

Rubicon Newsletter

October 2009

Rubicon Toolbox: New Release, Version 2.9.0

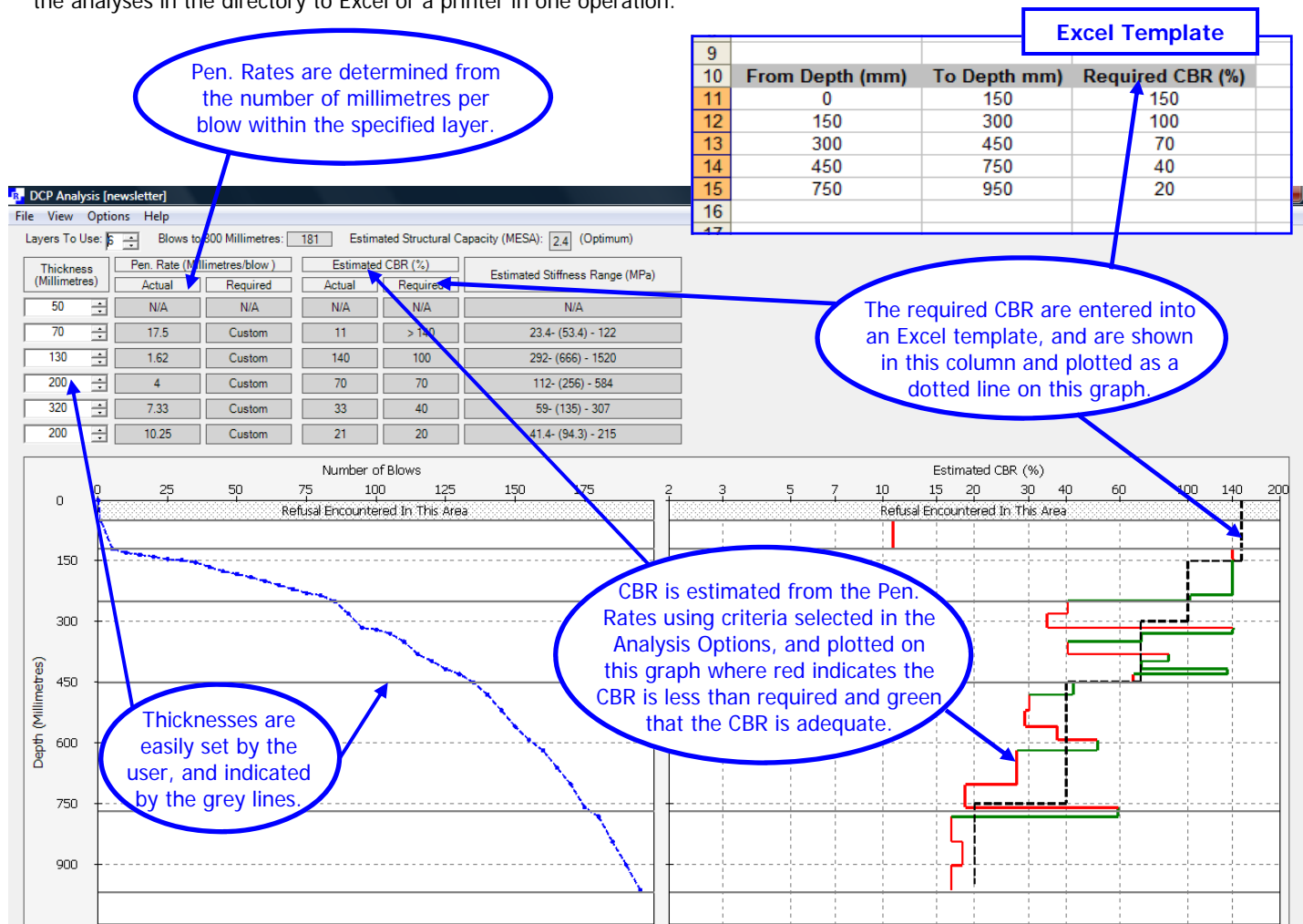
The latest version of Rubicon Toolbox, 2.9.0 has been uploaded onto our website. Some enhancements have been made to the DCP Analysis Tool, which are discussed below. Other changes to the program are discussed overleaf.

Rubicon Toolbox Feature: Improvements to the DCP Analysis Tool

The DCP Analysis Tool has been modified and a few bugs fixed. The major enhancement is a feature to incorporate your own *custom criteria for evaluating layers*. This allows you to have complete control over the interpretation of layers strengths. To import your own criteria involves setting up the required criteria for each layer in a Microsoft Excel Template, called "DCP Criteria Template.xls". This template is included in the "toolbox import templates.zip" file which can be found on our website. At the moment, the criteria which can be imported are the required CBR per layer. In the next upgrade you will be able to import the penetration rates required per layer.

