

Invitation



Short Course Bentonites – Their Properties, Performance and Potential

The montmorillonite clay mineral known as bentonite has many applications. An important one is its use in the manufacturing of lining systems, including Geosynthetic Clay Linings (GCLs) for liquid and gas-tight linings for the containment of water and waste. Being a natural material, with widely differing qualities and mined in many parts of the world, the compatibility of bentonite with various chemicals and the environments in which they are used (particularly in the field of waste management) needs to be understood. This is specialised information and is not easily come by without extensive research. This has resulted in many misconceptions on how and where bentonite may be used as a sealing material.

Kaytech, the only manufacturer of GCLs in Africa and as part of the official launch of the locally produced EnviroFix™ GCL, is bringing an internationally recognised specialist smectologist, Dr Will Gates, to South Africa to present a detailed short course on bentonite. Delegates who attend this will come away well informed about bentonite and its application in lining systems.

	Cape Town	Durban	Gauteng
Venue	The River Club Liesbeek Parkway Observatory	Assagay Hotel & Conference Centre Kassier Road Assagay	Isisango Convention Centre 206 Rosie's Place Midrand
Date	Tuesday 23 February 2010	Wednesday, 24 February 2010	Thursday 25 February 2010
Time	1:00 for 1:30 pm	1:00 for 1:30 pm	1:00 for 1:30 pm
RSVP	Yolanda McCloskey	Cheryl Pillay	Kedibone Pelo
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Attendance is by invitation only. Seating space is limited and interested parties are urged to RSVP as soon as possible

SAICE CPD Credits 0.2 (two hours) apply, which will be valid for registration for 12 months from date of lecture

Maps to the venues will be provided on request



Programme

13h00 – 13h30	Registration and Tea
13h30 – 13h40	Introduction <i>Garth James, Marketing Director, Kaytech</i>
13h40 – 15h50	Bentonites: Their Properties, Performance and Potential <i>Dr Will Gates, SmeTech Research Consulting, Australia</i> <ul style="list-style-type: none">• Bentonite mineralogy and classification of smectites• Factors influencing permeability, void ratio, porosity• Structural chemistry of smectites, layer charge and cation exchange• Montmorillonite types• Physical properties, particle size, surface area• Clay swelling and dispersion• Gel formation and sealing• Effects of solution
15h10 – 15h20	Break
15h50 – 16h30	GCLs: Application and Performance <i>Peter Davies, International Marketing Manager, Kaytech</i>
16h30 -17h00	Compatibility of GCLs with Soils and Leachates <i>Juan Geldenhuys, Business Development Manager – GCLs, Kaytech</i>
17h30 onwards	Discussion and refreshments

Lecture notes will be provided

There is no charge to attend these lectures, which are being sponsored by Kaytech as a service to the civil engineering industry



Course Presenter

Dr. Will Gates

<http://www.smectech.com.au/Web-CV.htm>



Education

Ph D, University of Illinois (1994). Soil Physical Chemistry & Clay Mineralogy

M S, New Mexico State University (1987). Soil Chemistry & Fertility

B S, Montana State University (1985). Soil Science

Research and Development Consulting

SmecTech Research Consulting

Sole proprietary research and development consulting business established March 2006. Serving the bentonite, geosynthetic clay liner, environmental engineering and waste management industries. Clients include ELCO Solutions (Australia), Geofabrics Australasia (Australia), Kaytech Engineered Fabrics (South Africa).

Professional Experience

Aug 2006 – present	Research fellow, Geomechanics Group, Civil Engineering, Monash University, Melbourne, Australia
Mar 2006 – present	Proprietor, SmecTech Research Consulting: Serving the bentonite and geosynthetic industry of Australia, New Zealand and South Africa
Jan 2005 – present	Affiliate, Centre for Green Chemistry, Monash University
May 2004 – Nov 2005	Senior Research Scientist, Primary Industries Research Victoria, Rutherglen, Victoria, Australia
Jul 2000 – Mar 2004	Principal Research Scientist, CSIRO Land and Water, Adelaide, South Australia
Dec 1997 – Jun 2000	Research Scientist, CSIRO Land and Water, Adelaide, South Australia
Feb 1995 – Oct 1997	Post-Doctoral Research Associate, Savannah River Ecology Laboratory, University of Georgia, Aiken, South Carolina, U S A
Jul 1994 – Jan 1995	Chateaubriand Research Fellow, Geochemistry Group, University of Grenoble, Grenoble, France

Professional Affiliations

Australian Clay Minerals Society (ACMS): Filled portfolios of President, Secretary, Committee member, Information Officer, ACMS 2000 workshop co-chair; Editor of The Interlayer (ACMS newsletter)

Clay Minerals Society (CMS): Filled portfolios of Special Publications Editor, Associate Editor for Clays and Clay Minerals, Program Development and Continuing Education, Nominations Committee, Council member, Policy and Administration Committee, Source Clays Repository Committee, East European Liaison Committee

Australian Soil Science Society Incorporated (ASSSI): South Australia Branch Council Member, Branch Newsletter Editor

International Association for the Study of Clays (AIPEA)

International Union of Soil Science (IUSS)

Mineralogical Society of America (MSA)

Soil Science Society of America (SSSA)

Author and co-author of 138 submitted papers and journal publications

Numerous keynote and invited lectures at various conferences