

36th Road Pavements Forum Improving Technical Quality of Laboratory Testing for ASPASA

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Barry Pearce : Learning Matters etc



Topic to be covered


- Introduction
- Technical matters
- Laboratory audits
 - How to implement this
 - Proposals for PTS/ILC involvement
- Putting laboratory testing into perspective
- Mission
- Conclusions

ASPASA AUDITS

- Health & safety
- Environmental
- HR & training

- Now for the good news....

- Technical laboratory Audits











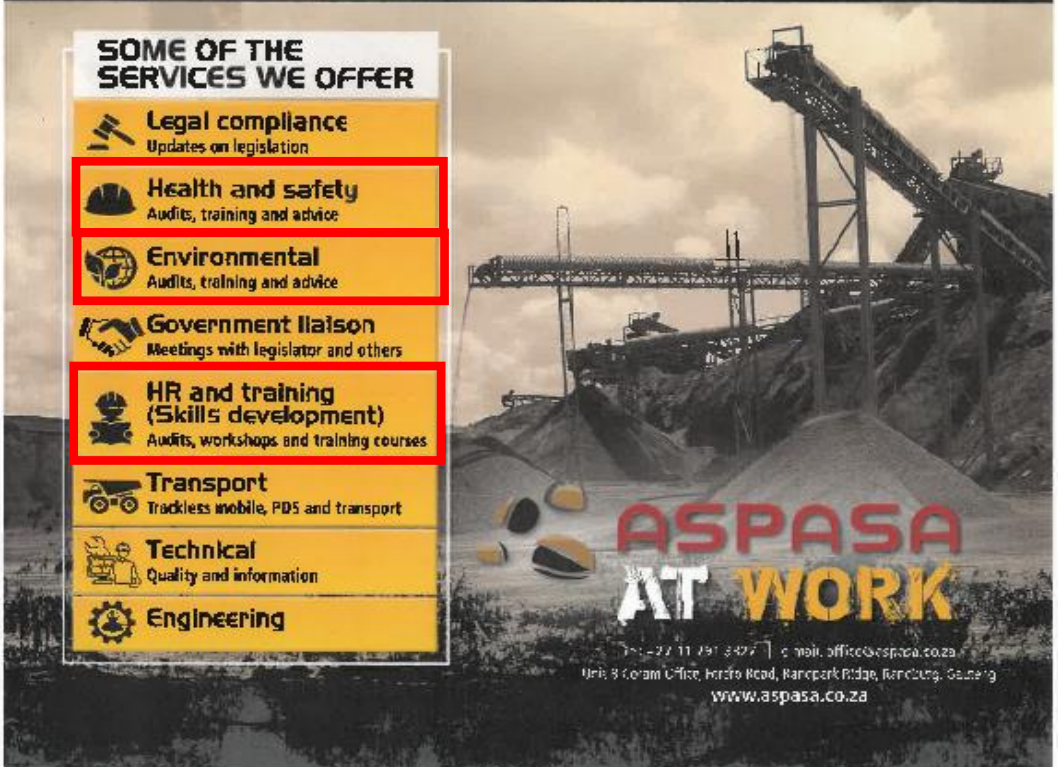
ASPASA

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MINE HEALTH AND SAFETY **COMPLIANT?**

NO MATTER WHAT TYPE OF SURFACE MINE OR QUARRY, JOIN ASPASA - WE GOT YOU COVERED.

SOME OF THE SERVICES WE OFFER

-  **Legal compliance**
Updates on legislation
-  **Health and safety**
Audits, training and advice
-  **Environmental**
Audits, training and advice
-  **Government liaison**
Meetings with legislator and others
-  **HR and training (Skills development)**
Audits, workshops and training courses
-  **Transport**
Trackless mobile, PDS and transport
-  **Technical**
Quality and information
-  **Engineering**



ASPASA AT WORK

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What needs to be done

- Laboratory accreditation
 - ISO 17024 – personnel certification
 - Calibration of equipment
 - Participation in PTS/ILC
 - System for collecting evidence of testing
- Proposed laboratory audits
 - Similar to Safety & Environmental audits
 - both statutory requirements
- Based on improving all round product quality
 - Although not statutory , its damn good business logic
- Assist in improving laboratory quality @ quarries
- In line with ISO 17025 but need not go all the way

