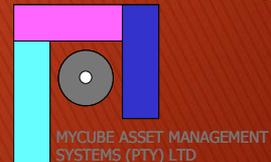


MAXIMISE SEALWORK THROUGHOUT THE YEAR

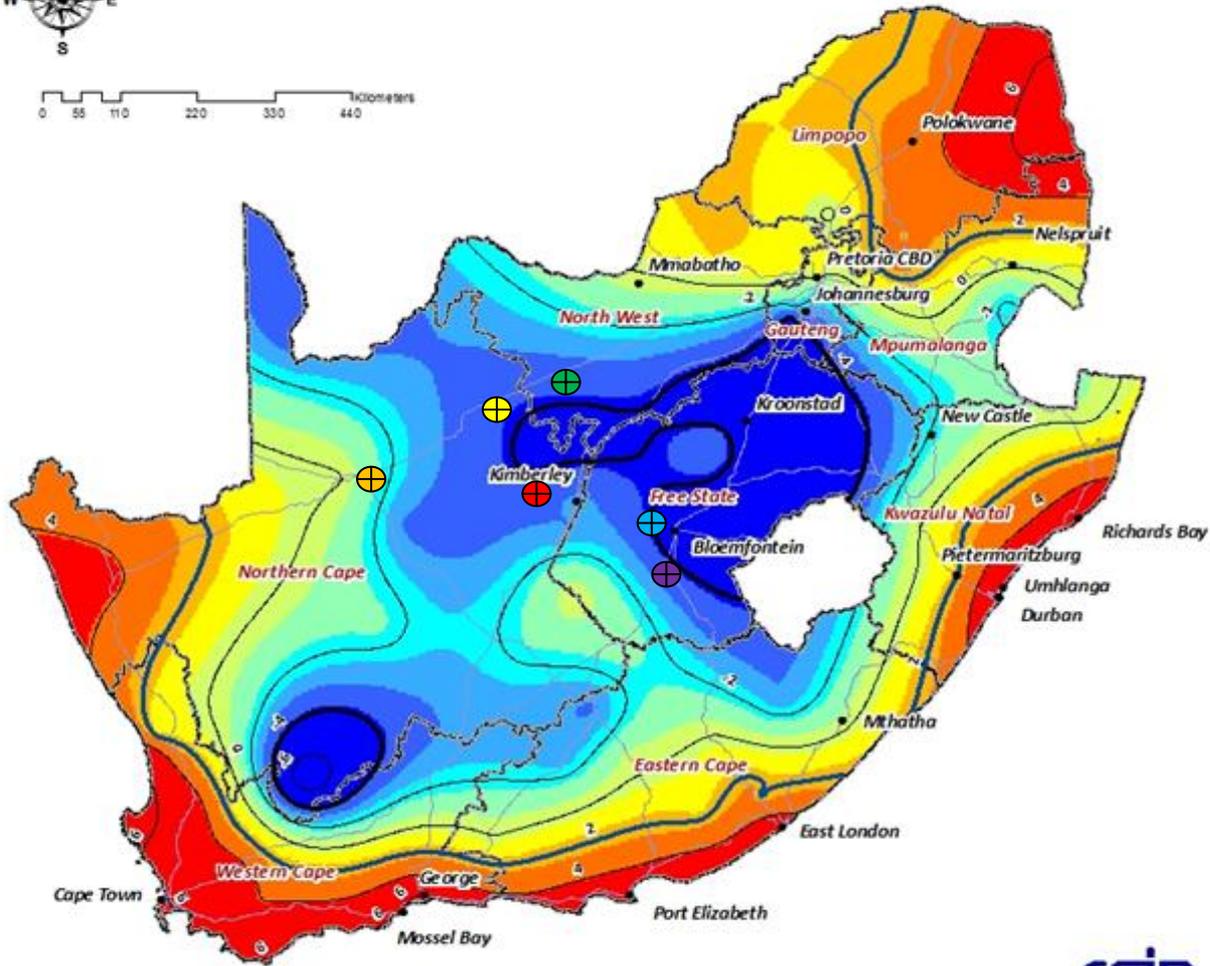
FEEDBACK: RPF - MAY 2014

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Gerrie van Zyl



Introduction

- Literature survey
 - Trial Sections
 - Workshops (Internal)
 - SAT Seminars
 - Project finalisation
- 



