

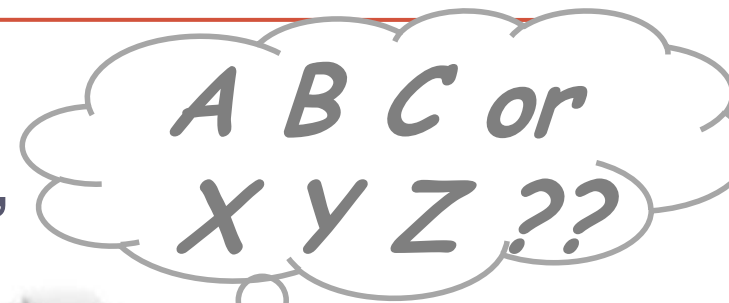
NLA PTS FEEDBACK

33rd Road Pavements Forum

**The Square Boutique Hotel & Spa,
Umhlanga**

Barry Pearce

9th May 2017



Discussion to include...

- Standard terminology
- AMRL
- Latest AS, BT & GR rounds
- Standard errors
- 2017 & other future plans
- Closing remarks



Standard terminology

- Null
 - No result determined / reported
 - Don't write ZERO (0)
 - It'll be taken as a numerical value in the stats analysis
- OB
 - Obvious blunder
 - Selected by NLA
- *Both these scenarios are excluded from analysis*
- Be careful of standard abbreviations
 - e.g. NP, SP
- Please , ... don't make up your own abbreviations.
 - e.g. CBD
- Provide single value answers
 - e.g. Spot test 15 – 30
- *Can't be analysed as they're not numerical values.*

AMRL Method of evaluation

- A more stringent rating is used by AASHTO Materials Reference Laboratory is used
- It's not just some arbitrary method of analysis
- Therefore Any value > 1.5 needs investigation

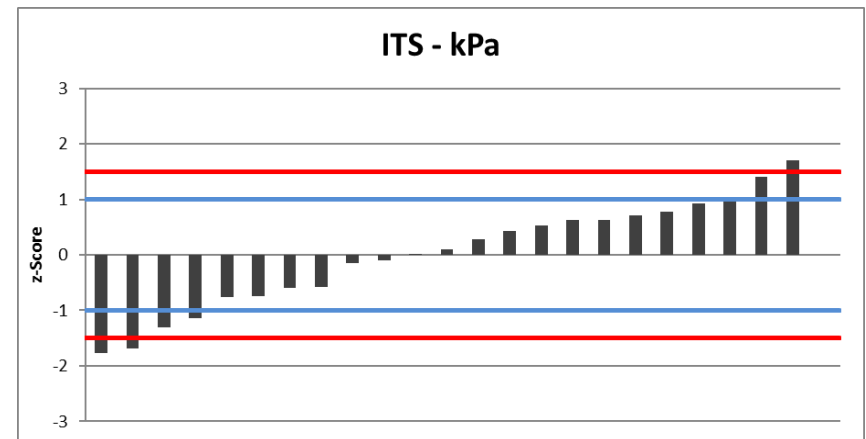
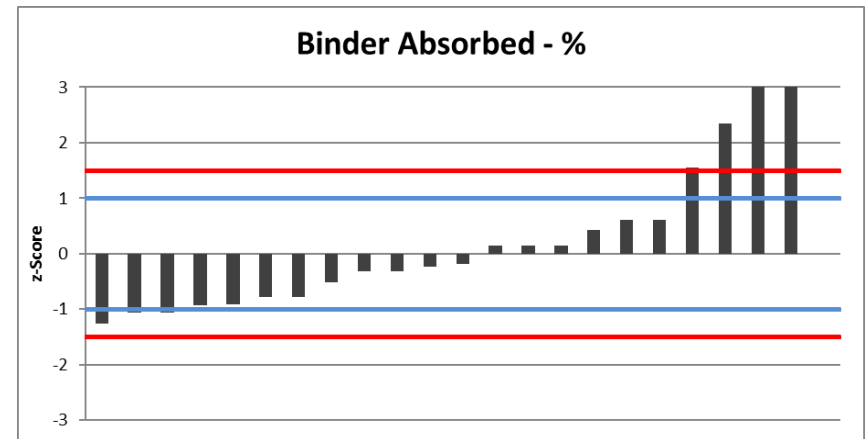
• Z-Score ≤ 1	Then Rating = 5	OK
• Z-Score > 1 & ≤ 1.5	Then Rating = 4	approaching investigation....
• Z-Score > 1.5 & ≤ 2	Then Rating = 3	needs investigation
• Z-Score > 2 & ≤ 2.5	Then Rating = 2	problematic
• Z-Score > 2.5 & ≤ 3	Then Rating = 1	needs <i>in-depth</i> investigation
• Z-Score > 3	Then Rating = 0	unacceptable

