

1 RESULTS OF THE THOROUGH INVESTIGATION

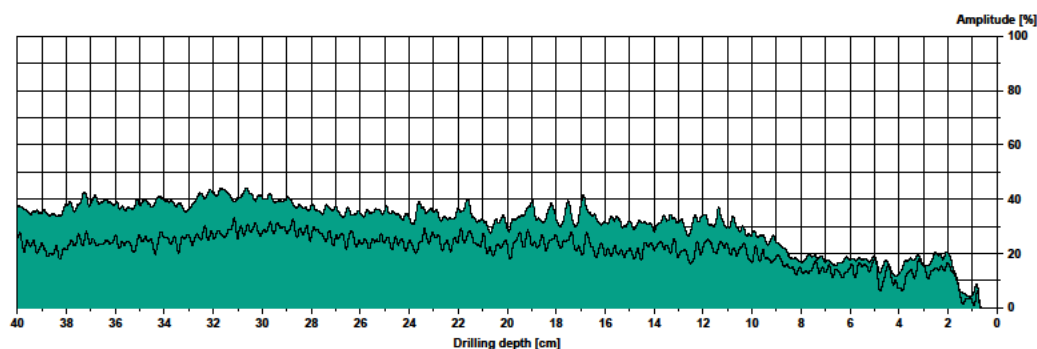
The micro drill used is an IML PD-400 micro drill. This measures the torque and penetration resistance to a 3mm probe up to 40cm into the stem. The readings give an indication of how much of the radius of the stem is decayed or undecayed.

On the 25th July 2023 total of 15 measurements were taken including 1 control drill into a neighbouring tree. One reading was discarded as an incomplete reading.

4 readings were taken at ground level, 1m and 1.6m and one reading at 2m. The most relevant readings have been included.

The reading at 2m is consistent with normal wood to 32cm and then minor degradation of the wood structure after 32cm.

Measuring / object data			
Measurement no.:	15	Speed :	2500 r/min
ID number :	Col lime 2m W	Needle state:	—
Drilling depth :	39.95 cm	Tilt :	—
Date :	25.07.2023	Offset :	115 / 251
Time :	15:08:45	Avg. curve :	off / off
Feed :	200 cm/min	Diameter:	
		Level :	
		Direction:	
		Species :	
		Location :	
		Name :	



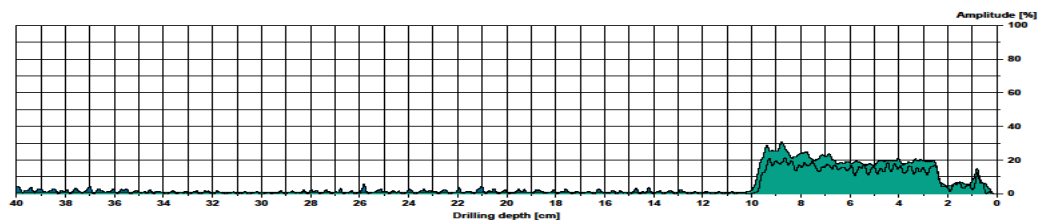
At 1.6m the reading to the north, east and west were normal or acceptable. The reading taken on the western side, taken just above the historic wound, showed a thin residual wall of 4cm and then 20cm of decay before the needle auto retracted on hitting sound wood. These readings are consistent with a strong residual wall of sound wood on three sides of a cavity.

At 1m the four readings are consistent with a residual wall ranging between 6cm and 12cm. At this point the stem may have a reduced wind load capacity.

At ground level the measured residual walls are much reduced, ranging from 5cm to 14m which is likely to reduce wind load capacity.

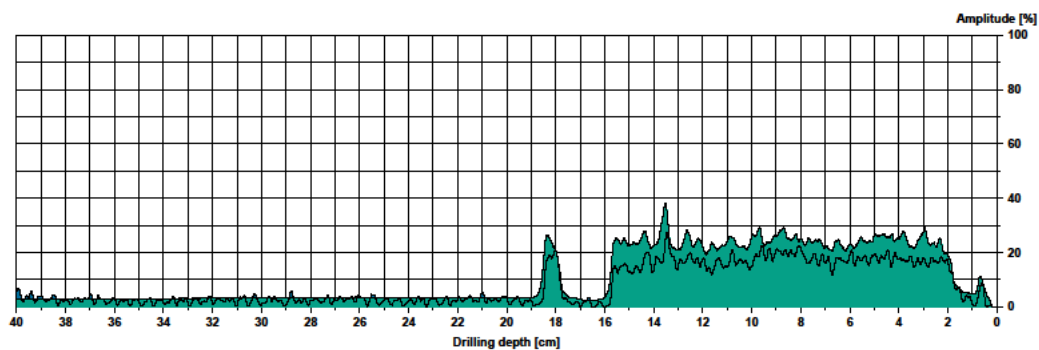
Measuring / object data

Measurement no.:	3	Speed	: 2500 r/min	Diameter:	
ID number	: Col lime ground N	Needle state:	---	Level	:
Drilling depth	: 39.96 cm	Tilt	---	Direction:	
Date	: 25.07.2023	Offset	: 114 / 259	Species	:
Time	: 14:38:34	Avg. curve	: off / off	Location	:
Feed	: 200 cm/min			Name	:



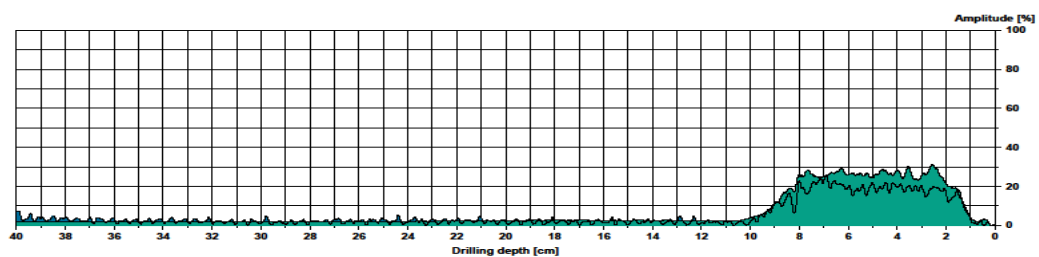
Measuring / object data

Measurement no.:	2	Speed	: 2500 r/min	Diameter:	
ID number	: Col lime ground E	Needle state:	---	Level	:
Drilling depth	: 39.96 cm	Tilt	---	Direction:	
Date	: 25.07.2023	Offset	: 121 / 262	Species	:
Time	: 14:35:20	Avg. curve	: off / off	Location	:
Feed	: 200 cm/min			Name	:



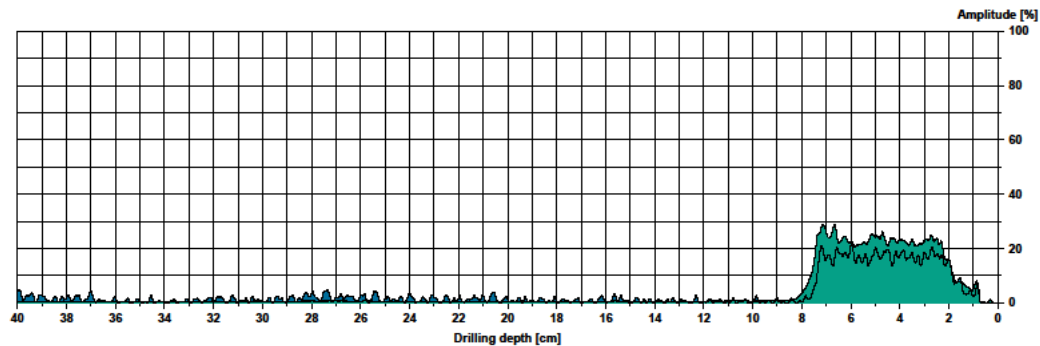
Measuring / object data

Measurement no.:	4	Speed	: 2500 r/min	Diameter:	
ID number	: Col lime ground S	Needle state:	---	Level	:
Drilling depth	: 39.96 cm	Tilt	---	Direction:	
Date	: 25.07.2023	Offset	: 112 / 251	Species	:
Time	: 14:39:34	Avg. curve	: off / off	Location	:
Feed	: 200 cm/min			Name	:



Measuring / object data

Measurement no.:	12	Speed	: 2500 r/min	Diameter:	
ID number	: Col lime ground W	Needle state:	—	Level	:
Drilling depth	: 39.96 cm	Tilt	: —	Direction:	
Date	: 25.07.2023	Offset	: 118 / 247	Species	:
Time	: 15.04.38	Avg. curve	: off / off	Location:	
Feed	: 200 cm/min			Name	:



2 DISCUSSION

The Resi readings are consistent with a column of decay which starts between 2m and 1.6m. This column widens as it extends down to 1m and ground level. The extent of decay below ground is unknown.

Hollowing is a normal part of tree aging and does not necessarily result in loss of strength.

The tree does not have any big side branches that would subject it to torsional wind load. Torsional load greatly increases the risk of tree failure.

Mattheck (1995) states that a full canopy tree with a residual wall less than 30% of it's radius can be vulnerable to failure. The thinnest residual wall measured was at ground level on the western side as being 18.5%. This will reduce the wind load capacity if the tree has a full crown.

The condition of the tree below ground is unknown and given that there may have been excavation in the rooting zone and the decay column widens towards the base and the lack of any pronounced buttressing, I don't have a high degree of confidence in the wind load capacity of the base of the tree.