Legend:

- Main Towns/Cities

Contours (Cold)
(Temp. - Degrees Celsius)



-6



-4



-2



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2



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Summary of key asp



- Any seal, any time, almost anyw
- Attention to detail during all stages
 - Planning
 - Design
 - Contract documentation
 - Construction & trial sections
- **Strategy**
 - Schedule high risk projects for summer period
 - Provide alternative seal/binder if extended into winter
 - Evaluate risks and costs de- and re-establishment

Strategy

- Minimise risks
 - Schedule high risk projects for summer period
 - *High traffic*
 - *High road importance*
 - *Sub-zero temperatures*
 - Only low risk projects for winter
 - Provide alternative seal/binder if extended into winter
 - *Low risk seals for winter*
 - Evaluate risks and costs de- and re-establishment

New directions

- Introduce high viscosity emulsions
- Introduce mobile precoating plants
- Compulsory mobile weather stations
- Use of anionic emulsion for precoating
- MC 30 Cut- back



Winter sealing guidelines

- Update current document incorporating feedback (summarise)
 - Incorporate into new COTO Specifications
 - Update TRH3
 - Summary of lessons learnt on Blog
- 

Winter sealing guidelines

- Corrections to current document e.g.
 - Temporary 9.5 Cape seal only for bypasses and shoulder widening
 - 19 Cape seals can be directly applied during winter – as long as curing can take place before sub-zero temperatures
 - Aggregate selection to optimise local sources/ on-site crushers
 - Standardise traffic parameter in document i.e. ELV not ADT

New/ improved test methods and specifications

- Binder/stone adhesion
 - Preferred binder and stone
 - Sweep test ?
- Aggregate
 - Durability/ Soundness (balance to match lower traffic/ rolling)
 - Elongation specification
- Macro texture guideline ranges for different seal types
- Method specifications
 - Roller type/ mass, passes and sequence
 - Spray bar height
 - Drag broom specifications

New/ improved test methods and specifications ...

- Minimum equipment related to seal type and production rates
- New/ adjusted temperature/ climate specifications
 - Ambient, road surface/ aggregate temperature
 - Humidity and wind speed
 - Temperature measurement for uniform sections
 - Temperature reduction records - Spray length determination
- Opening to traffic
 - Pull-out test specs for aggregate sizes and binder type
 - Controlled opening and surface temperature specs
 - Climate monitoring

Strategy ...

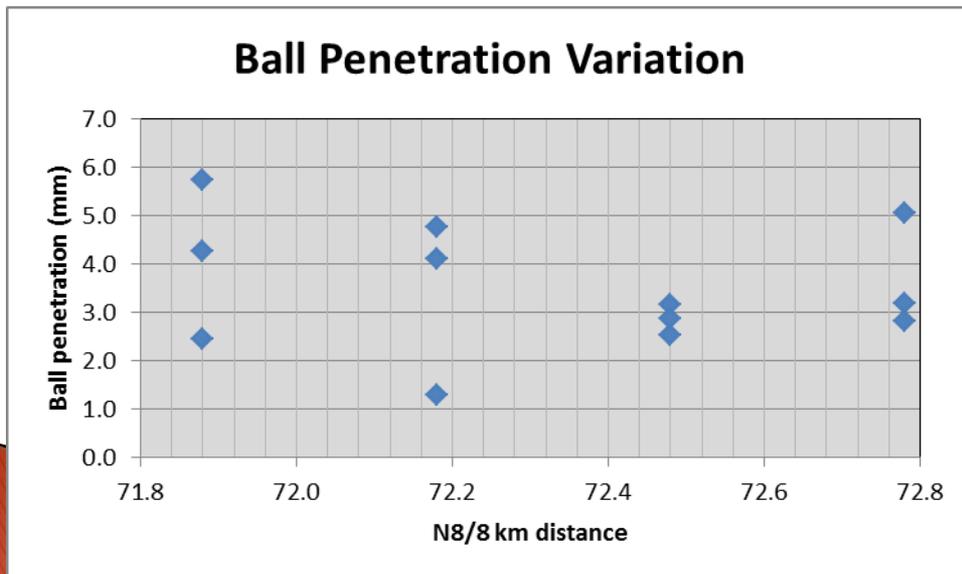
- New/ improved test methods and specifications ...
 - Moisture in base/existing surfacing
 - *Glass plate test (Specs and interpretation required)*
 - *Granular bases (monitor moisture before and after prime)*
 - Aggregate spread
 - *Control of aggregate spread rates and accuracy specs*
 - Distributors
 - *In-line flow meters to be installed*
 - Binder properties
 - *Additional information be provided by suppliers e.g.*
 - *Viscosity/ temperature for different cut-back percentages*
 - *SANS specification adherence for base binders*

