The Tree Man
Arborist services

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# TREE MANAGEMENT REPORT

04.02.10

**Site:**

67 Watkins Street, Newtown

**Client:**

Hurley Building PLT LTD

**Commissioned By:**

City Of Sydney Council

**Author:**

Ben McInerney

Arborist

Certificate 3 Horticulture (Arboriculture)

# Summary

Hurley Building pty ltd has requested a Tree Management Report relating to one (1) tree specimen located at 67 Watkins Street, Newtown.

Ben McInerney qualified Certificate 3 Arborist, author, has prepared this report based on visual assessment on 29th November 2009.

The report discusses the current condition of the specimen identified by:

- The health and vigor of the specimen in the current location.
- The long term viability of the specimens.
- Observations on site by Ben McInerney

The subject tree has been described & discussed. The aim of this report is to confirm the viability of the trees, relating to health, vigor, condition & any immediate risk or future to the persons and surrounding dwellings.

# 1 Table of Contents

# Introduction

This report contains observations & recommendations intended to assist in the management of the specimen within the property 67 Watkins Street, Newtown.

The report discusses the current condition of the specimen identified by:

- Its current health, structural stability and their likelihood of failure
- The potential risk to persons and immediate dwellings
- Observations on site by Ben McInerney

The trees have been described and discussed.

# 2 Methodology

Assessment of the tree has been from ground level by eye, using visual tree assessment (VTA) techniques developed by Claus Mattheck, in The Body Language of Trees (1994). Assessment includes:

- Trees current condition & likely future health.
- Species tolerance to root disturbance and/or development
- Likely future hazard potential to persons & property
- Trees amenity value, such as significance, screening & habitat.

No root analysis, soil testing or aerial canopy inspection was undertaken. See the following Appendix for further information:

- Appendix A Glossory of arboreal terms
- Appendix B Resist graph results

# Observations

## *The Site*

The subject trees are located within the property of 67 Watkins Street, Newtown. It sits tight on the east boundary fence in the back yard.

The property has several smaller shrubs and a well-established *Platanus x hispanica* (London plane tree) in the south west corner of the property.

There are several well establish trees in the immediate surrounding properties.

There is a slight fall from south to north, back to front.

The soil a sandy loam.

| ~ | Identified | DBH | Height | Crown | Health/ vigor |
|---|---|---|---|---|---|
| 1 | **Eucalyptus scoparia**<br>*Wallangara White Gum* | 0.97m | 12m | 9m | fair |

Shot of tree from No. 69 driveway

# Discussion

This tree is a mature/ over mature specimen. It has bracket fungi in 2 separate locations. 1 on the south side of the trunk approx. 1m from the ground. The second in the mid crown to the second order structural branch.

With medium volume epicomic growth and a high volume of small and large deadwood throughout the crown, it is apparent the tree is in a slow decline.

Its ability to heal itself is also receding as shown in the supporting picture below.

At the request of Sydney city council a resistograph test was carried out. (refer appendix B)

The results are as follows:

Drill 1 - 0.58 or 59% soundwood

Drill 2 - 0.47 or 47% soundwood

Drill3 - 0.43 or 43% soundwood

These three drills represent a horizontal breach from 3 opposing sides of the trees trunk at brest height. All three drills indicate that there is approx. 26cm of sound structural wood before you reach the decay at the center of the tree.

The DBH of this specimen being 97cm means the approx. internal decay DBH is approx. 44cm.

The tree currently passes the resistograph test with enough sound wood around the circumference of the base to support itself. Though this is not likely to improve given the evidence of the trees decline.

The Second fungal bracket found approx. 5m from the ground on the second order structural was not resistograph tested, but is of concern being found on another load baring part of the structure.

## Recommendations

It is recommended that this tree is removed.

Tree removal is to be removed by a cert. 3 arborist or higher.

Two (2) replacement specimens are to be planted on the property.

Specimens are to be Australian native and suitable for the location.

It is also recommended that a 3 month watering routine is implemented.

Trees are to be replaced within 8 weeks of removal of original specimen and to be planted by a cert. 2 horticulturist or higher.