PTS Rounds since last RPF

- AS Nov16
- BT Feb17
- GR Mar17
- Agg Apr17
 - Result due for analysis
 - 53 participants
- Conc May17
 - Shipping next week
- Will highlight issues in last 3 rounds only
 - AS
 - BT
 - GR

AS Round 8-2016

- Approx. 30 % of participants didn't submit
 - Possibly due to year-end rush
 - 23 participants
- Still some reporting as per TMH1 formats
- Problem methods
 - ITS
 - Range 437 kPa
 - Binder Absorption
 - Range 5.5 %
- In general - AS results reflect an overall improvement



BT Round 1-2017

- 31 participants
 - Up from 22 last year
- Additional info requested
 - Spindle size
 - Automation,
 - Torque & RPM
- Used to look for trends, possible pointers for reasons for variations
 - Used for improving overall test results
 - This info very poorly reported
 - To be repeated in all following PTS rounds
- Penetration results not good this time round
 - Range = 65.8 dmm
 - Classified as anything from 50/70 – 70/100
 - 2 above 100 dmm??
- 60 °C RV far more variable than 135 °C
 - CV 33.0 % vs 8.3 % respectively
 - Less participants undertaker @ 60 °C
- RTFOT *mass change* still most variable result by far
 - CV = 99.6 %

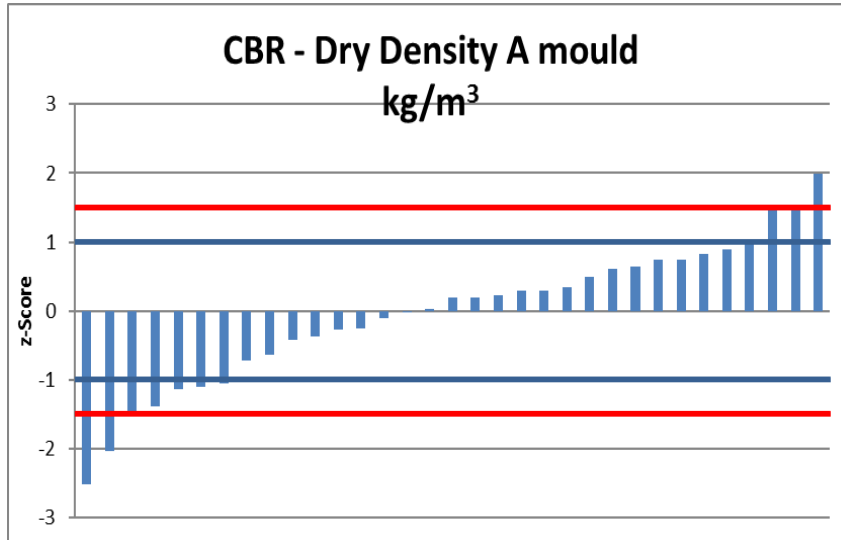
RV 60 °C additional info

	Lab id	Average 60 oC	Spindle	Torque %	RPM	Type of device
1	hyx2g	60	2	NULL	NULL	Hand held
2	dzk3j	200	2	94.0	64.0	Hand held
3	d3dhr	75.5	21	NULL	100.0	Brookfield
4	awmsy	0.171	27	51.8	0.8	Brookfield
5	hqwps	118	27	94.6	2.0	Brookfield
6	f2peh	132.75	27	NULL	17.0	DSR
7	dck4d	134	27	53.4	1.0	Brookfield
8	hywqx	140.1	27	84.1	1.5	NULL
9	ndc6z	267	27	64.1	0.6	Brookfield
10	Bs8gh	151	28	23.9	0.5	Brookfield
11	ce5nz	120.5	29	38.5	0.3	Brookfield
12	akz6k	136.75	29	33.6	2.5	Brookfield
13	xg3mr	145	29	NULL	NULL	Brookfield
14	npxm4	162	29	85.0	5.0	Brookfield
15	fsbt9	189	29	47.6	2.0	Brookfield
16	t67me	149000	29	37.2	2.5	Brookfield
17	tjd3d	122.4	64	30.6	1.0	Brookfield
18	8apve	125	64	12.5	0.6	Brookfield