Process of Lab audits

- 1st step – audit as gap analysis
 - Getting used to the system & what's required
- 2nd step
 - Audit to check on gaps addressed @ \pm 3 - 6 months
- 3rd audit
 - Annually to check on progress & improvements
- Benefits
 - More comparable results to registered commercial faculties
 - Confidence in labs results
 - Informing changes required for production
 - Quality checked as produced

TECHNICAL MATTERS – Lab audit

- What will be checked @ audits
 - Management system of record keeping
 - Calibration of equipment
 - Staff competence and training
 - PTS/ILC participation
- Step by step process
 - Improve quality & capabilities
- Assistance also available as & when required outside of audits
 - Staff training, setting up PTS/ILC
- Basically an assisted training program in the form of audits & additional quarry visits
 - where required and/or requested

PTS / ILC

- Currently labs are getting to grips with what one can be achieved from PTS/ILC
- PTS / ILC benefits
 - Evaluate against one another
 - Determine ability to obtain results within specification
 - Proximity to consensus mean
- Pitfalls
 - No reference materials
 - Sample prep for PTS sample - critical
 - Following a particular method to the letter – **critical**



Proposal to integrate ASPASA into NLA-SA PTS

- Currently NLA-SA PTS has approx. 75 participants
- If all the ASPASA members join,
 - problems in representivity of samples
- Proposal for a 2 step participation
- Selected members join NLA-SA PTS per region
 - Possibly easier for the larger organization
 - Afrimat, Afrisam & Lafarge
- Smaller / one-off quarries
 - join together & elect 1 per region

Proposal to integrate ASPASA into NLA-SA PTS cont'd

- Regional ASPASA member partakes in NLA-SA
 - Obtains a feel for where their results are in relation to the industry mean as a whole
- Regional member distributes samples to the other regional members in the form of an ILC
 - Evaluates results based on their position for traceability back to national PTS



Benefits of participation in PTS / ILC

- More realistic value for the range of results one can expect
- Results used to determine National uncertainty values.
- Laboratories get a better feel for the reliability of their results based on proximity to consensus mean.
- Corrective actions to be checked against following rounds results.
- Trending between rounds plotted to visually see improvements.
- Can also be used to assess different testers ability within a laboratory & to back up competency assessments

Lets put lab testing in perspective

- In my opinion its possibly the most valuable tool you have at your quarry for making informed decisions regarding accentuality of materials produced.
 - What's the cost of the lab in relation to the production costs?
 - How well qualified are the testing personnel & the lab manager?
 - Is the apparatus calibrated & fit for purpose
- What's the cost of rejected material supplied to a site?
- Are the lab testing facilities being paid a fair price for the position they actually hold in the important decision making chain at quarries related to acceptance / rejection of material applied?
- Most likely not.....

The Testers dilemma



- The change from TMH1 to SANS 3001 methods has created problems in the laboratory staffs ability to competently undertake the methods as specified
- This results in some “alternatives” or “amendments” being introduced in the standard methods by the tester which can have quite alarming effects on the results as produced
 - Apparatus / methods revised & improved

So lets do it....

JUST DO IT.

- It's a hugely positive step to introduce these measures into the quarry laboratory facilities
 - & absolutely a necessary one
- Ensures that correct decisions are made regarding products produced
 - Adjustments to crushing informed by accurate lab results
- Ensures the money spent on infrastructure development for the roads industry and other construction, is money well spent.
 - Less rejected materials

Conclusions on improvement to lab facilities @ quarries....

- Increased cost of testing is inevitable
 - BUT – a saving on disputes & material rejections
- Quality labs, personnel & resultant improved confidence in the results allows for better management decisions on the quality of product produced.
- This is by no means a simple or quick fix
- It is a long-term approach
 - Incrementally introduced
 - One needs to grow & develop the critically important function of laboratory testing
 - Creating professional facilities whose results are valid & on which good management decisions can be made.

07/09/2015

My mission as LMetc

- Improve the overall quality of all laboratory facilities in the civils industry to a point where their results are not continually in dispute.
- ASPASA – primary aggregate suppliers
- Commercial laboratories – ISO 17025
- SARMA – ready mix
- SABITA – asphalt & bitumen
- SANRAL, Provincial, Municipal facilities



ASPASA
AT WORK



**CAN WE AFFORD NOT TO
HAVE IMPROVED LAB
FACILITIES for ASPASA
MEMBERS?**

Thank for your attention

*Surely it's a
no-brainer?*