Other aspects of the DCP Tool that are worth remembering are:

- You can import many DCP analysis points into Rubicon Toolbox in one operation. Simply set up the Excel template (DCP Template1.xls) with all the DCP points you would like to analyse, each point on a different sheet. The Excel worksheet name will be the Analysis name in Rubicon Toolbox. To import all the points in one go and to set the layer thicknesses and Analysis options for all the points, use the **Multiple DCP Processing** option under **DCP Tools** menu. Once processed, all the points will be listed in the chosen Rubicon project directory, where they can be individually selected for further analysis.
- A summary of the analyses of multiple DCP points can be exported to Excel for further processing or for determining statistics. This is done using the **Multiple DCP Summary** option under the **DCP Tools** menu. This option can also be used to print all the analyses in the directory to Excel or a printer in one operation.



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Brief Summary of New Features

Data Parsing for Carlbro FWDs:

A routine for extracting the data from raw data files produced by the Carlbro FWDs has been included. You can find this option under the FWD Analysis menu.

Plotting of Trial Pit Data:

In the Summary View of the Trial Pit Reporter, the layers are now plotted with a thick black line separating adjacent layers. This makes it easier to differentiate between layers that may have similar legends.

Training

We have run many successful courses in 2009, in Cape Town, Durban and Pretoria. We have also run in-house courses at Nnodana Consulting Engineers, TN Molefe Consulting Services and Naidu Consulting. The in-house courses are good team building exercises and are a cost effective way of training your team. Rubicon Toolbox is also used in most of the Stellenbosch University pavement related post-graduate courses.

In 2010 we will run three different courses. Firstly, the ***Pavement Design and Analysis Course***, which covers fundamental pavement data analysis and pavement design, by means of lectures and worked assignments. A good working knowledge of Rubicon Toolbox is also established during this course.

Secondly, the ***Data Viewer Course***, in which attendees obtain a thorough knowledge of the Data Viewer Tool and learn tips and shortcuts for using the Tool.

Thirdly, we are introducing a **NEW** two day ***Pavement Rehabilitation Course***. This course will cover the process followed for a typical rehabilitation design, including data analysis using the Data Viewer, Trial Pit Reporter, Grading Analysis Tool, DCP Analyzer, and Backcalculation Tools. Ways of combining all the available data to decide on an appropriate rehabilitation design will be covered. The course will be practical, with most of the time spent working on assignments.

Course dates for 2010:

Location	Pavement Design	Rehabilitation Design	Data Viewer
Pretoria	21 & 22 Jan	16 & 17 Sep	4 June
Cape Town	28 & 29 July	10 & 11 March	11 Nov
KZN	21 & 22 Oct	20 & 21 May	12 Feb

Remember that our courses are accredited for SAICE ***CPD*** points. For additional information on the courses, to receive email notifications of courses, or to register for a course, contact MAS.

Comments and Suggestions

To ensure Rubicon Toolbox continues to meet your needs, please communicate your ideas, questions and suggestions—and, of course, bugs—with us!

Brief Summary of Modifications

Grading Tool Template:

We have incorporated more grading specifications into the grading template. The specifications that are included now are:

TRH14 (1985)

- G1 to G3 (26.5 and 37.5 mm nominal maximum size)
- G4 Natural Gravel
- C1 and C2 (37.5 mm nominal max size)
- BT, TC, C1, C2 (26.5 mm nominal max size)
- Waterbound Macadam (Coarse Aggregate: 53 and 75 mm nominal max size)

COLTO (1998)

- G1 to G3 (37.5 and 26.5 mm nominal max size)
- G3 Natural Gravel (26.5 mm nominal max size)
- G4 Natural Gravel (Crushed: 26.5 and 37.5 mm nominal max size)
- G4 Natural Gravel (Uncrushed)

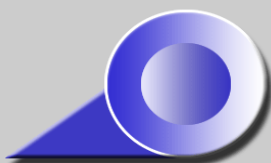
Remember that you can enter your own grading envelope specifications into the template, so you are not limited to the ones we have included.

Data Viewer Photo Strip:

If you have a Photo Strip in a Strip Map, in Feedback Mode it is now possible to enlarge the photos for easier viewing.

MAS News

- The Material Classification System and Pavement Number Design Method developed by the MAS team for SABITA and the GDPTRW have been published by the Asphalt Academy in the new edition of *TG2: A Guideline for the Design and Construction of Bitumen Emulsion and Foamed Bitumen Stabilised Materials*. Software to use these systems is available on www.asphaltacademy.co.za, and TG2 can be purchased or downloaded on the website.
- Fenella Long is involved in continuous development of the material classification method that was initially published in the new TG2. Watch the Asphalt Academy website for notification of training courses on the Pavement Number and Material Classification System.
- Fritz Jooste is working on pavement management systems and deterioration modelling for the TRAC N4 and N3TC networks, and is doing similar work in New Zealand.
- Arno Hefer is currently working on establishing a performance database of asphalt pavements in South Africa as part of the SAPDM research project for SANRAL. Arno is also finalizing guidelines for measuring skid resistance and deflections under the auspices of the COTO Road Network Management Systems (RNMS) Committee.
- In between the research work we do some consulting work. This work is generally related to rehabilitation projects, and we subcontract to Consultants.
- Marlou Bredenkamp deals with all our administration, including all maintenance issues, new software purchases, course planning and registration.



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