



APLAC T 090 Proficiency Testing Programme Analysis of Coal Proficiency Testing

APLAC Proficiency Testing Program

Analysis of Coal Proficiency Testing

1. Objective

Coal plays an important role in APEC trade and has large trading volume, and consequently the analysis result of coal will decide its bargain price. Today, the item names as “total sulfur” is specified in the environmental criteria of all trading countries. Therefore, coal analysis proficiency testing is very significant to all participating laboratories. The main objective of this proficiency testing program is to evaluate the detectability of all participating laboratories on such items as ash content, volatile matter, total sulfur and calorific value.

2. Organization and Responsibilities

This program was organized by China National Accreditation Service for Conformity Assessment (CNAS), with Technical center of Shanxi Entry-exit Inspection and Quarantine Bureau (SXCIQTC) as the collaborator, under the auspices of Asia Pacific Laboratory Accreditation Cooperation (APLAC).

During this proficiency testing program, CNAS would be responsible for proposing this program for approval by the APLAC Proficiency Testing Committee, inviting participants, circulating the draft report and final report to participants and acting as a contact point among APLAC, participating accreditation bodies / participants and SXCIQTC. SXCIQTC will be responsible for the preparing, packaging, dispatching samples, handling participants’ queries, receiving the test results, statistical analysis, issuing interim and final report.

3. Points of contacts

The contact details are given below:

Coordinator of organising accreditation body CNAS:

Name: He Ping

Add.: No.8 Nanhuashi, Dongcheng District, Beijing, 100062, P.R.C.

E-mail: heping@cnas.org.cn

Tel: +86-10-67105290

Coordinator of the proficiency testing provider SXCIQTC:

Name: Chen Yong

Add: No.8 Yifen Street, Taiyuan, Shanxi P.R.C.

E-mail: ptesting@163.com

Tel: +86-351-6162536

4. Selection of Participants

APLAC members as well as other non-APLAC members will be invited to participate in the program. Invitations will be sent to all APLAC members and other accreditation bodies. Participating accreditation bodies will be asked to nominate laboratories to participate and indicate the accreditation status of the nominated laboratories for the test. Each accreditation body of APLAC members is invited to nominate up to a maximum of 8 laboratories from your economy to participate in this program, while a maximum of 4 for non-APLAC members.

5. Description of PTIs

Participating laboratories will be given two sample bottles labeled APLAC T090 Sample A and APLAC T090 Sample B from their respective accreditation bodies (AB). Each bottle contains about 100 g of Coal. Upon receipt of the samples, participating laboratories should carefully inspect the sample for any physical damages and defects. Participating laboratories shall promptly acknowledge receipt of the sample by returning the Receipt Form (for Participating Laboratories) through E-mail to the contacts mentioned above in Part 3. New samples will be replaced for any damaged claims. Intact sample is recommended to be stored in a secure environment at room temperature before use.

6. Properties Measured for Comparison

Participating laboratories are required to determine the ash, volatile matter, gross calorific value, total sulfur against their routine testing method, preferably standard methods. Where possible, uncertainties should be calculated using the method in the ISO/IEC Guide 98-3:2008, Uncertainty of measurement -- Part 3: Guide to the expression of uncertainty in measurement.

7. Homogeneity & Stability Study

12 bottles from gross sample will be tested for homogeneity check and 3 bottles from gross sample will be tested for stability check according to ISO13528:2005. The samples will tested by SXCIQTC.

8. Assigned Value & Standard Deviation for Proficiency Assessment

The assigned value for the test material used in the round of this proficiency testing scheme is the robust average of the results reported by all the participants in the round, calculated using Algorithm A in Annex C of ISO13528:2005. Also it is the same to the standard deviation for proficiency assessment.

9. Evaluation of the Performance

With ISO 13528 in reference, Z-scores will be applied to evaluate the test results that given by the participants, as following.

$$z = \frac{x - \hat{X}}{\hat{\sigma}}$$

where the \hat{X} is the robust average, $\hat{\sigma}$ is the standard deviation for proficiency assessment.

When a participant reports a result that gives rise to a z-score above 3,0 or below -3,0, then the result shall be considered to Outlier. Likewise, a Z-score above 2,0 or below -2,0 shall be considered to be Questionable.

10. Reporting to the Participants

After the test results being returned back to SXCIQTC, statistics analysis will be performed. With the approval of APLAC, final report will be distributed.

11. Confidentiality

Participants in the reports will only be indicated by the lab code.

12. Program Schedule

Event	Period	Responsible
Invitation of participants	Dec 2013 - Jan 2014	CNAS
Dispatch of PT samples	March 2014	SXCIQTC
Submit the results	April 2014	CNAS/SXCIQTC
Draft final report	June 2014	CNAS/SXCIQTC

13. References

[1] ISO/IEC 17043:2010, Conformity assessment - General requirements for proficiency testing.

[2] ISO 13528:2005, Statistical methods for use in proficiency testing by interlaboratory comparisons.