New/ improved test methods and specifications ...

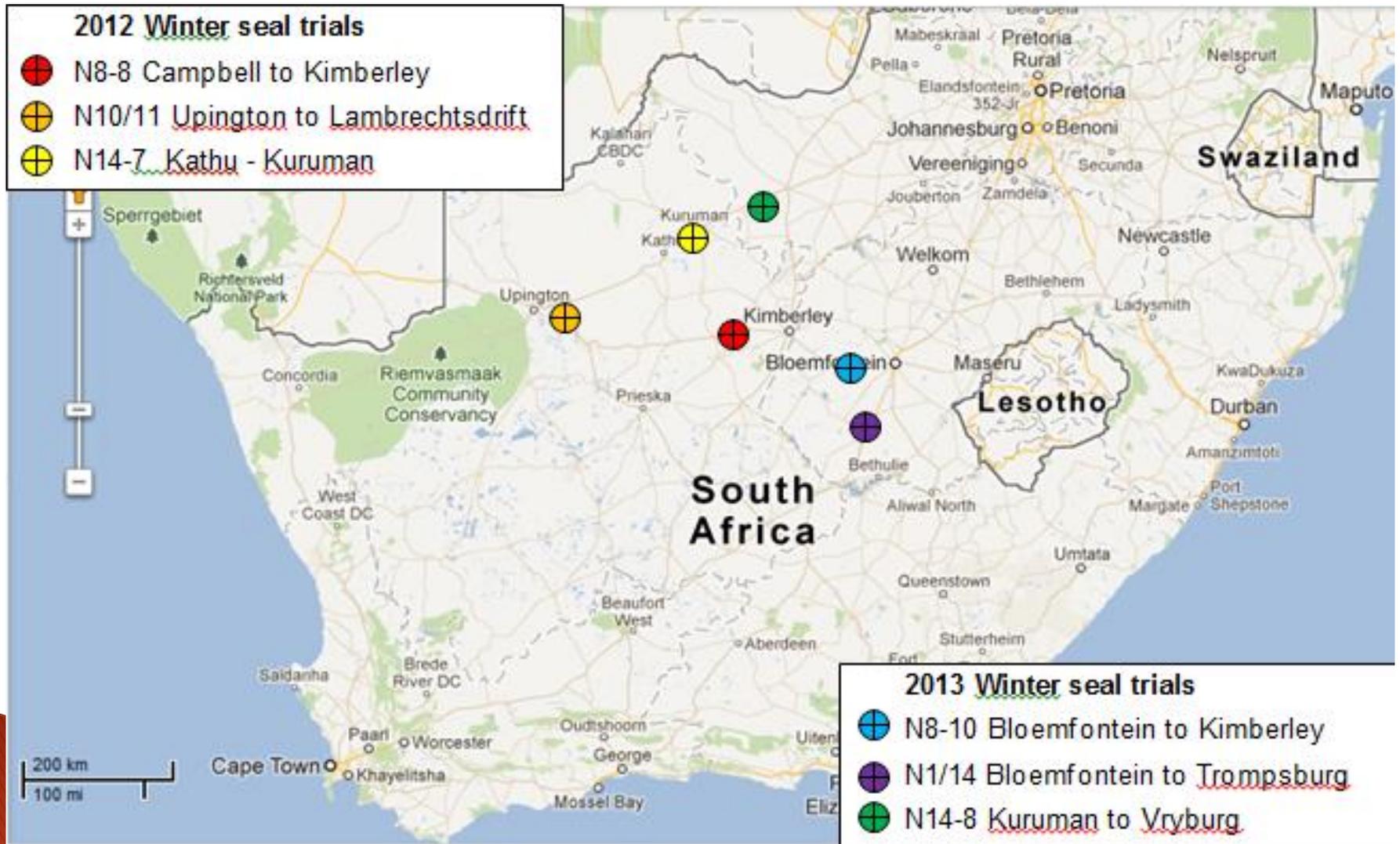
- Testing, storing and handling of bituminous products
 - New PG specifications awaited
 - Testing and reporting of cut-back binders (how and what)
 - Safe handling – SABITA report to be published (cutting back on site)
 - Emulsion (time frame for testing)
- Site management and QA
 - Formalisation of quality plans and execution

