



Industry Support for Mining Environmental Professionals

News, Technical, Safety, Training and Innovation Information

“ *Helping mining environmental professionals maintain best practice in a changing technical and regulatory environment* ”

www.alsglobal.com

Safety News - Preservation of surfactants

Surfactant testing, can be a requirement at some mine sites. The use of formaldehyde for extending preservation is standard practice however even bubble-wrapped bottles can break in transit. This can produce fumes & potential skin/eye contact - an obvious safety risk.

As a result, ALS has moved to using unpreserved bottles for surfactants. These should be promptly submitted (within 1-2 days of sampling) and ALS will preserve upon receipt – further reducing the risk for field and ALS staff.



Preservation & Best Practice

Sample preservation is designed to minimise degradation or loss of analytes and provide a snapshot of the chemical or biological ‘state’ at collection. Preservation is achieved through pre-treatment, chemical and physical techniques. Chilling is an important method for preservation and guidelines often require samples to be received chilled, even to <math><6^{\circ}\text{C}</math>. **This is challenging!**

Overleaf is guidance to help achieve this and maximising data quality.

For technical support, training etc. Please [Contact us](#)



Training / Industry News

Industry Training is designed to support professionals and build knowledge. Further sessions are planned in 2013 and mining clients continue to be welcomed.

Key Topics Include

- Getting the most from your Laboratory
- Sample Preservation, Chilling & Holding Times –Tips & Traps
- Field & Laboratory Techniques to Maximize Data Quality
- Laboratory Quality Control & Quality Assurance & Interpreting Analytical reports
- Key elements of the new NEPM

Gain an advantage by understanding your Laboratory and some of the aspects of the 2013 NEPM Guidelines including sampling techniques.

Objectives:

1. Understand the requirements of the 2013 NEPM Guidelines
2. Understand the requirements of the 2013 NEPM Guidelines
3. Understand the requirements of the 2013 NEPM Guidelines
4. Understand the requirements of the 2013 NEPM Guidelines

Topics:

- Laboratory Quality Control & Quality Assurance
- Laboratory Safety
- Sample Preservation, Chilling & Holding Times
- Field & Laboratory Techniques to Maximize Data Quality
- Laboratory Quality Control & Quality Assurance
- Interpreting Analytical reports
- Key elements of the new NEPM

Safety Support Feature

At ALS safety is a priority! In line with industry standards, ALS moved from ‘lag’ to ‘lead’ indicator tracking a few years ago. Internally this is the ALS Global Positive Performance Indicator (PPI) programme, which measures leadership, proactive safety activities, compliance plus incident statistics. The ALS PPI scorecard is available upon request in an open book approach to continuous safety improvement.

ALS Group Compliance Portal PPI Chart
Profile: Environmental - Australia Financial Year: April 2013 – October 2013 Total Score: 100.00%



Metric	PPI Metric Description	Target Score	Actual Score	PPI Total Available	PPI Achievement
Injury	Total recordable injury frequency rate (TRFR) for chosen level	5.00	3.95	6.25	6.25
Injury	Lost Time Injury Frequency Rate (LTIFR) for chosen level	0.00	0.00	6.25	6.25
Injury	Average days lost per Lost Time Injury (days)	10.00	0.00	6.25	6.25
Injury	Near Miss Report Submitted (2 per year)	2.00	98.00	6.25	6.25
Leadership	Number of Presentations of a safety topic to staff (base employees and management)	2.00	2.00	12.50	12.50
Leadership	Manager participation in site safety inspections (count)	2.00	2.00	12.50	12.50
Program	Close out of incident reports reported on compliance portal (%)	0.00	0.91	12.50	12.50
Program	Close out of Annual Compliance Sign-off Corrective Actions (%)	1.00	1.00	12.50	12.50
Training	New Employees completing induction training including safety components as outlined in ALS minimum standard (%)	1.00	1.00	12.50	12.50
Training	Completion of Compliance Training Sessions on PULSE (%)	1.00	1.00	12.50	12.50
Total					100.00

Training Schedule for 2013 (please contact us)

- Adelaide: 26th November 2013
- Melbourne: 28th November 2013
- Brisbane: 11th & 12th November 2013

