

timbre

Tailored Improvement of
Brownfield Regeneration
in Europe



Technical University of Denmark



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Phytoscreening results

- Obtained by Tree Coring,
Szprotawa 2012

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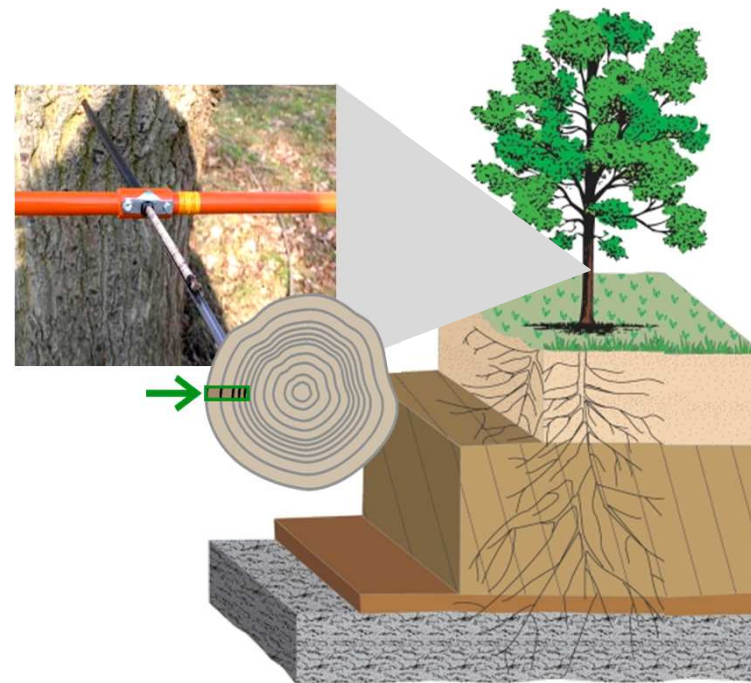


Phytoscreening

Application



- Sampled september 2012



Phytoscreening

Application

- Sampled September 2012
- Tree species; willows, birch and pine



Phytoscreening

Application

- Sampled September 2012
- Tree species; willows, birch and pine
- 57 test trees
- Mainly in hot spot area
- 28 can be compared with other screening methods
- Analysed for BTEX compounds;
Benzene, toluene, ethylbenzene and m,p-xylene



Phytoscreening

Results



BTEX compounds are not native
in the environment

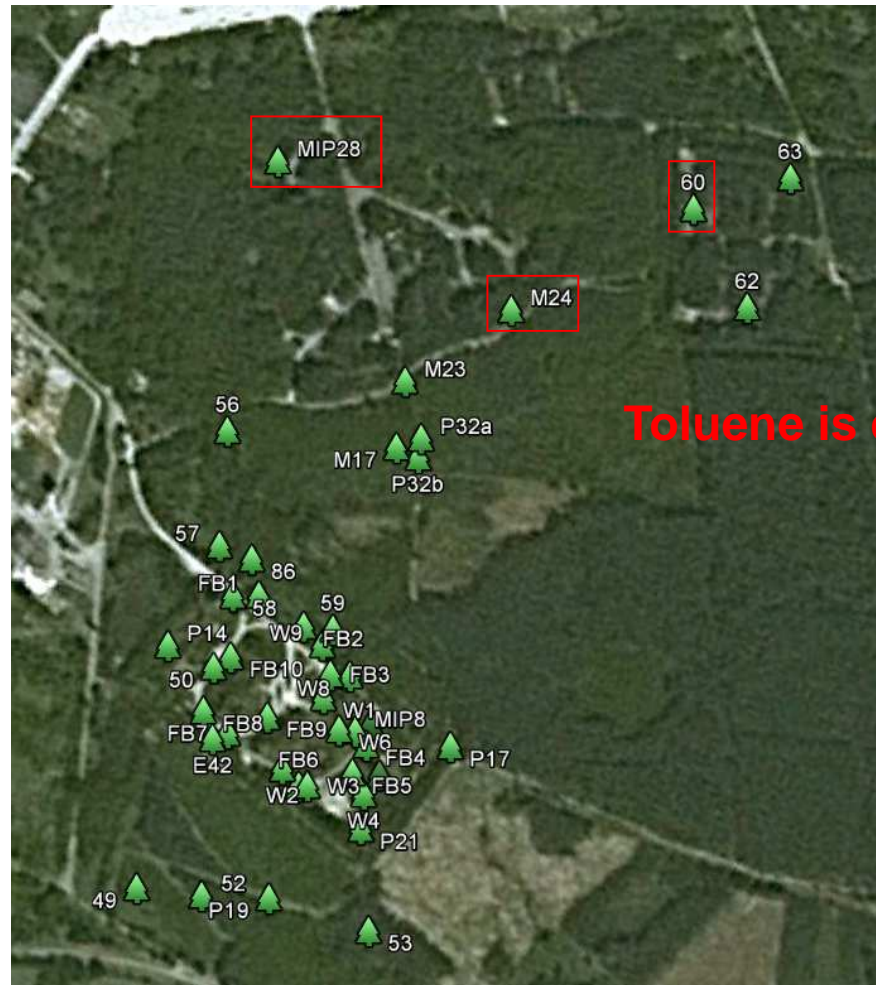
→ detection = pollution.