This pic shows 2 fungal brackets. Also shows trees initial attempt to heal (bottom arrow), then its second attempt to heal (top arrow)

# Supplementary Photos

Pic looking into crown of tree showing vast amounts deadwood

Shows 2nd fungal bracket on second order structural branch

# Limitations on the use of this report

This report is to be utilized in its entirety only. Any written or verbal submission, report or presentation that includes statements taken from the findings, discussions, conclusions or recommendations made in this report, may only be used where the whole of the original report (or a copy) is referenced in, & directly attached to that submission, report or presentation.

# Assumptions

Care has been taken to obtain information from reliable resources. All data has been verified insofar as possible; however, *The Tree Man Arborist Services* can neither guarantee nor be responsible for the accuracy of information provided by others.

Unless stated otherwise:

Information contained in this report covers only the trees that were examined & reflects the condition of the trees at the time of inspection; and

The inspection was limited to visual examination of the subject trees without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

# 1 Recommended References

Barrell, J. 1993. '*Preplanning Tree Surveys: Safe Useful Life Expectancy (SULE) is the Natural Progression*', Arboricultural Journal 17:1, February 1993,

Barrell, J. 1995, '*Pre-development Tree Assessments'*, in Trees & Building Sites, Proceedings of n International Conference Held in the Interest of Developing a Scientific Basis for Managing Trees in Proximity to Buildings, International Society of Arboriculture, Illinois,

Dr. G. Watson & Dr. D. Neely, '*Trees & Building Sites',* ISA Illinois USA 1995,

Dr. N. Matheny & Dr. J.R. Clark, '*Trees & Development',* ISA Illinois USA 1998 ,

Phillip J. Craul, '*Urban Soil in Landscape Design',* J. Wiley & Sons, New York USA 1992,

Clark, Ross, '*A Guide to Assessment of Tree Quality*'. NATSPEC/ Construction Information, Milson's Point NSW,2003 &

Clark, Ross. '*Purchasing Landscape Trees*', Construction Information Systems Australia Pty. Ltd., Milson's Point NSW, 1996.

# 2 Selected Bibliography

Hitchmough, J.D. 1994. '*Urban Landscape Management'*, Inkata Press, Sydney.

Mattheck, C. & Breloar, H. (1994) '*Body Language of Trees'*. The Stationery Office. London.

A54373.2007 '*Pruning of Amenity Trees'*, Standards Australia.

BS5837-2005. '*Guide for Trees in Relation to Construction'*, Standards Board, UK.

# Appendix A - Glossary

## Glossary of common Arboreal terms

**Age:** **I** *Immature* refers to a refers to a well-established but juvenile tree

**SM** *Semi-mature* refers to a tree at growth stages between immaturity & full size

**M** *Mature* refers to a full sized tree with some capacity for further growth

**LM** *Late Mature* refers to a full sized tree with little capacity for growth that is not yet about to enter decline

**OM** *Over-mature* refers to a tree about to enter decline or already declining

**LS** *Live Stag* refers to a tree in a significant state of decline. This is the last life stage of a tree prior to death.

**Hth & Vig** Health & Vigour.

**Health** refers to the tree's form & growth habit, as modified by its environment (aspect, suppression by other tree, soils) & the state of the scaffold (ie. trunk & major branches), including structural defects such as cavities, crooked trunks or weak trunk/branch junctions. These are not directly connected with health & it is possible for a tree to be healthy but in poor condition/vigor. **Classes are:**

Excellent (E), V. Good (VG), Good (G), Fair (F), Declining (D), Poor (P), Very Poor (VP)

**Vigour** refers to the tree's growth rate/condition as exhibited by the crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion & the degree of dieback. **Classes are:**

Excellent (E), V. Good (VG), Good (G), Fair (F), Declining (D), Poor (P), Very Poor (VP)

**Useful Life Expectancy (ULE)** refers to any individual tree specimen potential life

Expectancy (viability) based on VTA assessment, three groups are described,

**Short = Less than Five years**

**Medium = Five–Fifteen years**

**Long = more than Fifteen years**

**Diameter at Breast Height (DBH)** refers to the tree trunk diameter at breast height (1.4 meters above ground level).

**Critical Root Zone (CRZ)** refers to a radial offset of Five (5) times the trunk DBH raised to the next 0.5m increment (measured from the center of the trunk). This zone is often the location of the tree's structural support roots, i.e. primary woody roots.