GR Round 2-2017

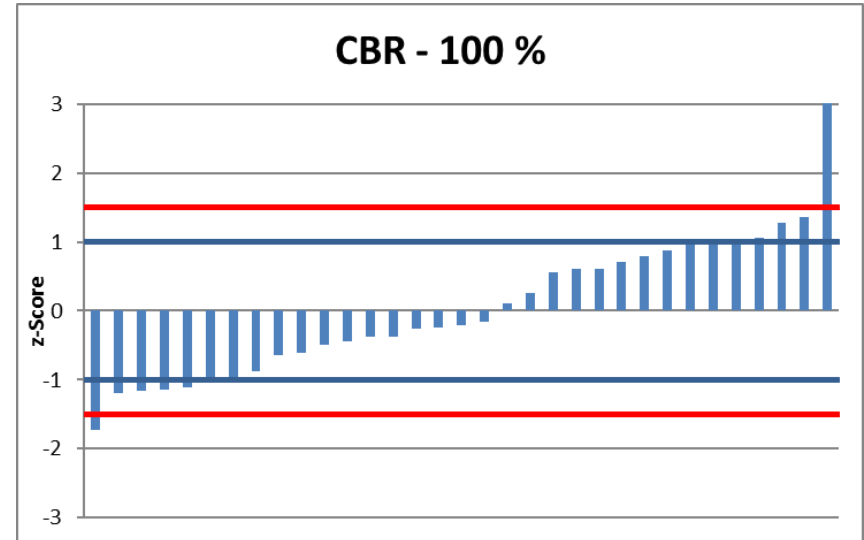
- 33 participants
 - Up from 26 last year
- CBR still far too variable
 - needs to be investigated
 - Average CV = 37.8 %
 - Average range in CBR
 - = **112 %**
- Swell too variable
 - CV avg = 125 %
- Preference for 1-point LL
 - although it has largest variation of 3 options.
- Grading reflects an increase in variability
 - From coarse to fine
- 9 participants did not submit 250 mm & 0.150 mm results
 - Try to submit all info requested for completeness & better stats analysis

CBR comparison DD vs CBR %



DD kg/m³ (A-Mould)

- Mean = 2 154.3 kg/m³
- Stdev = 33.6 kg/m³
- Range = 151 kg/m³ (7 %)
- **CV = 1.6 %**



CBR % (100 %)

- Mean = 76.977 %
- Stdev = 37.7 %
- Range = 253 %
- **CV = 48.9 %**



Typical errors encountered

- Rule No1 for PTS participation
- **FOLLOW THE TEST METHOD TO THE LETTER!!!**
- **DO THE SAME METHOD IN YOUR DAILY ROUTINES!!!**
 - Assists in reduced disputes & produces better quality results
- The point of PTS is to **check** that what you do on a daily basis is comparable to other facilities & gives as accurate a result as possible
- Inaccuracies often attributed to not following method
- Makes PTS results less relevant & applicable to analysis
- These results often result in an OB classification
 - & subsequent omission from analysis

2017 & Future plans

- 1st Concrete PTS
 - being shipped on Monday...
- SANRAL Reference lab
 - To take over all sampling, splitting & preparation for shipping once established
- SANRAL site labs
 - Still need to get involved
 - *Consultants / RE's - please consider this for peace of mind on your site labs!!!*
- Looking at having MatCivils PTS added to NLA-SA ISO 17043 *PTS accreditation* schedule by end 2017
 - Require auditing of sampling, splitting & packaging per material type
- Might need to split PTS into 2 sections
 - Some rounds are now exceeding 50 participants
 - To ensure representivity in sample splitting

In closing... as always

- **Purpose**
- to improve consistency of results between labs
- Assist in identifying your own internal areas that require attention
- addressing these issues
- Improving the consistency of the methods being used between laboratories
- Besides being a requirement for SANAS accreditation

- Building towards a more professional laboratory environment that will be seen as being
- *Trustworthy*
- *Honest*
- *Quality driven*

Keep at it - we will get there!!

Thank folks...

