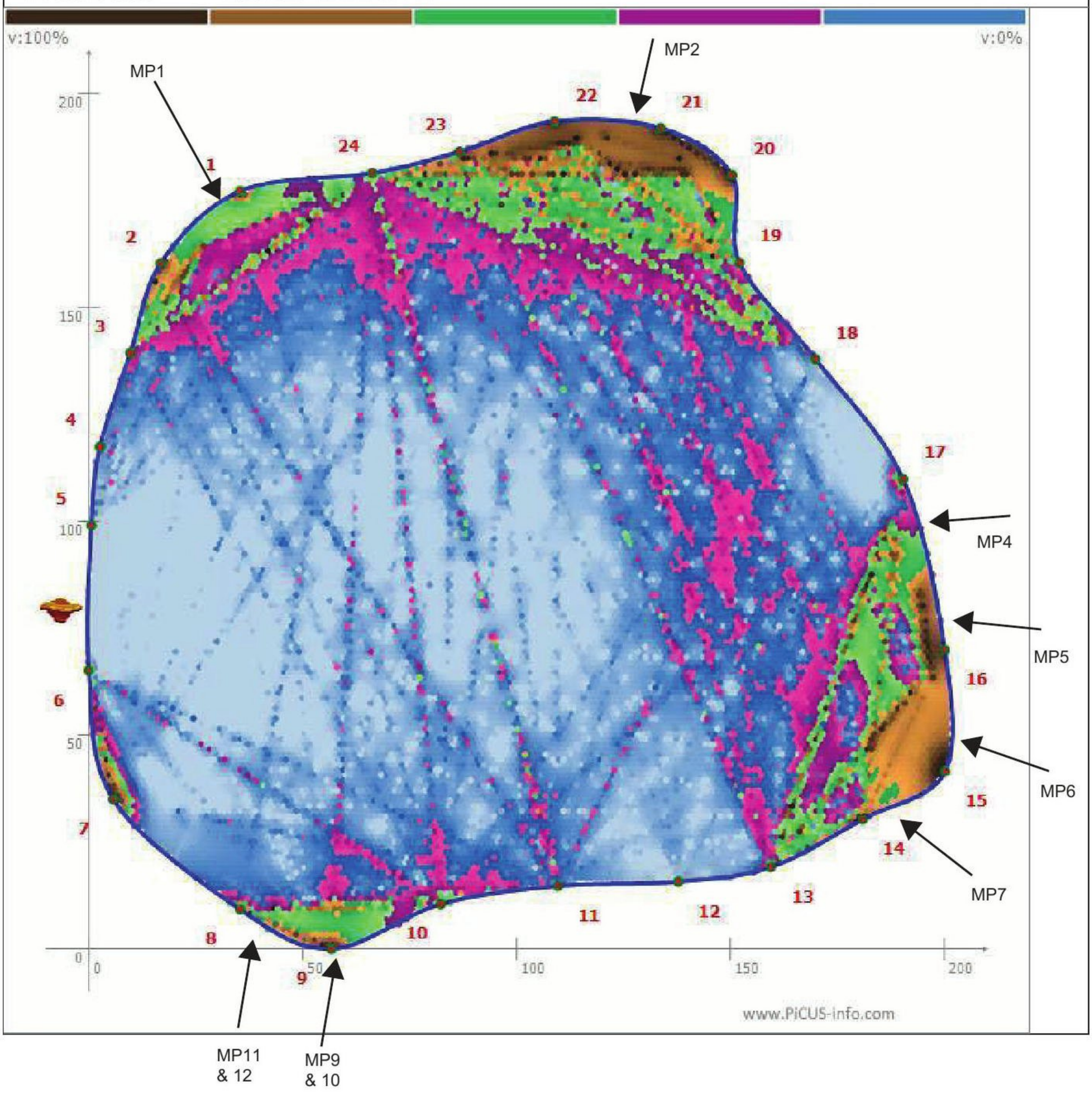
5 Moseleys Farm Business Centre
Fornham All Saints IP28 6JY

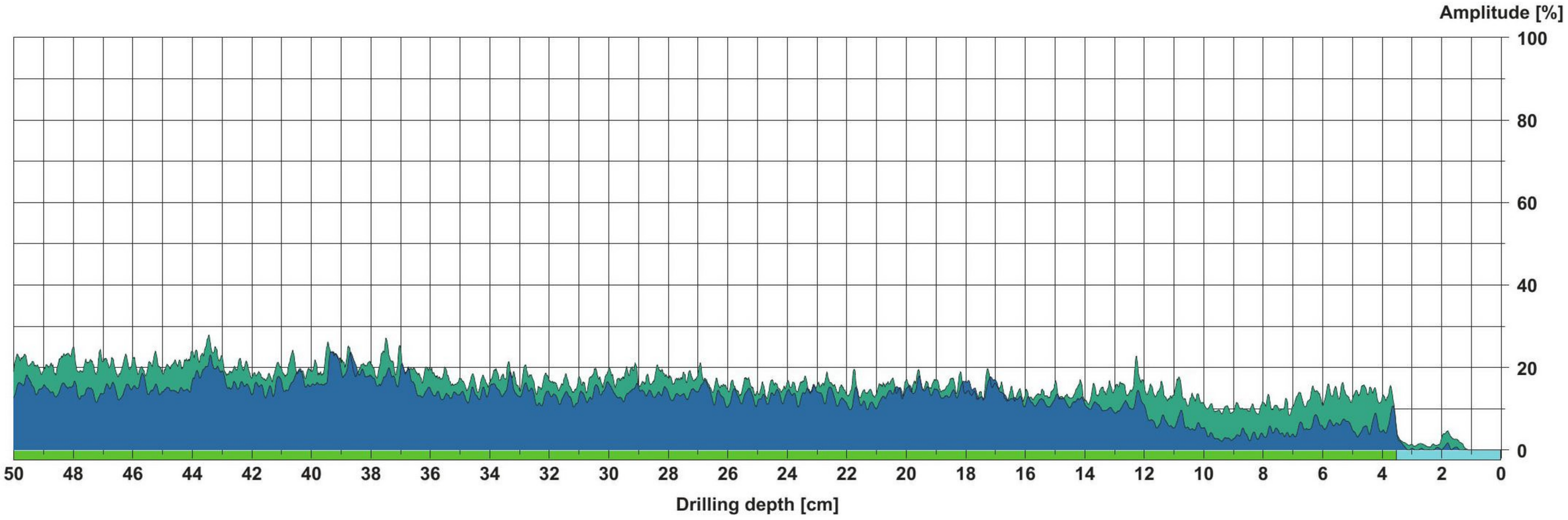
Tel: 01284 765391
Fax:
Domain:
email: alex@treesurveys.co.uk

Tree species:	English oak	Tree height [m]:	20
Town:	Bracknell	North at measuring point:	1
Neighbourhood:	Berkshire	Crown spread [m]:	15
Road:	Berrycroft	Position of measuring point 1:	0
		Trunk circumference (130cm height)[cm]:	
Number of tree:	1	Tomography level at height [cm]:	5
Measure date:	2/5/2020 12:22:00 PM		



Measuring / object data

Measurement no.:	1	**Speed**	: 3500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 50.40 cm	**Tilt**	: -40°	**Direction:**	North
Date	: 05.02.2020	**Offset**	: 68 / 318	**Species**	:
Time	: 13:40:51	**Avg. curve**	: off / off	**Location**	: Buttress Root
Feed	: 100 cm/min			**Name**	:



Assessment

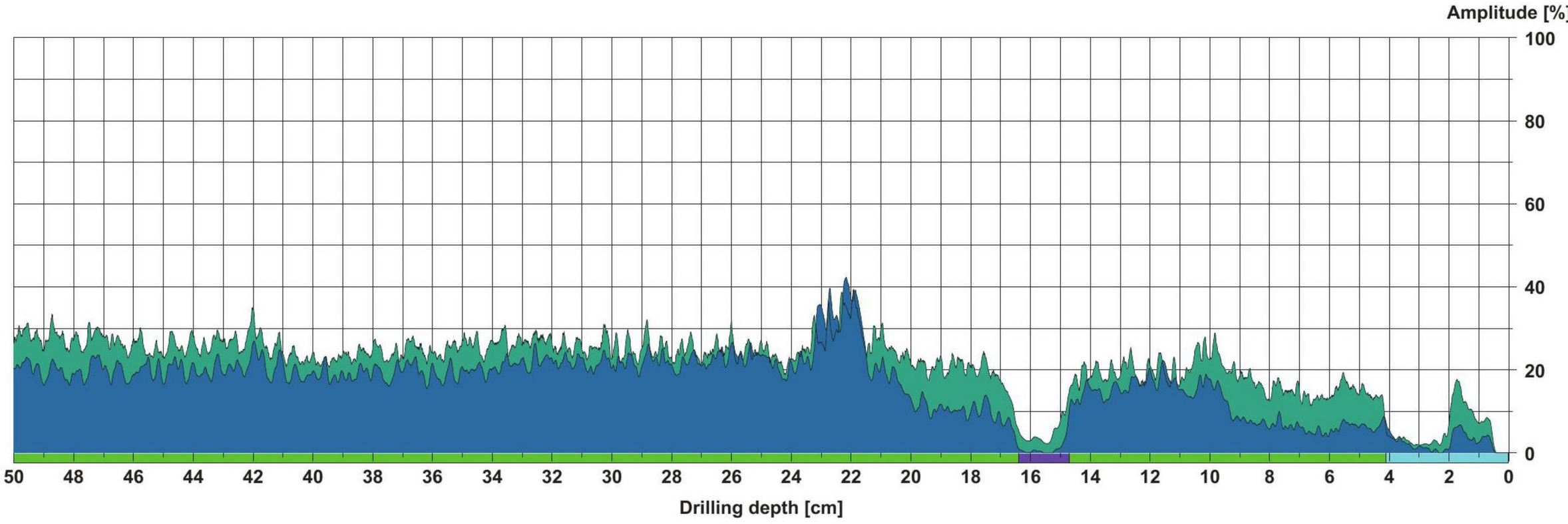
From 0.00 cm **to** 3.52 cm : Bark/Cambium
From 3.52 cm **to** 50.00 cm : Sound Wood

Comment

MP1: Applied into major buttress root on northern aspect. Sound wood to 50cm.