Improvement of design guidelines

- Seal type selection
- Position and ranges of application rates
- Ball penetration interpretation for
 - Cape seals – 20th percentile (min binder)
 - Stone seals – 80th percentile (rather fatty than stripping)



Continue trial monitoring



Recent survey

□ Observations (Single seal)

□ *texture loss mainly due to*

- Initial embedment – softening of pretreatment
- stone orientation

□ *Stabilised after first summer*

N10/11 - 13 Single seal (Texture loss)

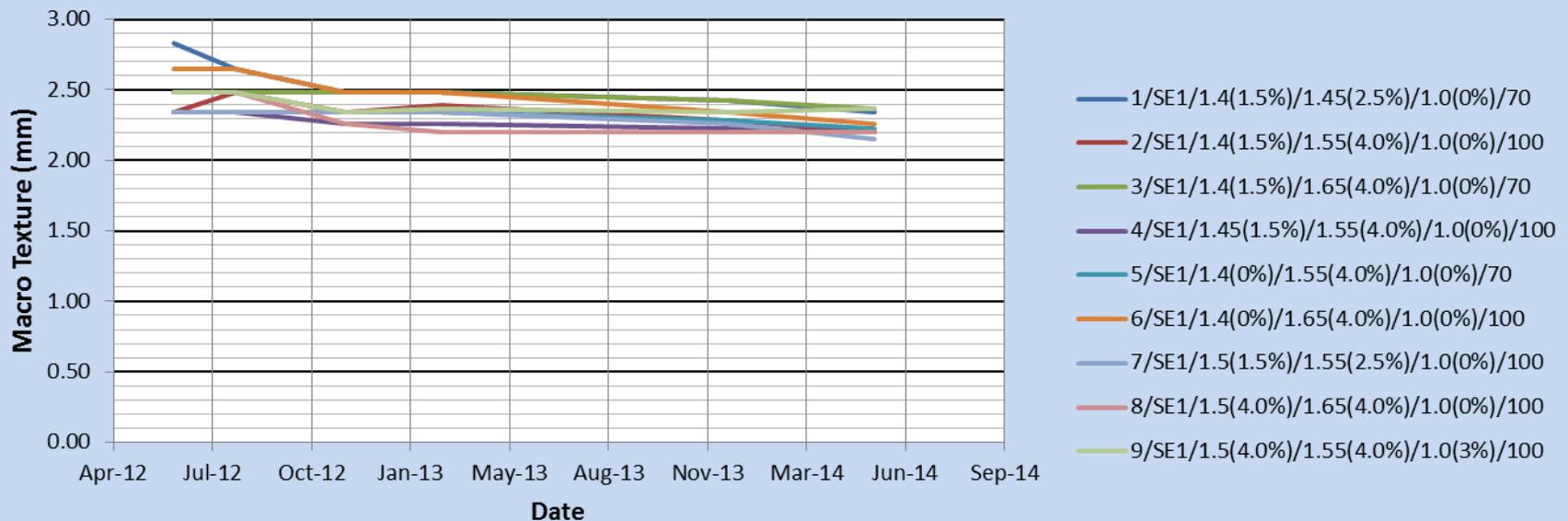


Recent survey

□ Observations (Double seals)

- *texture loss mainly due to initial embedment (softening)*
- *Stabilised after first summer*
- *Very little/ if any stone orientation*

N8/8 - 19/6/6 Split seal



End