**Primary Root Zone (PRZ)** refers to a radial offset of Five (5) times the trunk DBH measured from the center of the trunk. This zone often contains a significant amount of (but by no means all of a tree's) fine, non-woody roots required for uptake of nutrients, oxygen & water.

**Tree Protection Zone (TPZ)** is a "No Go Zone" surrounding a tree to aid in its ability to cope with disturbances associated with construction works. Tree protection involves minimizing root damage that is caused by activities such as construction. Tree protection also reduces the chance of a tree's decline in health or death & the possibly damage to structural stability of the tree from root damage.

To limit damage to the tree, protection within a specified distance of the tree's trunk must be maintained throughout the proposed development works. No excavation, stockpiling of building materials or the use of machinery is permitted within the TPZ.

Using the *British Standard for Trees on Construction Sites* (BS5837), a TPZ. is based on the age of the tree, young, middle aged or mature, the trunk diameter at D.B.H. & the tree's vigor. A TPZ is required for each tree or group of trees within five meters of building envelopes.

**Branch Bark Ridge & Branch Bark Collar (BBR & BBC)** a zone of natural protection.

**Stem/bark inclusion** refers to a genetic fault in the tree's structure. This fault is located at the point where the stems/branches meet. In the case of an inclusion this point of attachment is potentially weak due to bark obstructing healthy tissue from joining together to strengthen the joint.

**Decay** refers to the break down tissues within the tree. There are numerous types of decay that affect different types of tissues, spread at different rates & have different affect on both the tree's health & structural integrity.

**Point of Attachment** refers to the point at which a stem/branch etc join.

**Dead wood** refers to any whole limb that no longer contains living tissues (eg live leaves &/or bark). Some dead wood is common in a number of tree species.

**Die back** refers to the death of growth tips/shoots & partial limbs. Die back is often an indicator of stress & tree health.

**One dimensional crown** refers to branching habits & leaves that extend/grow in one direction only. There are many causes for this growth habit such as competition & pruning.

**Crown Foliage Density of Potential (CFDP)** refers to the density of a tree's crown in relation to the expected density of a healthy specimen of the same species. CFDP is measured as a percentage.

**Epicormic growth/shoots** refers to growth/shoots that are/have sprouted from axillary buds within the bark. Epicormic growth/shoots are a survival mechanism that often indicates the presence of a current or past stress even such as fire, pruning, drought etc.