Measuring / object data

Measurement no.:	2	**Speed** :	2500 r/min	**Diameter:**	
ID number :	7960	**Needle state:**	---	**Level** :	
Drilling depth :	50.41 cm	**Tilt** :	-42°	**Direction:**	North-East
Date :	05.02.2020	**Offset** :	63 / 276	**Species** :	
Time :	13:41:52	**Avg. curve** :	off / off	**Location** :	Buttress Root
Feed :	100 cm/min			**Name** :	



Assessment

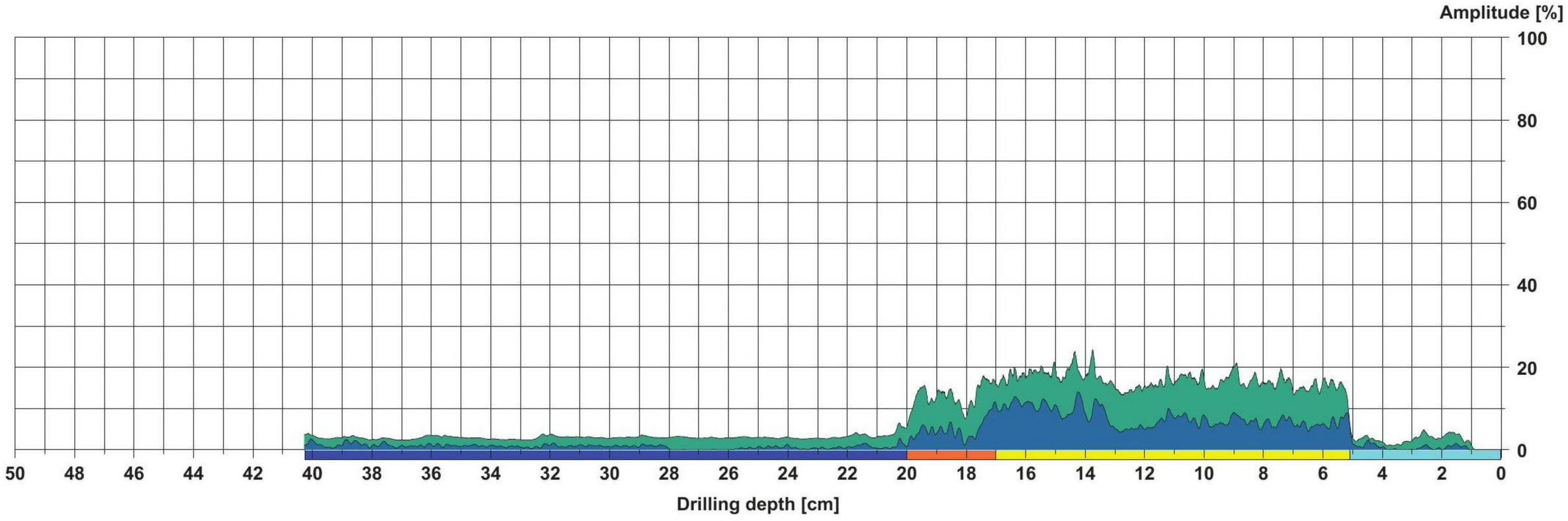
From	0.00 cm	**to**	4.12 cm :	Bark/Cambium
From	4.12 cm	**to**	14.70 cm :	Sound Wood
From	14.70 cm	**to**	16.40 cm :	Internal Crack
From	16.40 cm	**to**	50.00 cm :	Sound Wood

Comment

MP2: Applied into damaged buttress root on north-east aspect, directly above the top of the open wound. Small region of loss of resistance between 14 and 17cm depth, possibly a longitudinal split/crack or extension of internal wound.

Measuring / object data

Measurement no.:	4	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 40.26 cm	**Tilt**	: -45°	**Direction:**	South-East
Date	: 05.02.2020	**Offset**	: 60 / 270	**Species**	:
Time	: 13:45:15	**Avg. curve**	: off / off	**Location**	: Buttress Root
Feed	: 100 cm/min			**Name**	:



Assessment

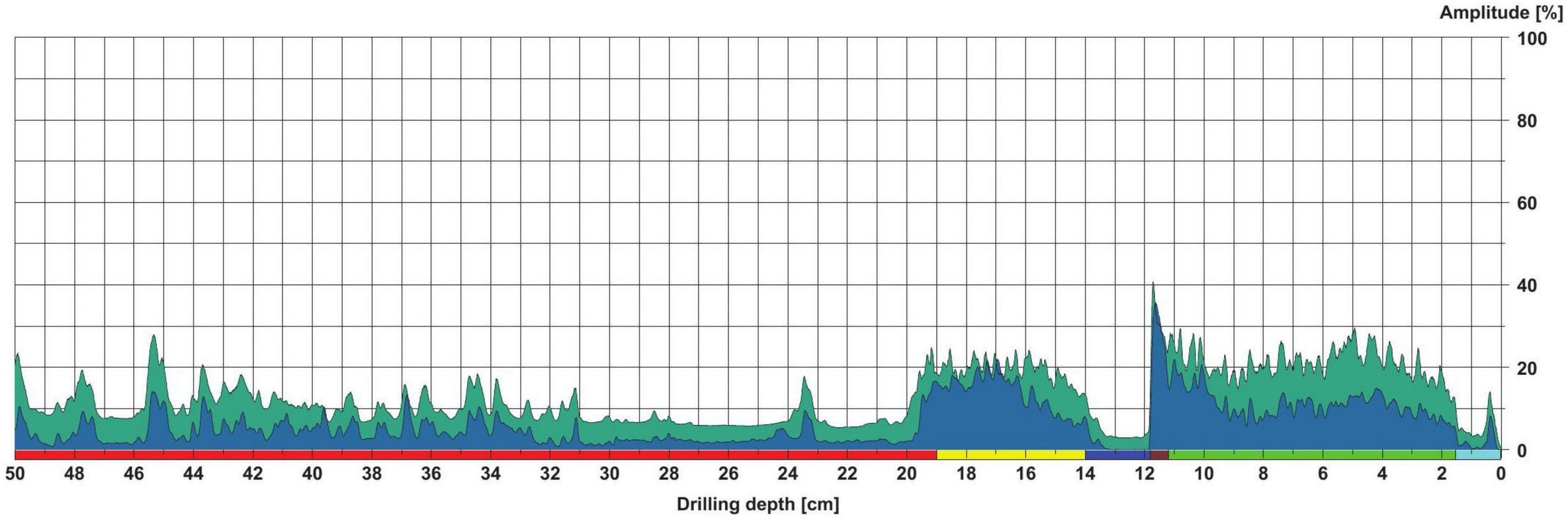
From	0.00 cm	**to**	5.09 cm	: Bark/Cambium
From	5.09 cm	**to**	17.00 cm	: Incipient Decay
From	17.00 cm	**to**	20.00 cm	: Advancing Decay
From	20.00 cm	**to**	40.26 cm	: Cavity

Comment

MP4: Applied into a minor buttress root on the south-eastern aspect. Thin & poor region of sapwood to approx. 17cm-19cm, where a cavity of unknown depth is found.

Measuring / object data

Measurement no.:	5	**Speed** :	2500 r/min	**Diameter:**	
ID number :	7960	**Needle state:**	---	**Level** :	
Drilling depth :	50.38 cm	**Tilt** :	-46°	**Direction:**	South-East
Date :	05.02.2020	**Offset** :	59 / 268	**Species** :	
Time :	13:46:33	**Avg. curve** :	off / off	**Location** :	Buttress Root
Feed :	100 cm/min			**Name** :	



