THE ROLE OF A LBMA REFEREE

Presented by Daniela Manara

Objectives

Tasks executed by the Referees

Activities

Relationships

Human Aspects
Historical Background

1987-2001 2 Referees: Johnson Matthey / Engelhard

2001 Application for Referees

2001-2003 Selected applicants

2003 Referees were appointed ....
Appointment of 5 Referee

- Argor-Heraeus SA
- Metalor Technologies SA
- PAMP SA
- Rand Refinery (PTY) Ltd
- Tanaka Kikinzoku Kogyo
Task Performed during phase of preparation

Au (Gold)
15 set of different gold sample
100 samples to 10 g = 1500 sample
1300 Fire assay & 240 ICP OES analyses

Ag (Silver)
210 samples
1400 analysis (SPARK and ICP OES)
1600 sample prepared
GOOD DELIVERY REFEREE Activities
Role of Referees defined by the LBMA

“The Good Delivery Referees are appointed by the LBMA to assist them in maintaining the good delivery system and its standards in several areas to the benefit of the market.”
Referee skills

- Good Delivery List application
- Proactive monitoring PAM
- Proficiency Testing
- Reference samples
- Certified Reference Material CRM
- Advisor activities to the LBMA
Day to Day involvement
New Good Delivery Application submitted by a Gold or Silver Refiner

Application

First stage
Preliminary Report

Vaulting: Reception and weighing of the material
Melting: Cut top and bottom of the bar
Laboratory: Visual inspection, analysis and reporting

Second stage
Final Report

Melting
Laboratory
Accounting

Weighing, sampling and assaying

Drafting of LBMA formats

Visual inspection

6 replicated of 5 bars (top) 30 analyses
6 replicated of 5 bars (bottom) 30 analyses
Total analysis performed 60

Total melts 4
Total analysis 72
(3 samples x 4melts x 6 rep)
Preparation of Proficiency Test samples

Proficiency test samples

Referee A
preparation of samples

Referee B
checking homogeneity

Referee A + B
statistical evaluation

Melting  Laboratory  Shipping  Accounting

Vaulting  Laboratory

ICP: 15 samples (3 replicate)
FA: 15 analyses (3 replicate)
Total 90 analysis

ICP: 15 samples (3 replicate)
FA: 15 analyses
Total: 60 analysis

ICP: 15 samples (3 replicate)
FA: 15 analyses
Total: 60 analysis

Cooperation and support to the LBMA

- Coordination of activities
- Contact for technical/analytical support
- Direct monitoring
- Support for the organization of Assaying & Refining Conference
Cooperation with the Referee panel

Referees meeting

Regular communications:
- Analysis
- Technical activities
- Organizations

Cooperation in the analytical field
- Statistical evaluation of results - Round robin – Analysis of samples manufacturing
- Sharing on methodologies
- Discussions and advices on several sensitive and confidential topics
Conclusion
Conclusion

Argor-Heraeus SA
Metalor Technologies SA
PAMP SA
Rand Refinery (PTY) Ltd
Tanaka Kikinzoku Kogyo
Thank you

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Pictures www.presentermedia.com