Test sites

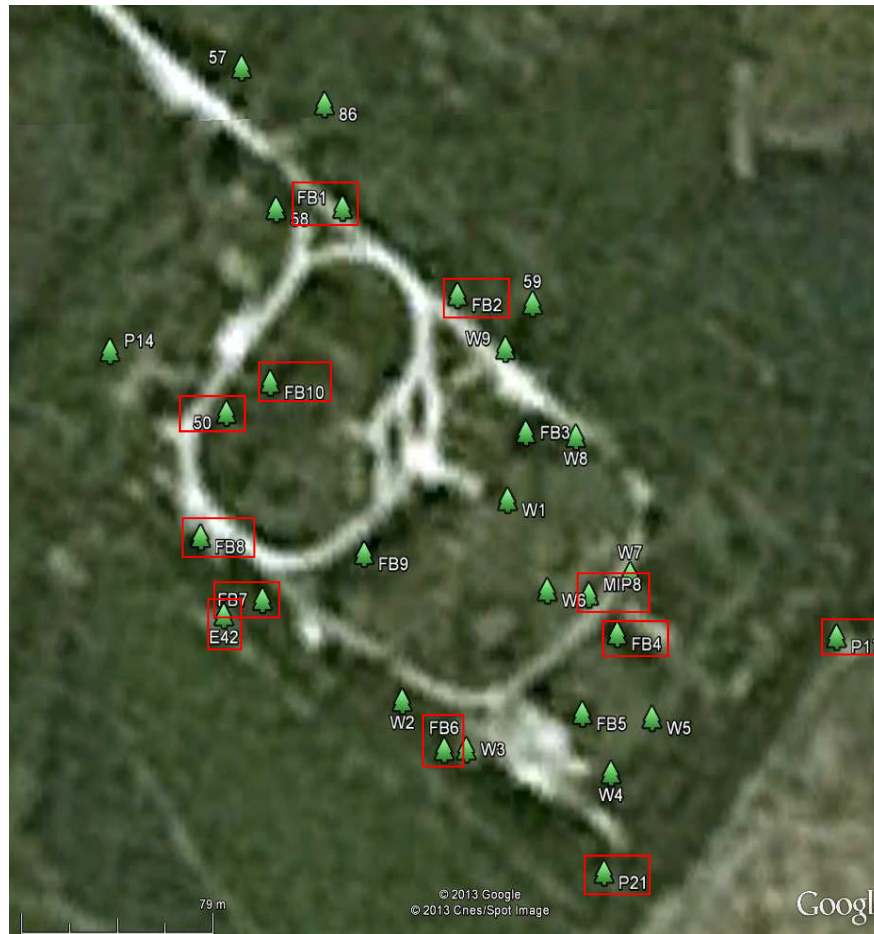
Phytoscreening

Results – main area



Phytoscreening

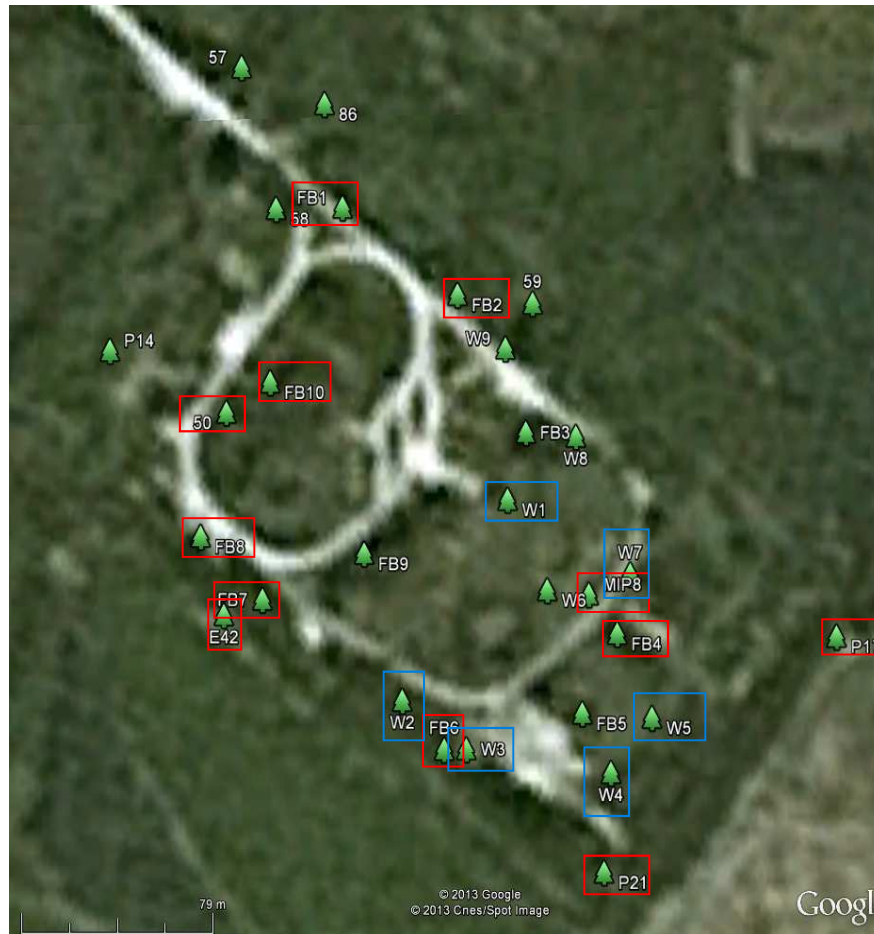
Results – Hot spot area



Toluene is detected.

Phytoscreening

Results – Hot spot area



Toluene is detected.

Benzene, toluene, ethylbenzene and/or m,p-xylene are detected in Tree core samples

Phytoscreening

Results – summing up

- BTEX compounds can be detected
- Differ between the tree species
- No consistency compared with other screening methods
- Further studies are needed

Further work:

- Field surveys in September/October 2013
- Sampling willows



Test sites



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Litterature



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Scientific papers:

Test of tree core sampling for screening of toxic elements in soils from a Norwegian site. Algreen M, Rein A, Legind CN, Amundsen CE, Gosewinkel KU, Trapp S
Int J Phytoremediat 14(4):305-319 2012

Phytoscreening and Phytoextraction of Heavy Metals at Danish Polluted Sites Using Willow and Poplar Trees.
Algreen M, Trapp S, Rein A.
Environmental Science and Pollution Research; Accepted August 2013.



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Thank You!
😊

for your attention!



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