Assessment

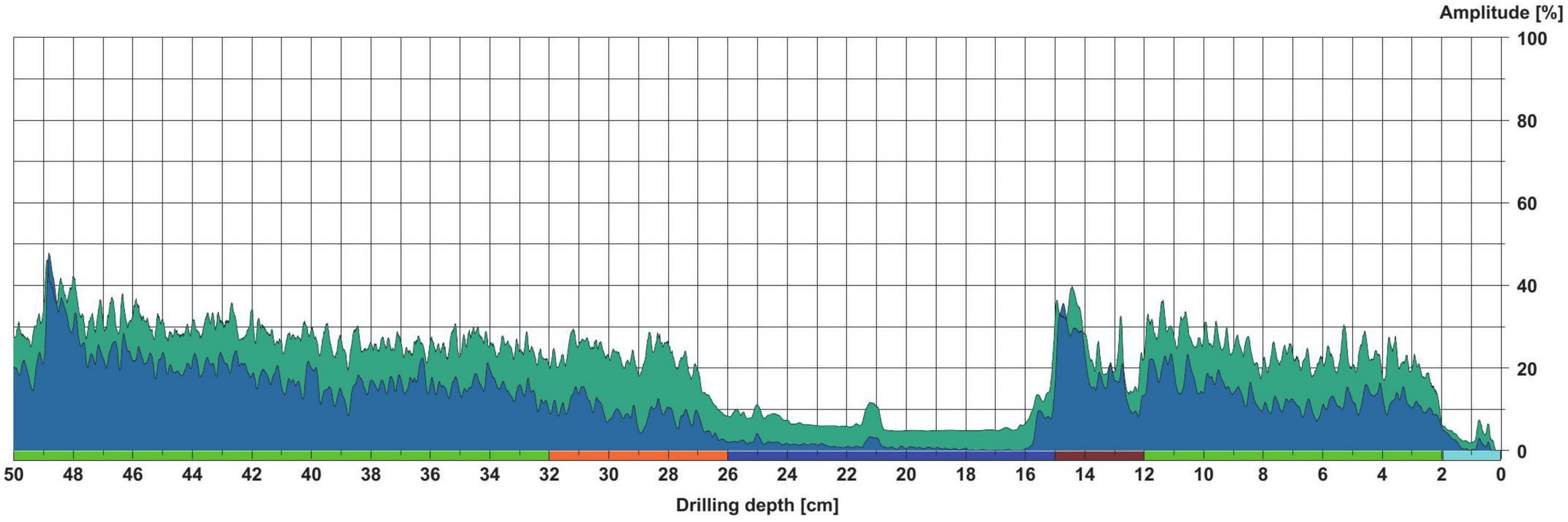
From	0.00 cm	**to**	1.54 cm :	Bark/Cambium
From	1.54 cm	**to**	11.20 cm :	Sound Wood
From	11.20 cm	**to**	11.80 cm :	Reaction Zone
From	11.80 cm	**to**	14.00 cm :	Cavity
From	14.00 cm	**to**	19.00 cm :	Incipient Decay
From	19.00 cm	**to**	50.00 cm :	Severe Decay

Comment

MP5: Applied into one of three major buttress roots on the south-eastern aspect. Sound wood to approx. 12cm, with severe decay beyond, to the end of the test at 50cm. A spike and sudden drop at 12cm represents an attempted decay barrier. Other failed decay barriers are visible.

Measuring / object data

Measurement no.:	6	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 50.40 cm	**Tilt**	: -51°	**Direction:**	South-East
Date	: 05.02.2020	**Offset**	: 57 / 266	**Species**	:
Time	: 13:47:23	**Avg. curve**	: off / off	**Location**	: Buttress Root
Feed	: 100 cm/min			**Name**	:



Assessment

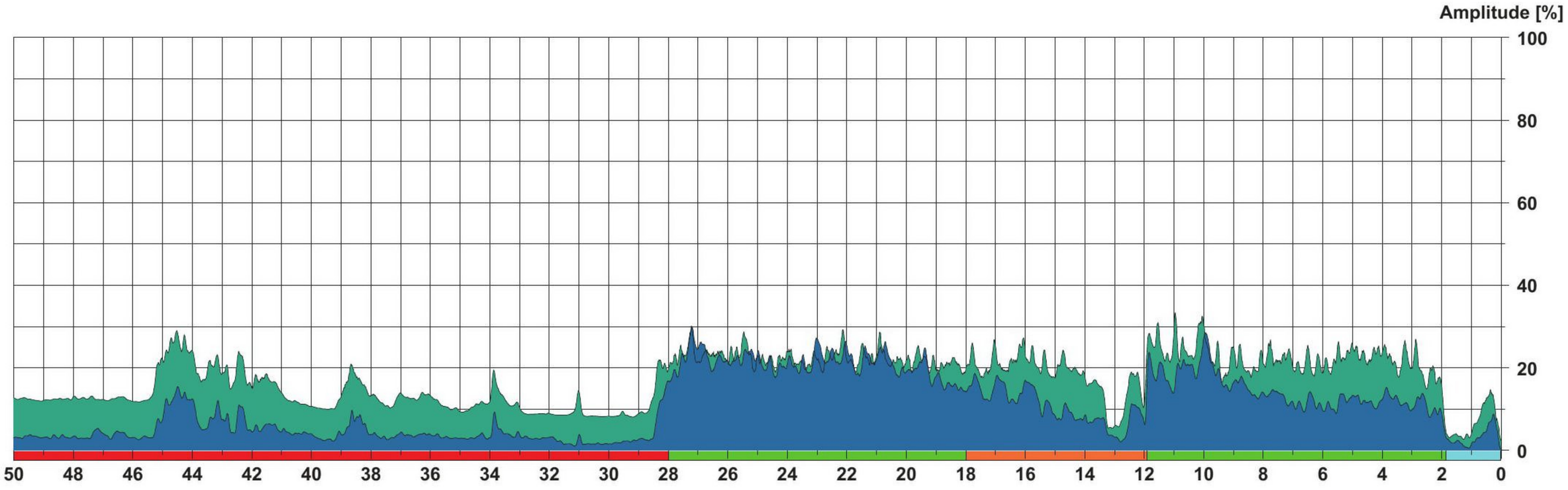
From	0.00 cm	**to**	1.95 cm	: Bark/Cambium
From	1.95 cm	**to**	12.00 cm	: Sound Wood
From	12.00 cm	**to**	15.00 cm	: Reaction Zone
From	15.00 cm	**to**	26.00 cm	: Cavity
From	26.00 cm	**to**	32.00 cm	: Advancing Decay
From	32.00 cm	**to**	50.00 cm	: Sound Wood

Comment

MP6: Applied into the second of three major buttress roots on the south-eastern aspect. Sound wood to approx. 15cm where a zone of severe decay/cavity is encountered. Healthy wood is located beyond, though decay appears present. Apparent decay barrier at 14-15cm.

Measuring / object data

Measurement no.:	7	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 50.37 cm	**Tilt**	: -53°	**Direction:**	South-South-East
Date	: 05.02.2020	**Offset**	: 55 / 279	**Species**	:
Time	: 13:48:13	**Avg. curve**	: off / off	**Location**	: Buttress Root
Feed	: 100 cm/min			**Name**	:



Assessment

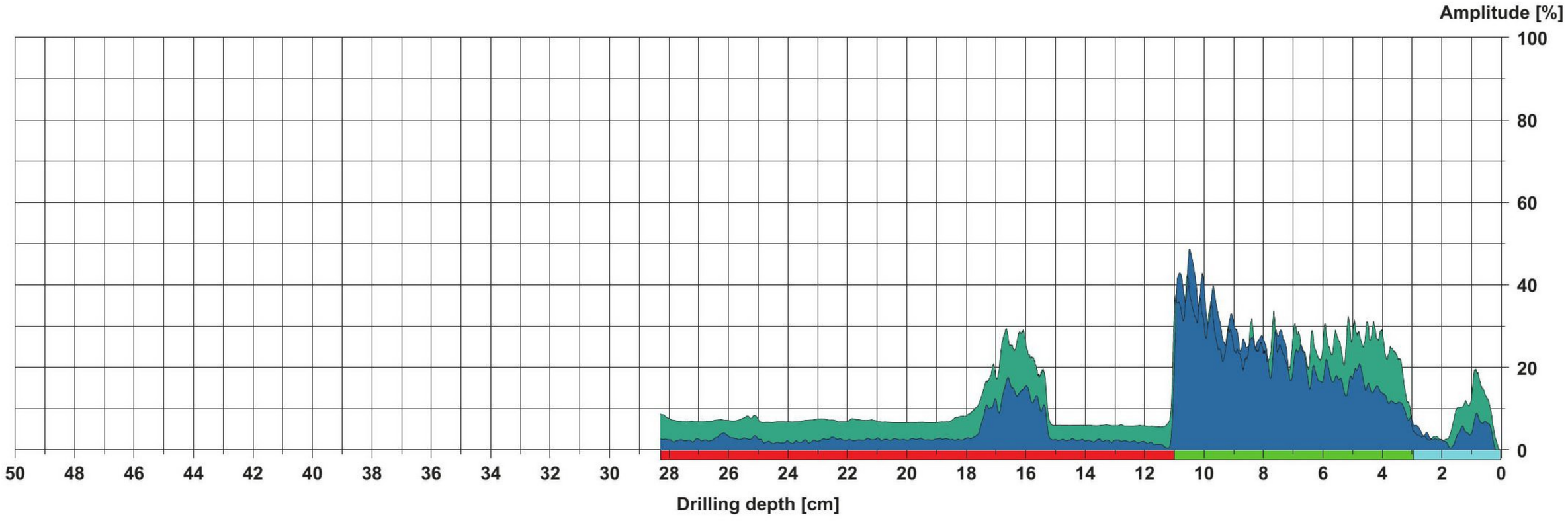
From	0.00 cm	**to**	1.86 cm	: Bark/Cambium
From	1.86 cm	**to**	11.90 cm	: Sound Wood
From	11.90 cm	**to**	18.00 cm	: Advancing Decay
From	18.00 cm	**to**	28.00 cm	: Sound Wood
From	28.00 cm	**to**	50.00 cm	: Severe Decay

Comment

MP7: Applied into the third of three major buttress roots on the south-eastern aspect. Sound wood to approx. 28cm, where severe decay is encountered beyond. There is a zone of apparent decay between 12-18cm, with a decay barrier forming at 12cm.

