



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* ”

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Safety News - Working in Hot Conditions

Given the unseasonably hot conditions in all states, ALS recently undertook a refresher and a timely safety reminder of working in hot conditions. This reminder is pertinent to ALS staff and also our clients sampling or working outdoors. As often referred to as heat stress it occurs when the body absorbs heat from the environment faster than it can cope with. Advanced signs are excessive perspiration, nausea, fatigue and even vomiting. Prevention and control measures to assist in minimising heat stress, include but not limited to reviewing the task using Take 5 JSEA, appropriate PPE and Sun Smart (slip, slop, slap), avoid working 10am-3pm and maintain hydration (e.g. water). Think and be safe in these conditions!



Technical Feature – Legionella in cooling towers

Legionella pneumophila is a bacterium that is found naturally in the aquatic environment. It can proliferate in warm water systems such as cooling towers and hot water storage systems. Inhalation of water droplets containing *L. pneumophila* can lead to respiratory infection characterised as a severe pneumonia (e.g. Legionnaires' disease). Cooling towers on mine sites are often monitored and dosed to prevent Legionella. ALS supports the mining industry with testing for both cooling tower water and drinking water. Holding times are <48hrs and analysis typically requires 7 days.



Training / Industry News

Industry Training is designed to support professionals and build knowledge. Further sessions are planned in 2014 and mining clients continue to be welcomed.

Key Topics Include

- Getting the most from your Laboratory
- Sample Preservation, Chilling & Holding Times -Tips & Traps
- Laboratory Quality Control & Quality Assurance
- Field Techniques to Maximize Quality
- Understanding Guideline requirements & Interpreting Analytical reports



Training Schedule for 2014 (please contact us)

If you are interested in ALS Industry Training sessions please contact us for dates.

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

Innovation Feature – Mine Site Guideline or Licence Comparison using Webtrieve™

Webtrieve™ is free and secure internet based application that provides real time access to the ALS laboratory database. The system has a number of features which can assist in managing and interpreting environmental laboratory data and deliverables. One of the useful tools is the option to compare your results against mine site specific (e.g. REMP, GW, Release etc) or nationally recognised guidelines (i.e. ANZECC and ADWG). For example compare your portable water results against Australian Drinking Water Guidelines (ADWG). This option of developing monitoring program specific guidelines makes the manual data review process a thing of the past. Please continue onto the following page for examples of guideline comparison.

(Con't on the next page.)



Brisbane, Sydney, Melbourne, Perth, Newcastle, Roma, Darwin, Adelaide, Townsville, Mackay, Gladstone, Wollongong, Nowra, Mudgee, Chinchilla
Water Resources Group: Canberra, Bendigo, Geelong, Melbourne (Scoresby), Wangaratta, Traralgon

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Quarterly Feature Article (continued)

The resultant is an automated comparison to regulatory and customised site guidelines using a colour coded system to highlight any breaches. The comparison involves selecting your preferred work orders (single or multiple) and choosing the guidelines through a drop down box option. Please refer to the example below providing a comparison of the laboratory results for a mine site STP system and their specified guideline criteria.

Apply Guidelines Client									
WATER									
Sewage									
Sample ID Header #1 D 1		#2 D 2		#3 Date Sampled					
ALS	30/01/2014	Sample	ID 1	ID 2				W13 DP11	W13 DP13
EB1400023	Results		Date Sampled	Order #				31/12/2013	31/12/2013
Analyte	CAS #	Units	LOR	Lower Limit	Lower Warning	Upper Warning	Guideline Limit	WATER	WATER
EA005P: pH by PC Titrator									
pH Value		pH Unit	0.01	-	-	-	-	8.00	8.00
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C		µS/cm	1	-	-	-	1600	1380	1060
EA025: Suspended Solids									
Suspended Solids (SS)		mg/L	5	-	-	-	30	102	61
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N		mg/L	0.01	-	-	-	-	<0.01	0.02
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N		mg/L	0.1	-	-	-	-	4.7	1.8
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
Total Nitrogen as N		mg/L	0.1	-	-	-	15	4.7	1.8
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P		mg/L	0.01	-	-	-	15	1.17	0.17
EP030: Biochemical Oxygen Demand (BOD)									
Biochemical Oxygen Demand		mg/L	2	-	-	-	20	14	4
MW006: Faecal Coliforms & E.coli by MF									
Escherichia coli		CFU/100mL	1	-	-	-	-	520	420
Faecal Coliforms		CFU/100mL	1	-	-	-	10	520	420
Applied Guideline:		Sewage							
Color Key:		Within Guideline	Exceeds Guideline						

As displayed in the picture above the guideline analytes are flagged using coloured cells indicating whether there is a guideline exceedence. Red indicates the guideline has been exceeded while green is less than the specified limit. This provides a quick check to assist with operational activities. Furthermore there is an opportunity to build in Upper and Lower limits or warnings to highlight merging compounds of concern. These will be highlighted yellow and orange bringing these to attention.

If you would to know more or would like assistance in setting up your site specific guidelines please contact your local ALS Representative. To register or login please follow the link: [Webtrieve™](#)

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)

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 51 - TRH and BTEXN to meet the draft NEPM
Enviromail 61 - Cyanide Data Quality
Enviromail 62 - Cyanide - Field techniques
Lab News - Sample Freight and Logistics

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

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