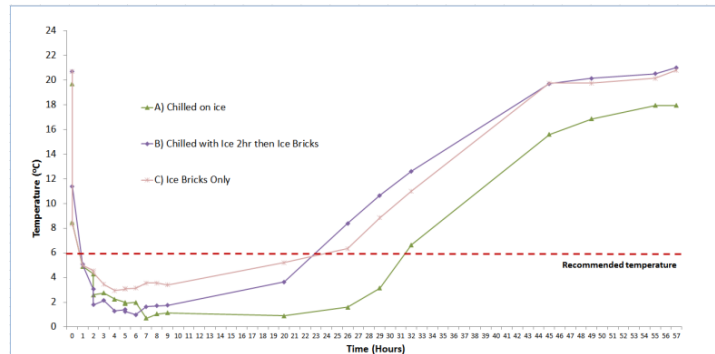
Quarterly Feature Article (continued)

Why chill samples?

Chilling slows down chemical reactions, reduces volatile losses and most importantly retards the biological degradation of many analytes that you may wish to test for.

What is best practice?

To help facilitate samples reaching the laboratory optimally chilled, both transit time and chilling technique are important. The above chart shows sample temperature profiles over time using three different chilling techniques in mild conditions of 20-22°C.



In this trial, ten soil samples were chilled using: (A) 3kgs of free ice, (B) 3kg of free ice for 2 hours then replaced with four ice bricks and (C) four ice bricks only. The data indicates that (C) - ice bricks only - was least effective. Option (B) improved chilling however both options (B) and (C) only maintained samples chilled for up to 20 hours. Option (A), proved the most effective at holding temperature - for up to 30 hours.

In ALS experience, best practice is to place samples in the esky covered completely in 'free ice' throughout collection. Then, prior to dispatch and once the ice has chilled the samples (~2 hours), drain/remove free water/ice and replace with fresh sealed bags of ice, frozen water bottles or sufficient ice bricks to accommodate trip duration or any airfreight requirements. Prior to dispatch the cooler should be well sealed to prevent any potential leakages.

Key to note is that a 3kg bag of ice is equivalent to 8.5 ice bricks and more ice/ice-bricks will hold temperature lower for longer especially in summer. A further trial also showed that sufficient ice could bring samples from 40 degrees to 2-3 degrees in a few hours.

PS If in doubt, how would you chill a beer in an esky on a hot day?.... Lots of ice?

Guideline/Regulation Links

Technical Enviromail Links

- [Enviromail 07 - Acid Rock Drainage](#)
- [Enviromail 20 - Arsenic and Selenium Speciation in water](#)
- [Enviromail 25 - Webtrieve data access](#)
- [Enviromail 33 - Column Leaching ABCCs](#)
- [Enviromail 35 - Bioavailable Metals in sediment](#)
- [Enviromail 39 - Radionuclides in Water soil and sediment](#)
- [Enviromail 45 - Efficiency Improvements in water sampling](#)
- [Enviromail 46 - Extended Ferrous Iron Holding Times in water](#)
- [Enviromail 61 - Cyanide Data Quality](#)
- [Enviromail 62 - Cyanide - Field techniques](#)
- [Lab News - Sample Freight and Logistics](#)
- [Enviromail 68 - Sampling & Analysis Implications of the new NEPM 2013](#)
- [Enviromail 69 - Testing Requirements of the new NEPM - July 2013](#)

Guideline/Regulation Links

- [ANZECC Guidelines \(document 4a: an introduction\)](#)
- [Volume 1 - The Guidelines \(chapters 1-7\)](#)
- [Volume 2 - Aquatic ecosystems \(chapter 8\)](#)
- [Volume 3 - Primary Industries \(chapter 9\)](#)
- [Mining Environmental Guidelines WA - 2006](#)
- [QLD Department of Environment Guidelines](#)
- [NSW Environmental Management of Exploration, mining...](#)
- [Lab News - DERM Water Conditions for Coal Mines](#)

ALS Australian Environmental Locations Supporting Mining

Adelaide
Bendigo
Brisbane
Darwin
Gladstone
Mackay
Melbourne
Mudgee
Newcastle
Perth
Rockhampton
Roma
Sydney
Townsville
Wollongong

[For site addresses and contact details, click here](#)

ALS LINKS

- [COC](#)
- [Pocket guide](#)
- [MSDS Links](#)
(go to Australia, then expand on MSDS)