Measuring / object data

Measurement no.:	9	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 28.28 cm	**Tilt**	: -52°	**Direction:**	South-West
Date	: 05.02.2020	**Offset**	: 57 / 264	**Species**	:
Time	: 13:50:47	**Avg. curve**	: off / off	**Location:**	Buttress Root
Feed	: 100 cm/min			**Name**	:



Assessment

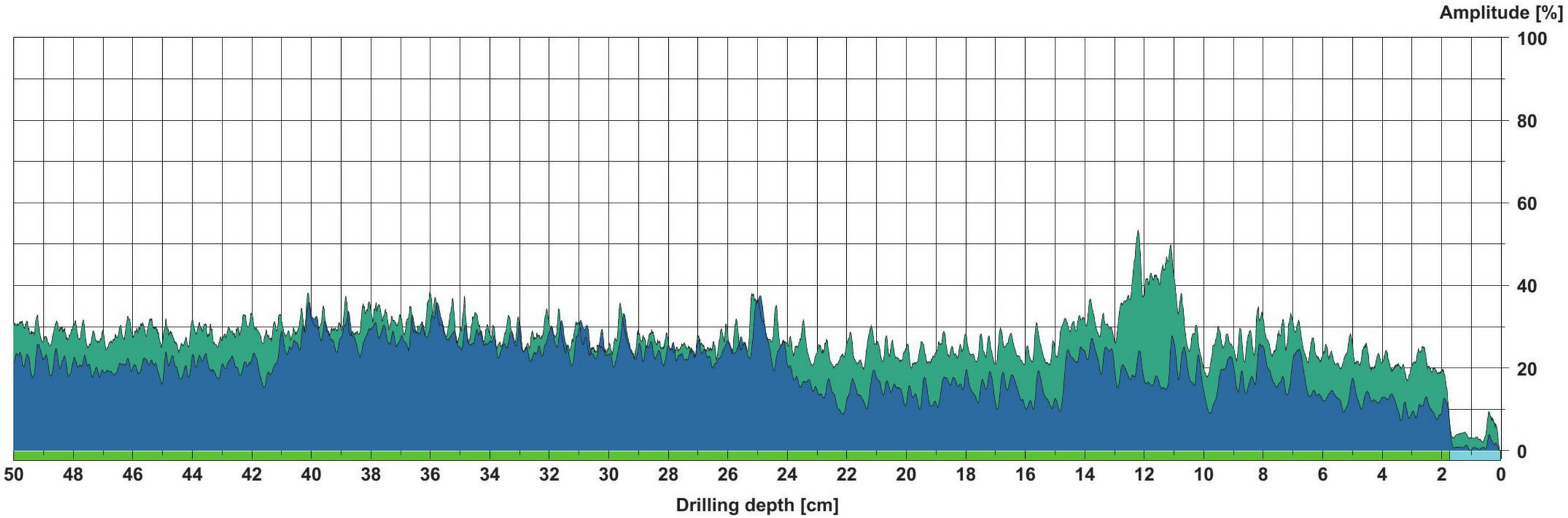
From	0.00 cm	**to**	2.95 cm	: Bark/Cambium
From	2.95 cm	**to**	11.00 cm	: Sound Wood
From	11.00 cm	**to**	28.28 cm	: Severe Decay

Comment

MP9: Applied into the major buttress root on the south-western aspect (close to the bottom of the right side of a large open split/wound). Sound wood to approx. 11cm where severe decay is found beyond. Wound wood not unexpected, but sound wood is thin.

Measuring / object data

Measurement no.:	10	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 50.40 cm	**Tilt**	: -45°	**Direction:**	South-West
Date	: 05.02.2020	**Offset**	: 56 / 272	**Species**	:
Time	: 13:51:18	**Avg. curve**	: off / off	**Location**	: Buttress Root
Feed	: 100 cm/min			**Name**	:



Assessment

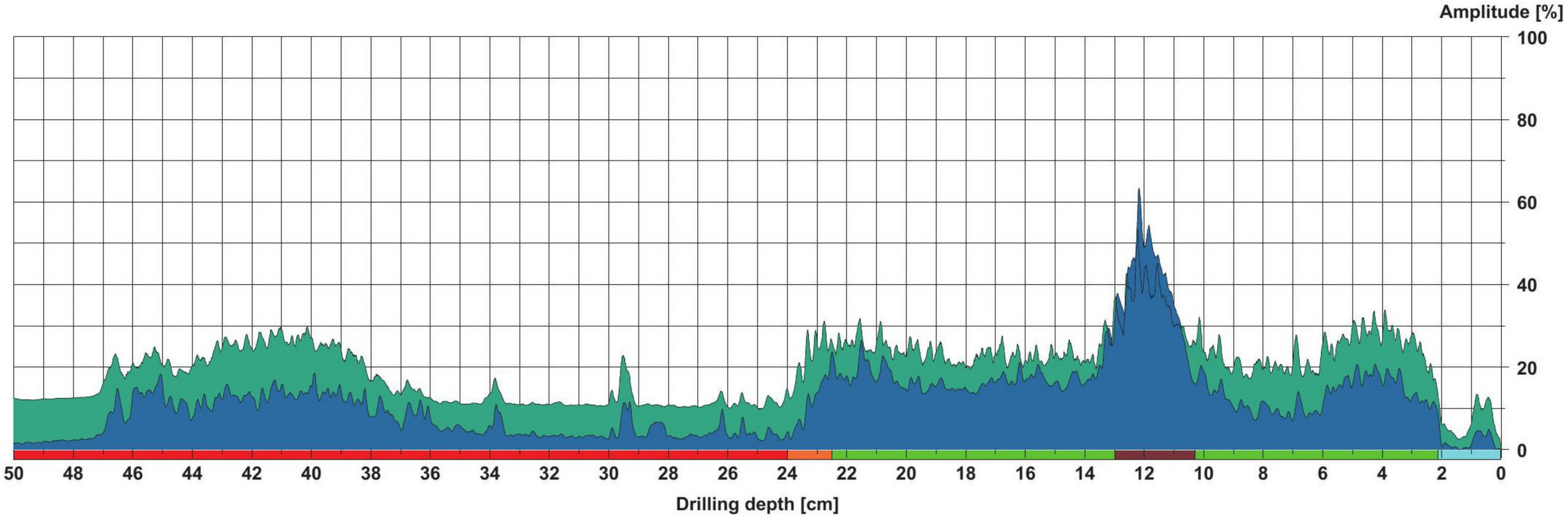
From	0.00 cm	**to**	1.74 cm	: Bark/Cambium
From	1.74 cm	**to**	24.00 cm	: Sound Wood
From	24.00 cm	**to**	50.00 cm	: Sound Wood

Comment

MP9: Applied into the major buttress root on the south-western aspect (close to the top of the right side of a large open split/wound). Sound wood to approx. 50cm. Differentiation in wood density can be observed, possibly a datum as to when the wound occurred.

Measuring / object data

Measurement no.:	11	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 50.37 cm	**Tilt**	: -56°	**Direction:**	South-West
Date	: 05.02.2020	**Offset**	: 58 / 262	**Species**	:
Time	: 13:53:17	**Avg. curve**	: off / off	**Location**	: Buttress Root
Feed	: 100 cm/min			**Name**	:



Assessment

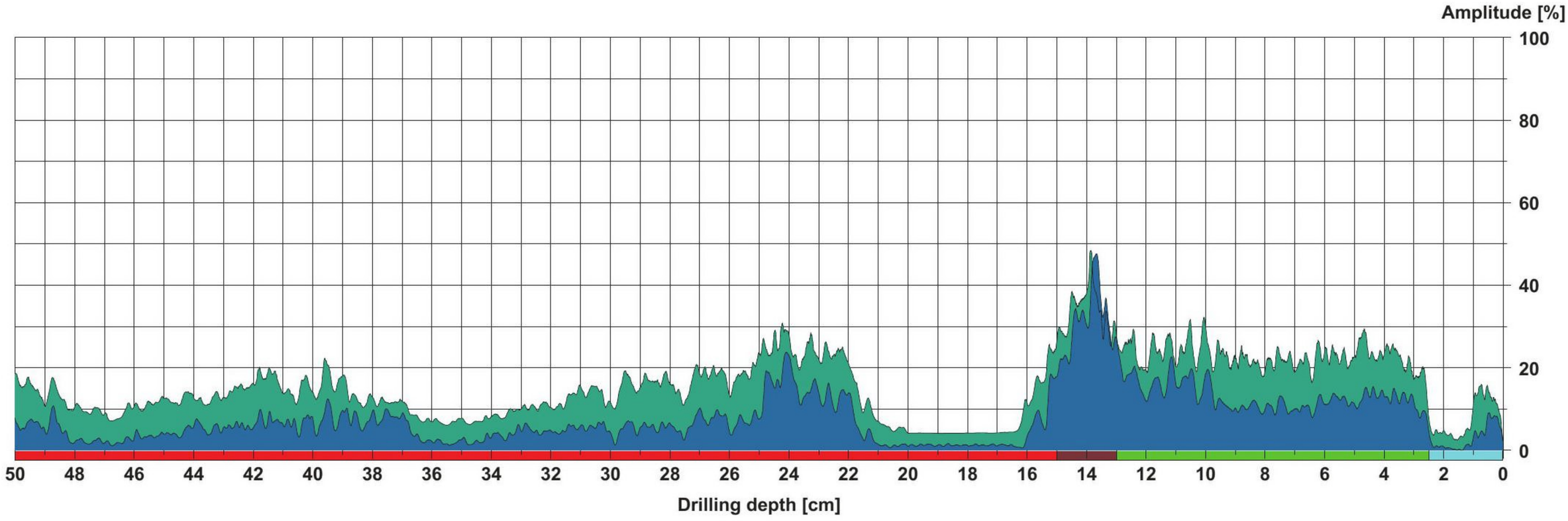
From	0.00 cm	**to**	2.12 cm	: Bark/Cambium
From	2.12 cm	**to**	10.30 cm	: Sound Wood
From	10.30 cm	**to**	13.00 cm	: Reaction Zone
From	13.00 cm	**to**	22.50 cm	: Sound Wood
From	22.50 cm	**to**	24.00 cm	: Advancing Decay
From	24.00 cm	**to**	50.00 cm	: Severe Decay

Comment

MP11: Applied into the major buttress root on the south-western aspect (close to the bottom of the left side of a large open split/wound). Sound wood to approx. 22.5cm with severe decay beyond.

