

# NATIONAL PROFICIENCY TESTING SCHEME UPDATE

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25<sup>th</sup> Roads Pavement Forum

7<sup>th</sup> May 2013

*Ocean View Hotel, Strand, Western Cape*

Barry Pearce



# To be discussed

- Revised HMA report
- Pen Bitumen PT scheme
- Z-score issues
- NLA conference
- Other PT schemes planned to 2013



# Revised HMA report

- A revised report was issued due to an error in the data copied
  - Thanx to those that read the report & reported up the error
- Only 1 table of info was copied incorrectly
  - No info or deductions were changed in the report
  - All graphical data represented in the 1<sup>st</sup> report remained unchanged
- Some labs picked up errors in their reporting
  - Errors in numbers copied over onto reports
  - No corrections made for these errors
- **NB!!** This is a PT scheme!
  - Please check you reports carefully before submitting
  - It's a little concerning that it may be happening in day to day reporting



# Pen Bitumen PT scheme

- Currently open for registration
  - Closes 13<sup>th</sup> May 2013
  - **40** samples available
  - Contact Hanlie Badenhorst [hanlieb@nla.co.za](mailto:hanlieb@nla.co.za)
- The tests include:
  - Penetration test (~~ASTM D5~~) (**EN 1426**)
  - Softening point test (ASTM D36)
  - Viscosity at 60°C & 135°C (ASTM D4402)
  - Rolling thin film oven test (ASTM 2872)
- Also looking at some advanced tests (DSR, PSV) for those labs that have the capabilities
  - Those labs will be approached once they have registered
  - Additional samples to be issued for these tests



# Pen Bitumen PT scheme .... contd

- Samples to be dispatched on 20<sup>th</sup> May
- Return reports with results & questionnaire 3<sup>rd</sup> June
- Raw data released on 10<sup>th</sup> June
- Final report 6 weeks thereafter
  
- A **BIG** thanx to SABITA for sponsoring the 1<sup>st</sup> HMA & Pen Bit PT Schemes



# Z-score issues

- A Z-score is a normalised value which gives a "score" to each result, relative to other numbers in data set

$$Z_i = \frac{x_i - \bar{x}}{s}$$

recommendations of SANS 17043:2010 as follows:

- $|z| \leq 2$                       **Satisfactory**
  - $2 < |z| < 3$                     **Questionable**
  - $|z| \geq 3$                          **Unsatisfactory**
- 
- Robust indicators include both a Robust Mean & Robust Standard Deviation

# Z-score issues ...contd2

- Standard method of std deviation being used as the denominator not that effective in all cases
  - LL range 19 – 27 all seen as acceptable
  - PL ranged 5 – 18 only 2 / 14 suspect
  - LS ranged 2 – 5 all seen as acceptable
  - PI ranged 2 – 18 3 / 14 seen as unacceptable
- The 1 question is “*will the new SANS 3001 methods assist in reducing this variance?*”
  - One would hope so ....



# Z-score issues ...contd3

- Tried using the spec range
  - not that effective in all cases
- Looked at lowering the number per classification
  - Reducing the range of acceptable from 0 - 2 down to 0 - 1
  - Also works for some but less effective in others
- Looking for a more acceptable route that will work on **all** fields in civil labs for PT scheme evaluations
  - soils, asphalt, bit, agg, conc
- The basic approach is to find a process that is effective, meaningful without being overly onerous or unreasonable
- Will be presenting a proposal at the NLA conference



# Test & Measurement 2013 CONFERENCE



## Accurate Measurement for Modern Industries & Emerging Technologies

6<sup>th</sup> – 9<sup>th</sup> October 2013  
Misty Hills Conference Hotel  
Muldersdrift, Gauteng, South Africa



# NLA Annual T&M conference ....contd

- A full day for the Civils stream on the Tuesday
- Call for papers on the web
  - [http://www.home.nla.org.za/?page\\_id=68](http://www.home.nla.org.za/?page_id=68)
- 4<sup>th</sup> year the Civils stream has a session
  - its growing annually
  - Needing your input & attendance
  - Paper on any topic of interest to the lab fraternity

Test  
&  
Measurement 2013  
CONFERENCE



# Other PT schemes planned to 2013

- 2<sup>nd</sup> Round: Soils & Gravels
  - Mod & CBR



- 3<sup>rd</sup> Round: Asphalt
  - To monitor improvements & conversion to SANS 3001



# What to look forward to ....

- Feedback on Pen Bit & may be even HMA or Mod/CBR by next RPF
- Till then.....