**Over Head Powerlines (OHP)** Over head electricity wiring

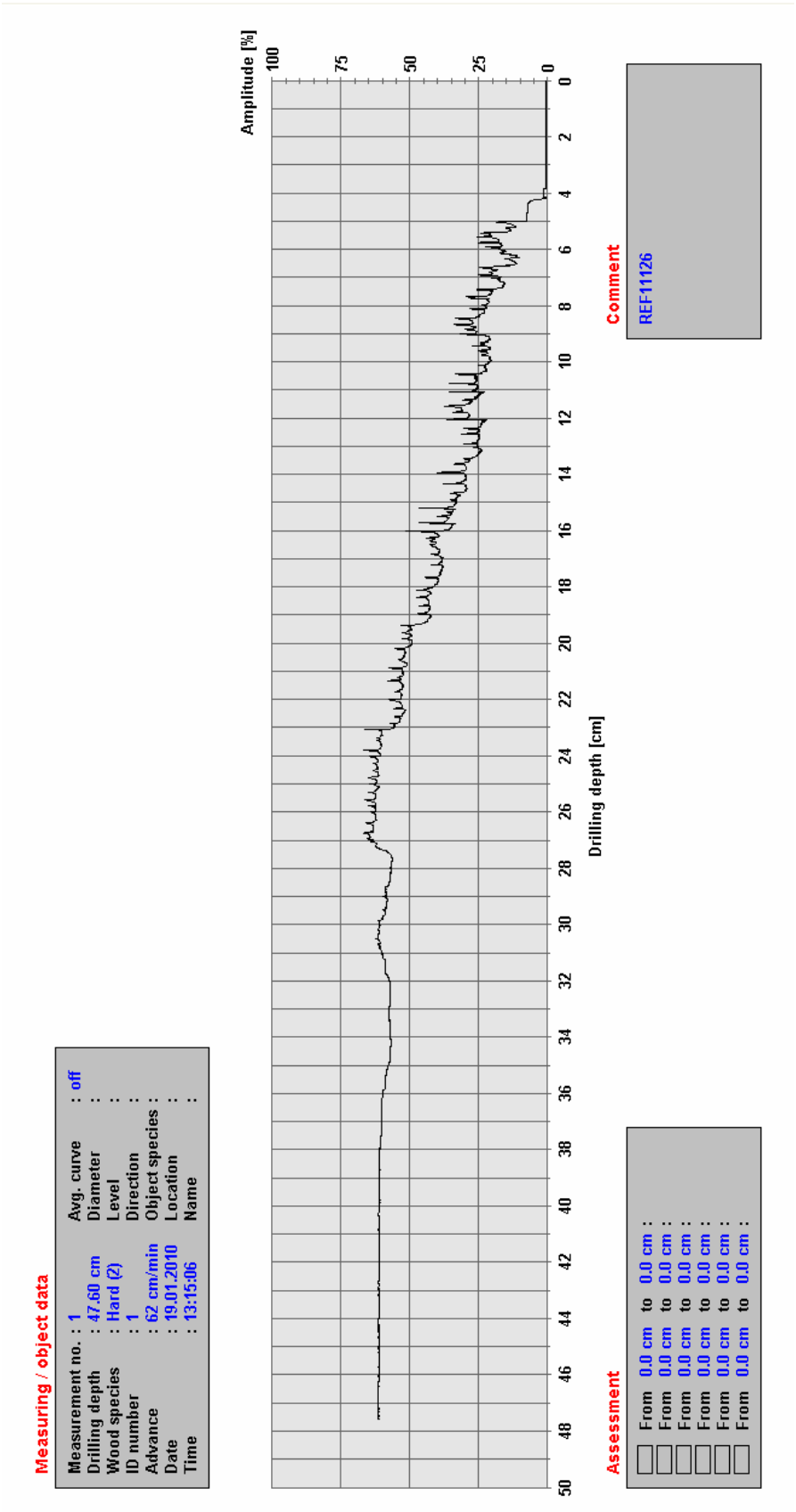
**LVOHP** Low Voltage Over head Powerlines