Measuring / object data

Measurement no.:	12	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 50.38 cm	**Tilt**	: -40°	**Direction:**	South West
Date	: 05.02.2020	**Offset**	: 59 / 280	**Species**	:
Time	: 13:54:11	**Avg. curve**	: off / off	**Location**	: Buttress Root
Feed	: 100 cm/min			**Name**	:



Assessment

From	0.00 cm	**to**	2.50 cm	: Bark/Cambium
From	2.50 cm	**to**	13.00 cm	: Sound Wood
From	13.00 cm	**to**	15.00 cm	: Reaction Zone
From	15.00 cm	**to**	50.00 cm	: Severe Decay

Comment

MP12: Applied into the major buttress root on the south-western aspect (close to the top of the left side of a large open split/wound). Sound wood to approx. 15cm with severe decay beyond.

Picus: Bracknell Berkshire

PICUS© Sonic Tomography

Client:

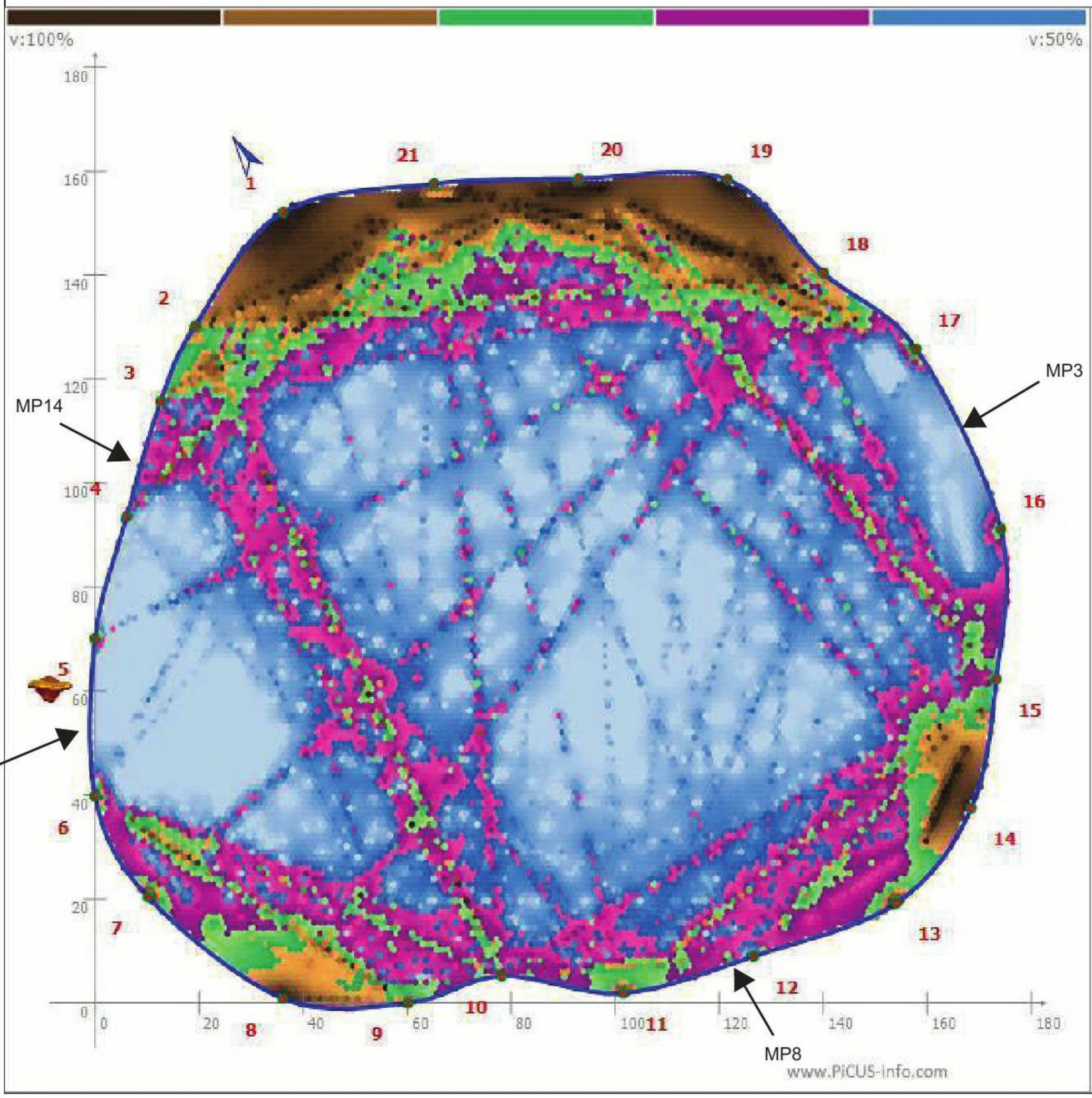
Fielden Springs Management Limited
c/o Martin Kidd
16 Field Park
Bracknell RG12 2DZ

Tree Expert:

Alex Garnham
Haydens Arboricultural Consultants
5 Moseleys Farm Business Centre
Fornham All Saints IP28 6JY

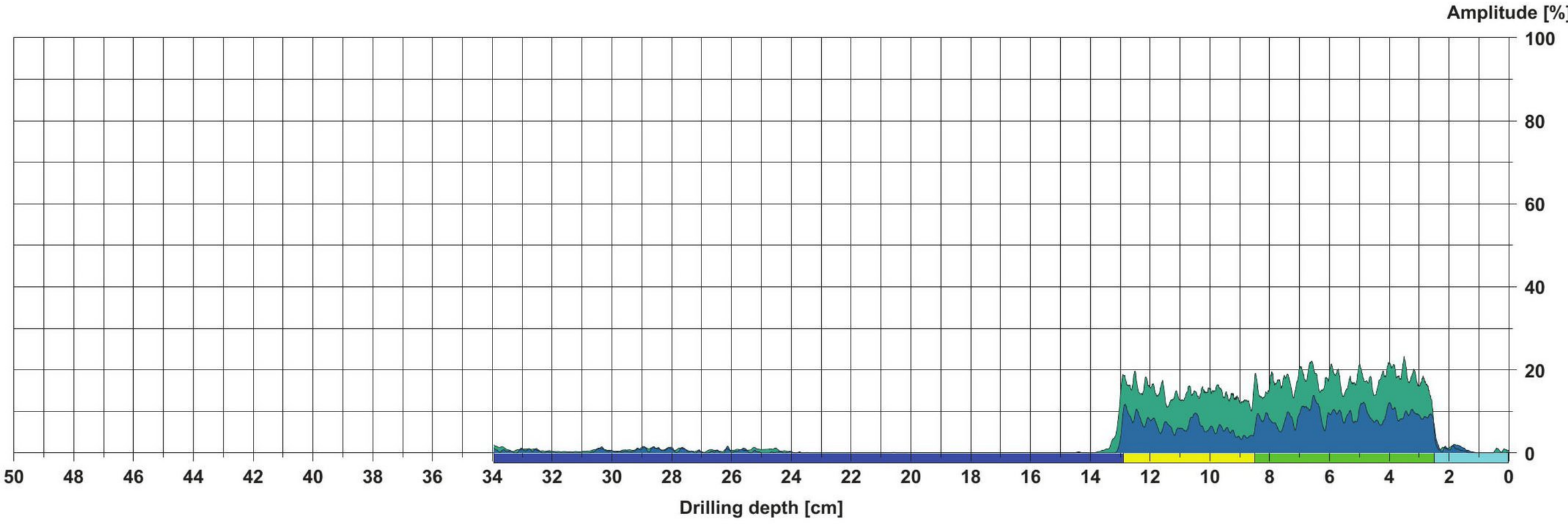
Tel: 01284 765391
Fax:
Domain:
email: alex@treesurveys.co.uk

Tree species:	English oak	Tree height [m]:	20
Town:	Bracknell	North at measuring point:	1
Neighbourhood:	Berkshire	Crown spread [m]:	15
Road:	Berrycroft	Position of measuring point 1:	0
		Trunk circumference (130cm height)[cm]:	
Number of tree:	1	Tomography level at height [cm]:	25
Measure date:	2/5/2020 1:01:00 PM		



Measuring / object data

Measurement no.:	3	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 33.94 cm	**Tilt**	: -31°	**Direction:**	East
Date	: 05.02.2020	**Offset**	: 72 / 543	**Species**	:
Time	: 13:44:35	**Avg. curve**	: off / off	**Location**	: Stem Base
Feed	: 100 cm/min			**Name**	:



Assessment

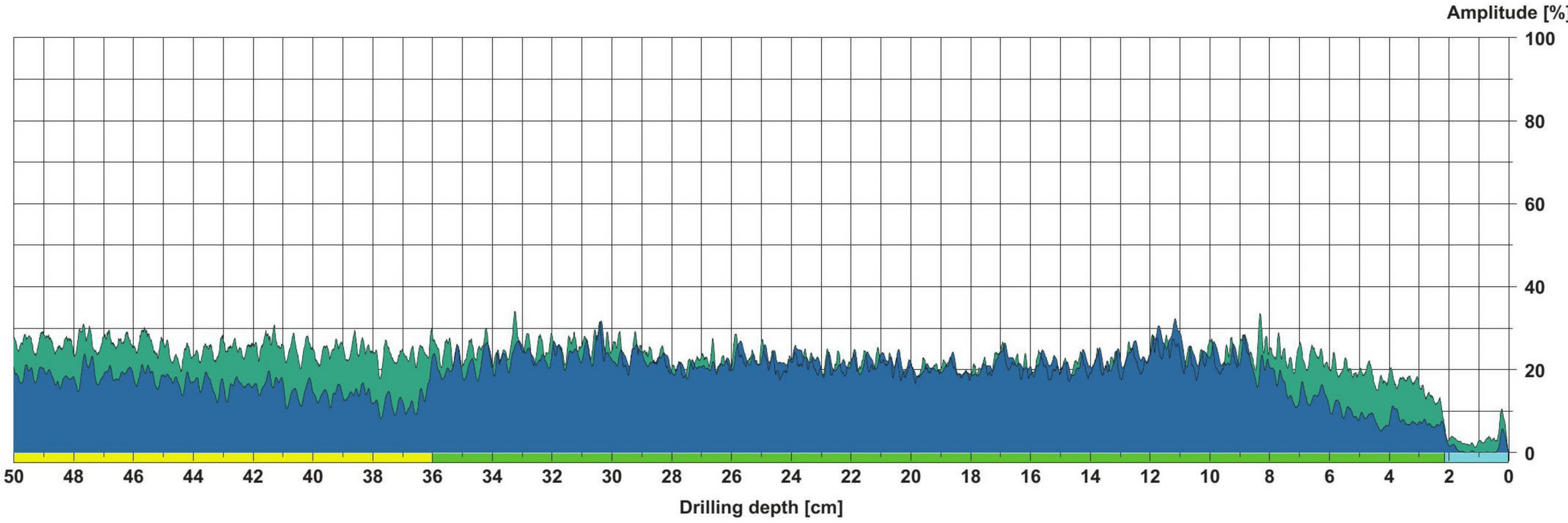
From	0.00 cm	**to**	2.49 cm	: Bark/Cambium
From	2.49 cm	**to**	8.50 cm	: Sound Wood
From	8.50 cm	**to**	12.90 cm	: Incipient Decay
From	12.90 cm	**to**	33.94 cm	: Cavity

Comment

MP3: Applied into the base of the stem proper on the eastern aspect (at approx. 25cm above ground level). Thin & poor region of sapwood to 13cm before a cavity of unknown depth is found. This is located between vertical structural tissue, the decay may be wedge shaped.

Measuring / object data

Measurement no.:	8	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 50.41 cm	**Tilt**	: -27°	**Direction:**	South
Date	: 05.02.2020	**Offset**	: 63 / 271	**Species**	:
Time	: 13:49:57	**Avg. curve**	: off / off	**Location**	: Stem Base
Feed	: 100 cm/min			**Name**	:



Assessment

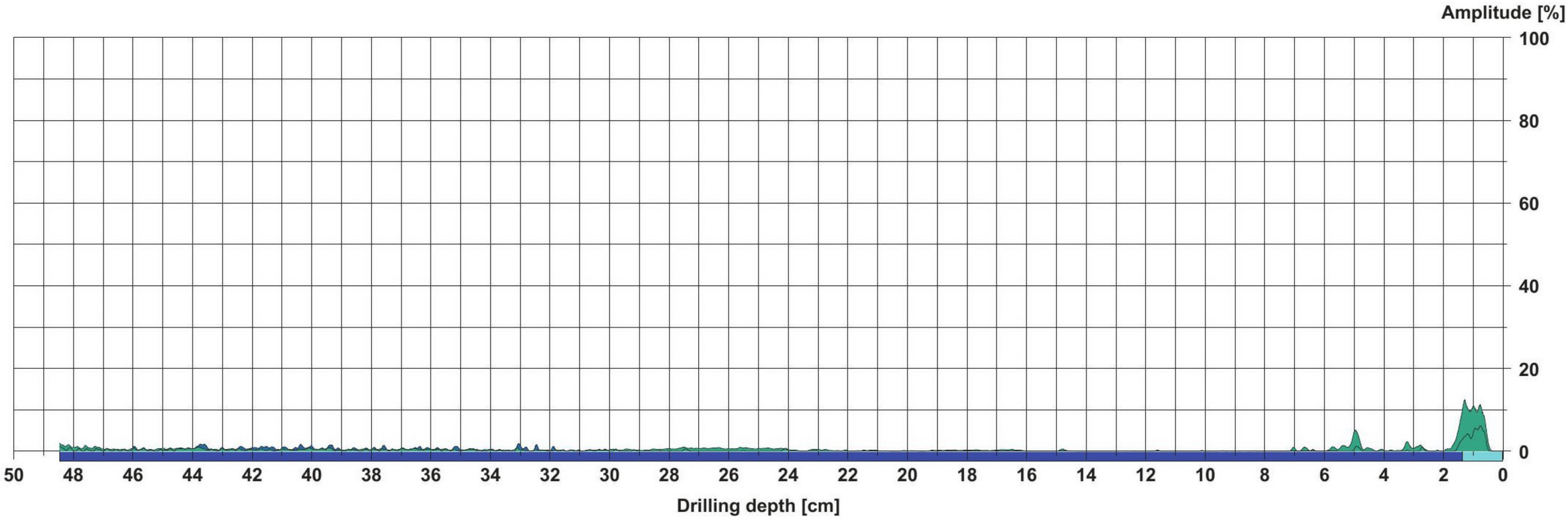
From	0.00 cm	**to**	2.15 cm	: Bark/Cambium
From	2.15 cm	**to**	36.00 cm	: Sound Wood
From	36.00 cm	**to**	50.00 cm	: Incipient Decay

Comment

MP8: Applied into the base of the stem proper on the southern aspect (at approx. 25cm above ground level). Sound wood to approx. 36cm, where early wood decay appears to be present.

Measuring / object data

Measurement no.:	13	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 48.45 cm	**Tilt**	: -40°	**Direction:**	West
Date	: 05.02.2020	**Offset**	: 59 / 264	**Species**	:
Time	: 13:55:03	**Avg. curve**	: off / off	**Location:**	Stem Base
Feed	: 100 cm/min			**Name**	:



Assessment

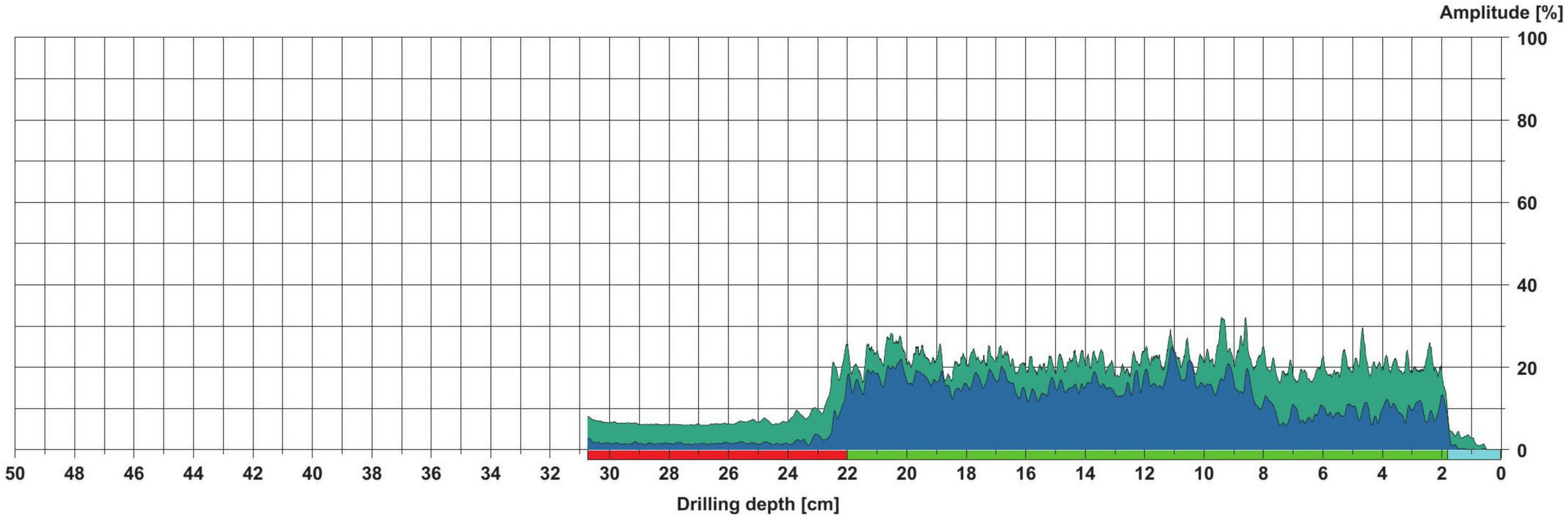
From 0.00 cm **to** 1.37 cm : Bark/Cambium
From 1.37 cm **to** 48.45 cm : Cavity

Comment

MP13: Applied into the base of the stem proper on the western aspect (at approx. 25cm above ground level). This is the region where multiple fungal fruiting bodies are attached. No sound wood detected. Bark plates attached to heavily decayed wood. Cavity to 48.45cm.

Measuring / object data

Measurement no.:	14	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 30.73 cm	**Tilt**	: -46°	**Direction:**	North-West
Date	: 05.02.2020	**Offset**	: 61 / 256	**Species**	:
Time	: 13:56:43	**Avg. curve**	: off / off	**Location**	: Stem Base
Feed	: 100 cm/min			**Name**	:



Assessment

From	0.00 cm	**to**	1.80 cm	: Bark/Cambium
From	1.80 cm	**to**	22.00 cm	: Sound Wood
From	22.00 cm	**to**	30.73 cm	: Severe Decay

Comment

MP14: Applied into the base of the stem proper on the north-western aspect. (approx. 25cm above ground level). Sound wood to approx. 22cm with severe decay beyond.

Picus: Bracknell Berkshire

PICUS© Sonic Tomography

Client:

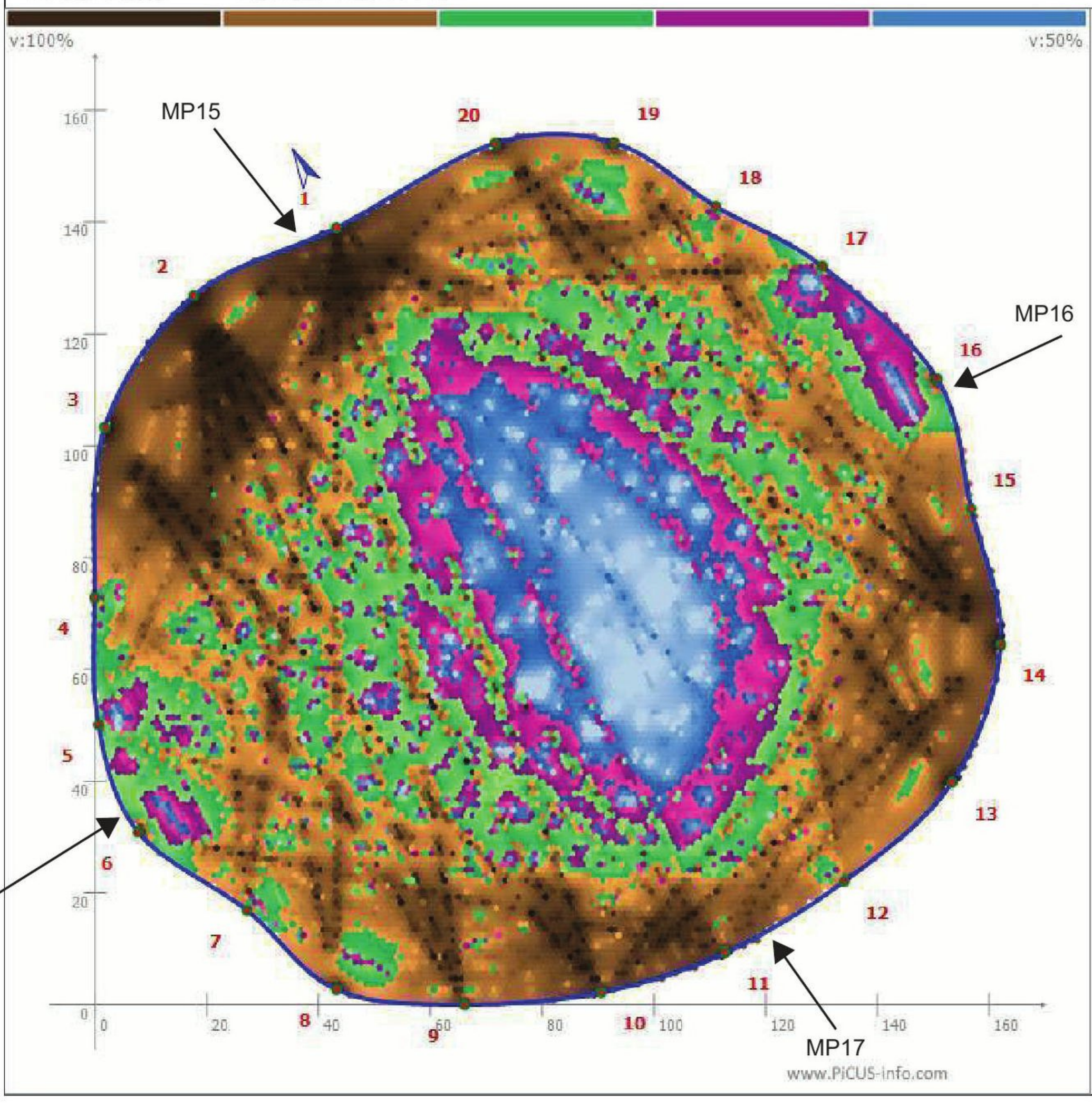
Fielden Springs Management Limited
c/o Martin Kidd
16 Field Park
Bracknell RG12 2DZ

Tree Expert:

Alex Garnham
Haydens Arboricultural Consultants
5 Moseleys Farm Business Centre
Fornham All Saints IP28 6JY

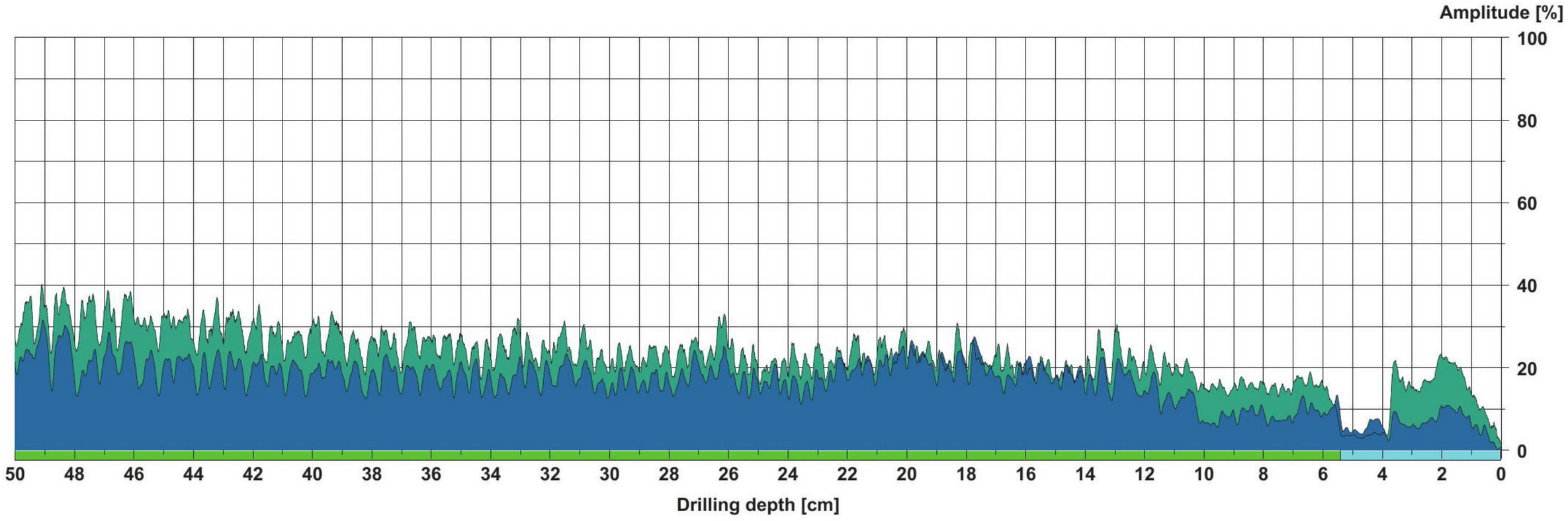
Tel: 01284 765391
Fax:
Domain:
email: alex@treesurveys.co.uk

Tree species:	English oak	Tree height [m]:	20
Town:	Bracknell	North at measuring point:	1
Neighbourhood:	Berkshire	Crown spread [m]:	15
Road:	Berrycroft	Position of measuring point 1:	0
		Trunk circumference (130cm height)[cm]:	
Number of tree:	1	Tomography level at height [cm]:	50
Measure date:	2/5/2020 1:28:00 PM		



Measuring / object data

Measurement no.:	15	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 50.38 cm	**Tilt**	: -9°	**Direction:**	North
Date	: 05.02.2020	**Offset**	: 67 / 278	**Species**	:
Time	: 13:57:59	**Avg. curve**	: off / off	**Location**	: Stem
Feed	: 100 cm/min			**Name**	:



Assessment

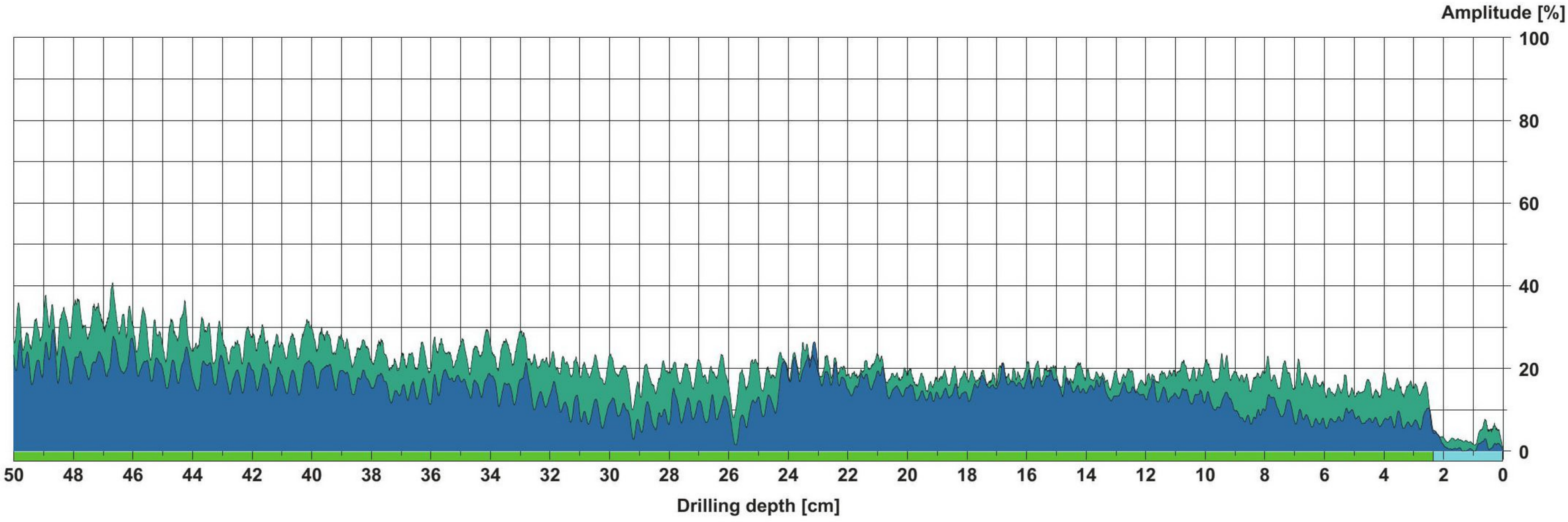
From 0.00 cm **to** 5.41 cm : Bark/Cambium
From 5.41 cm **to** 50.00 cm : Sound Wood

Comment

MP15: Applied into the stem proper on the northern aspect (at 50cm above ground level). Sound wood to 50cm.

Measuring / object data

Measurement no.:	16	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 50.38 cm	**Tilt**	: -11°	**Direction:**	East
Date	: 05.02.2020	**Offset**	: 68 / 256	**Species**	:
Time	: 13:59:03	**Avg. curve**	: off / off	**Location**	: Stem
Feed	: 100 cm/min			**Name**	:



Assessment

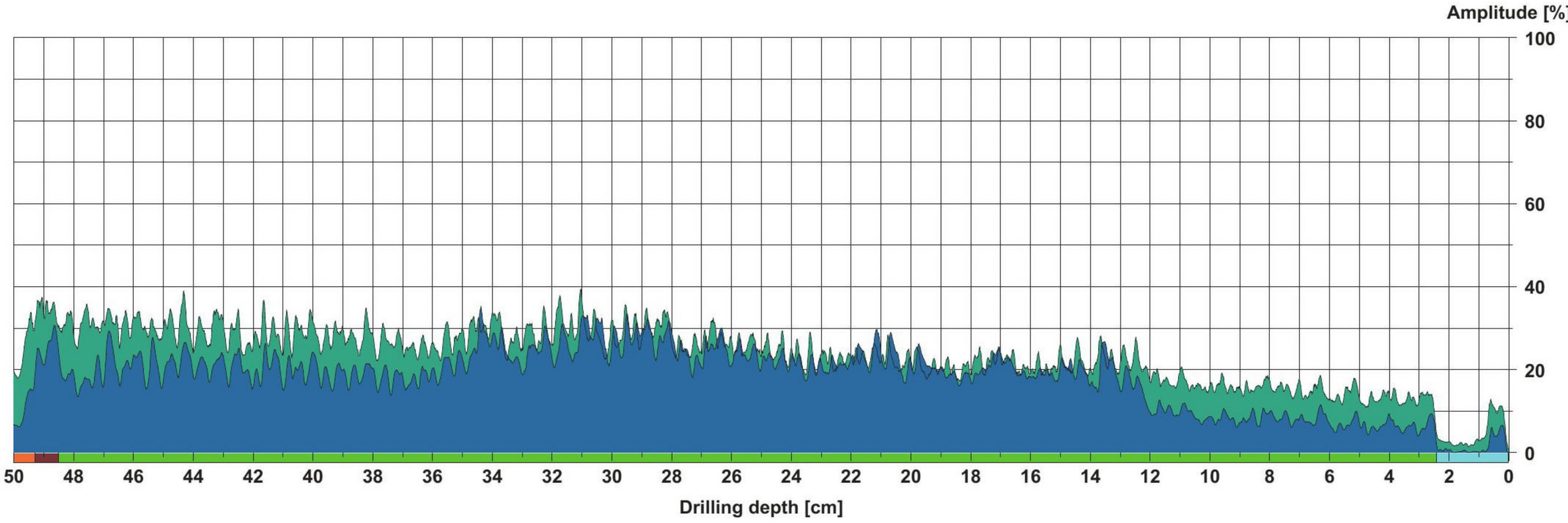
From 0.00 cm **to** 2.35 cm : Bark/Cambium
From 2.35 cm **to** 50.00 cm : Sound Wood

Comment

MP16: Applied into the stem proper on the eastern aspect (at 50cm above ground level). Sound wood to 50cm.

Measuring / object data

Measurement no.:	17	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 50.37 cm	**Tilt**	: -11°	**Direction:**	South
Date	: 05.02.2020	**Offset**	: 67 / 259	**Species**	:
Time	: 14:00:11	**Avg. curve**	: off / off	**Location**	: Stem
Feed	: 100 cm/min			**Name**	:



Assessment

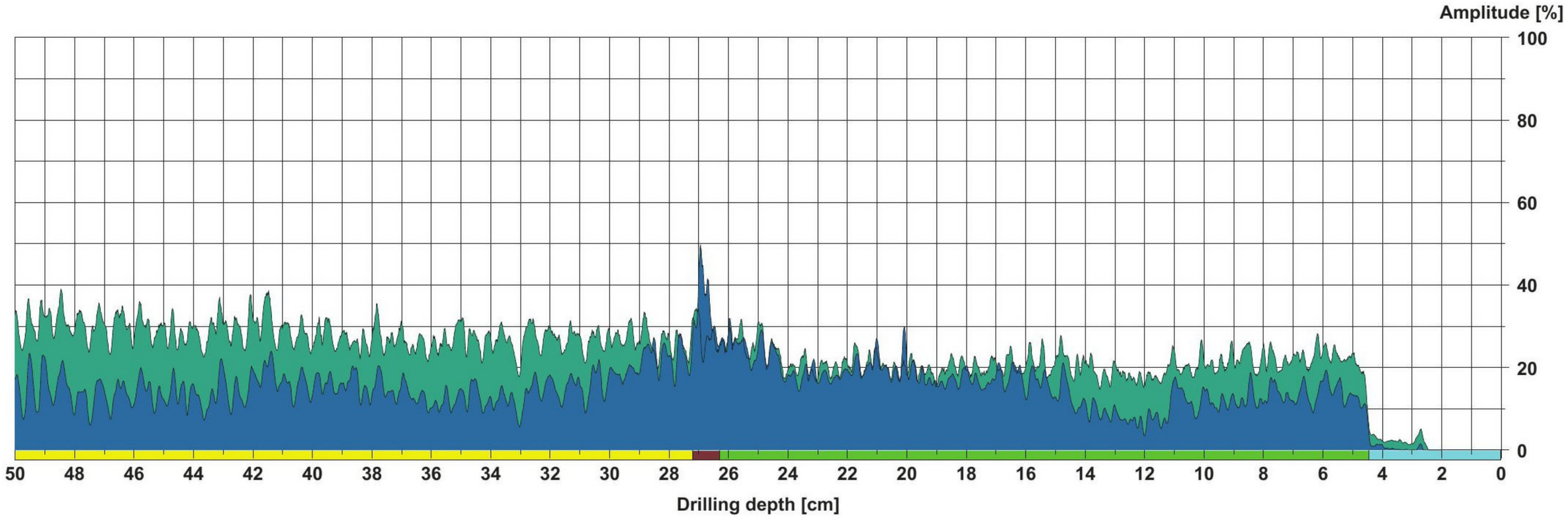
From	0.00 cm	**to**	2.43 cm	: Bark/Cambium
From	2.43 cm	**to**	48.50 cm	: Sound Wood
From	48.50 cm	**to**	49.30 cm	: Reaction Zone
From	49.30 cm	**to**	50.00 cm	: Advancing Decay

Comment

MP17: Applied into the stem proper on the southern aspect (at 50cm above ground level). Sound wood to 48cm. Apparent drop in resistance at the end of the test (possibly the start of a region of decay).

Measuring / object data

Measurement no.:	18	**Speed**	: 2500 r/min	**Diameter:**	
ID number	: 7960	**Needle state:**	---	**Level**	:
Drilling depth	: 50.38 cm	**Tilt**	: -10°	**Direction:**	West
Date	: 05.02.2020	**Offset**	: 70 / 260	**Species**	:
Time	: 14:01:12	**Avg. curve**	: off / off	**Location**	: Stem
Feed	: 100 cm/min			**Name**	:



Assessment

From	0.00 cm	**to**	4.46 cm	: Bark/Cambium
From	4.46 cm	**to**	26.30 cm	: Sound Wood
From	26.30 cm	**to**	27.20 cm	: Reaction Zone
From	27.20 cm	**to**	50.00 cm	: Incipient Decay

Comment

MP18: Applied into the stem proper on the western aspect (at 50cm above ground level). Sound wood to 26cm where apparent early decay is encountered to 50cm.