**HVOHP** High Voltage Over head Powerlines

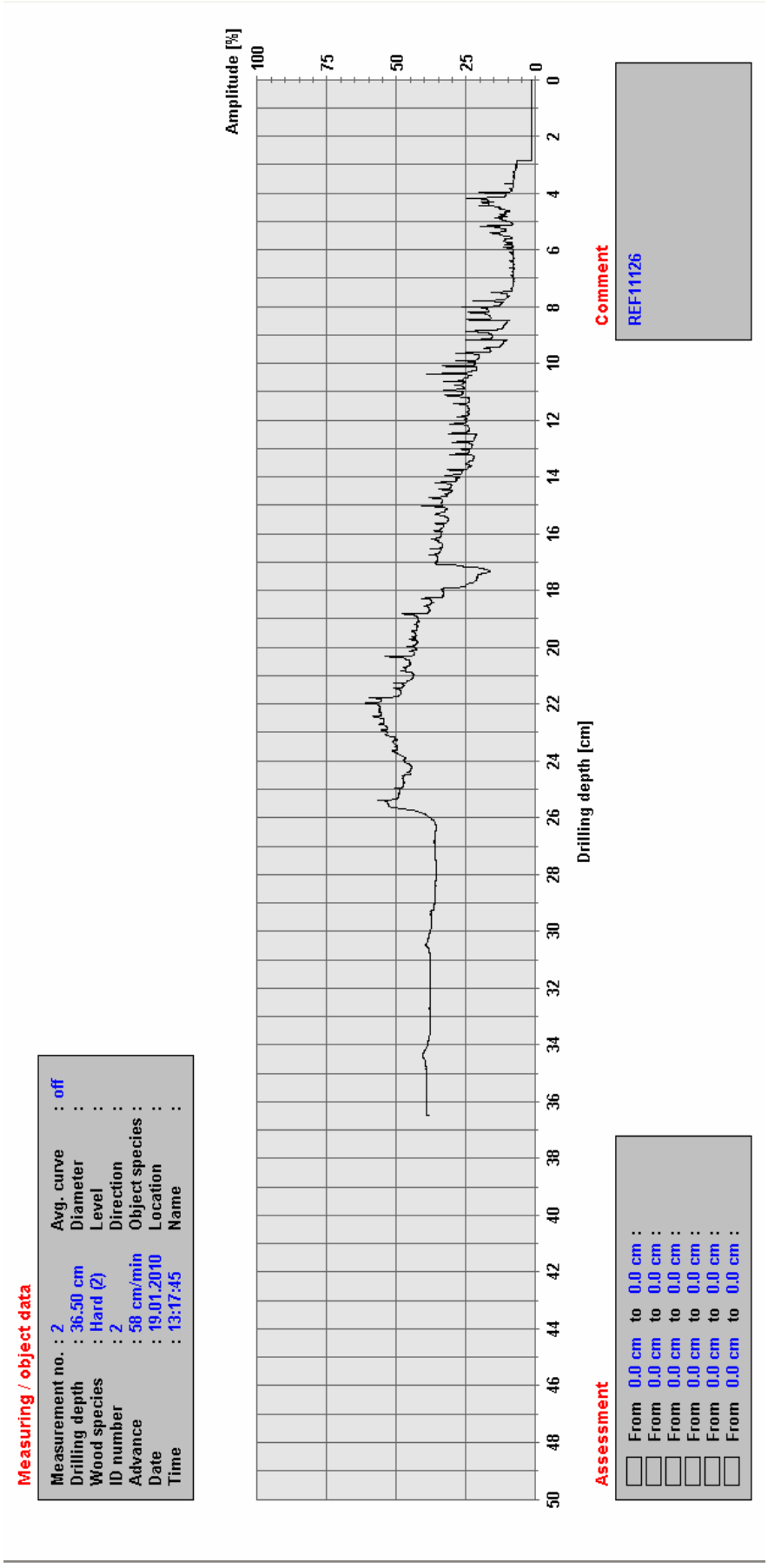
**ABC** Aerial Bundled Cable

# **Appendix B** ~ Resistograph results

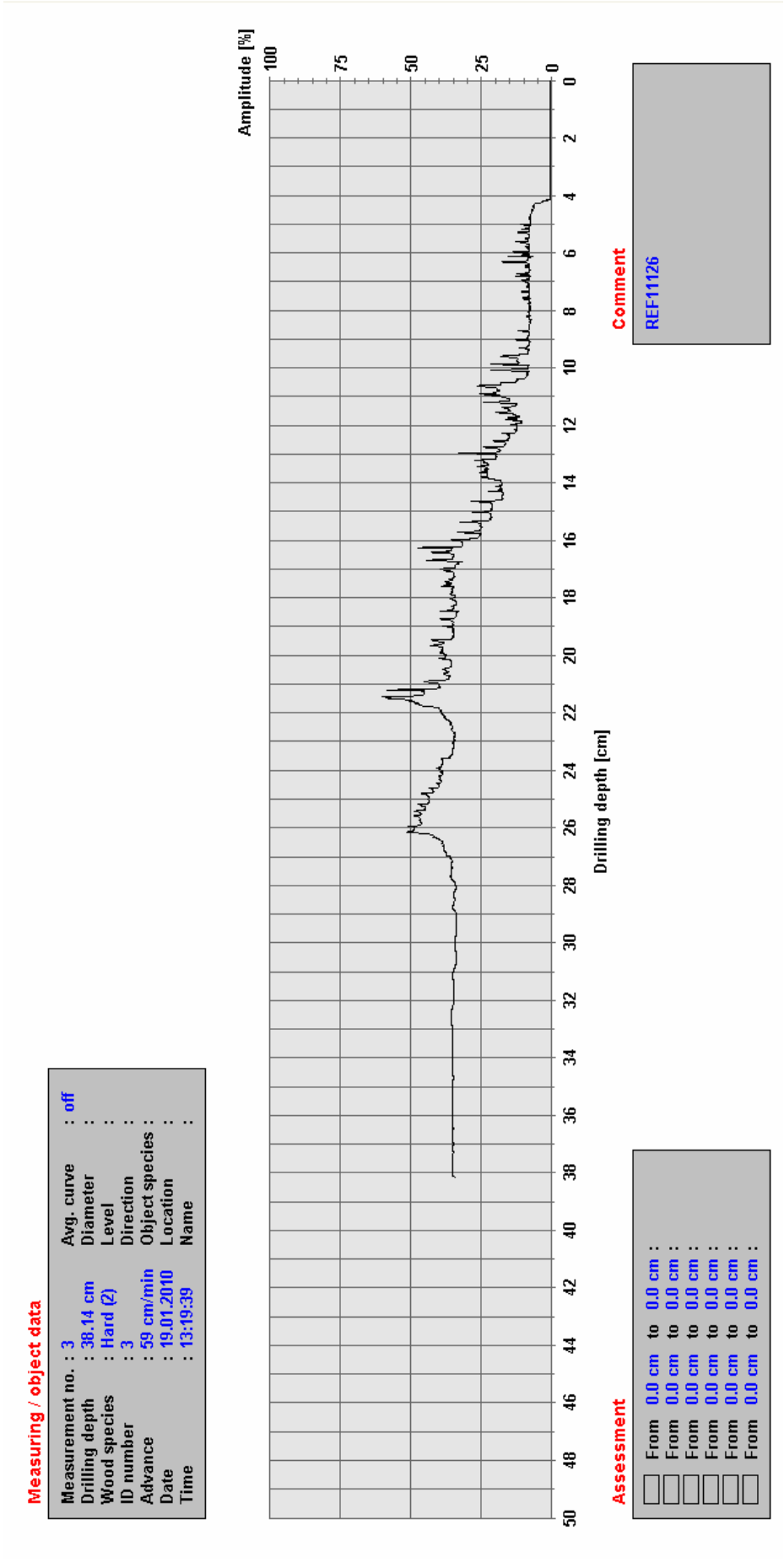
Drill No.1



Drill No.2


Measuring / object data
Measurement no. : 2
Drilling depth : 36.50 cm
Wood species : Hard (2)
ID number : 2
Advance : 58 cm/min
Date : 19.01.2010
Time : 13:17:45
Avg. curve : off
Diameter :
Level :
Direction :
Object species :
Location :
Name :
Amplitude [%]
100
75
50
25
0
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
Drilling depth [cm]
Comment
REF11126
Assessment
From 0.0 cm to 0.0 cm :
From 0.0 cm to 0.0 cm :
From 0.0 cm to 0.0 cm :
From 0.0 cm to 0.0 cm :
From 0.0 cm to 0.0 cm :
From 0.0 cm to 0.0 cm :

Drill No.3


Measuring / object data
Measurement no. : 3
Drilling depth : 38.14 cm
Wood species : Hard (2)
ID number : 3
Advance : 59 cm/min
Date : 19.01.2010
Time : 13:19:39
Avg. curve : off
Diameter :
Level :
Direction :
Object species :
Location :
Name :
Amplitude [%]
100
75
50
25
0
Drilling depth [cm]
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
Comment
REF11126
Assessment
From 0.0 cm to 0.0 cm :
From 0.0 cm to 0.0 cm :
From 0.0 cm to 0.0 cm :
From 0.0 cm to 0.0 cm :
From 0.0 cm to 0.0 cm :
From 0.0 cm to 0.0 cm :