Shale Gas Workshop/Think Tank and Field Trip

NMMU (PE) : 15-17 February 2012

General Information

The workshop starts with a 1-day field trip (Wed 15 February 2012), followed by 2 days workshop and discussions (Thurs 16 – Fri 17 February 2012) - end around 16:00 with a social function on Fri 17/2.

Registration occurs online- we utilise the Indico system of SAIP complementary. To attend you must register online at: http://indico.saip.org.za/event/shalegas2 . Please note that this involves 2 steps: 1) Create a user account and 2) Register to attend this event

Academics, Students:

- **Registration:** Inkaba yeAfrica will pay this (attendance fee and field trip incl. lunches, social event)
- **Accommodation and Transport:** Students and mentors have to book for themselves and then claim back afterwards from Inkaba. This must be charged together with the next Invoice to Inkaba yeAfrica. Accommodation info available online
- **A 0**-balance invoice will be emailed by the system - this is only to keep track of registration and is for your information only

Industry:

- **Registration:** R5 000 per company, maximum of 2 delegates
- **Accommodation and Transport:** Arrange and pay yourself. Accommodation as well as Logistics available online
- **Invoice** (displaying the payment details) will automatically be emailed by the system upon registration. Upon payment, please fax / e-mail the proof to: 086 268 8304 or shalegas2@gmail.com
- Payment details:

NMMU Banking details:	
Bank	ABSA
Branch	Port Elizabeth Central
Branch Code	334517
Account No	164 0000 046
Reference	N340 – (your name OR Invoice number)

Logistics on the NMMU campus: Contact Alta Beer / Peter Booth: shalegas2@gmail.com

Shale Gas Workshop 2: Preliminary PROGRAMME

(Daily allocations are fixed: fieldtrip 1st , workshop follow thereafter, details to be amended)

DAY 1: Field Trip and Core Lab *(Wed 15/2)*

08:00 **Core Lab** ***(note location : map)***

- meet at back of NMMU Geosciences Department, Summerstrand Campus
- to examine core from borehole drilled last year through the Lower Ecca Group, near Jansenville in the Karoo

Field Trip Departure (directly afterwards)

- **35-seater bus** to depart from PE
- to visit
  - relevant outcrops of Lower Ecca Group rocks
  - drill site of a second borehole planned to recover core mainly from the Whitehill and Prince Albert Formations
- bus return to PE - late afternoon, back approx. 18:00

DAY 2: WORKSHOP *(Thurs 16/2)*

*NMMU **Indoor** Sport Centre : Conference Facilities* ***(note location : map)***

08.00 **Registration**

9:00 – 10:30 **Introduction to shale gas**

Definition; energy supply and demand
Global development of shale gas
The exploitation debate
Security of supply, job creation, affordability, sustainability, safety, ownership
Gas-in-place and fracturing
Environmental boundary conditions
Assessing risks from expert perspective
Assessing public opinions

Break

11:00 – 13:00 **Geological elements**

Richness, quality, maturity of organic matter
Effects of weathering
Gas generation – biogenic and thermogenic
Phase behaviour, expulsion and adsorption
Mineralogy and diagenesis
Petrophysical properties
Fracturing

Lunch

14:00 - 15:00 **What goes on, what goes in and what comes out**
Fracturing strategies – case histories
Fracturing fluids
Produced waters
Microbial control
Induced microseismics
Stable isotope monitoring
Greenhouse gas footprint

15:00 – 17:30 **South Africa in focus**
Tectonostratigraphy/Geodynamics of the Karoo Basin
Prince Albert and Whitehill Formations
Estimating the Karoo Basin's shale gas resource
Geohydrology and potential chemical impact of hydraulic fracturing in the Karoo
Published information on organics, rock matrix, thermal history
Current scientific investigations – GFZ/NMMU/PASA/UFS
Database and data management

17:30 **Open Discussion**

DAY 3 Case Studies, Methods Workshop *(Fri 17/2)*

CASE STUDIES:

09:00 – 10:30 **1. Lower Jurassic Posidonia Shale** (Germany)

11:00 – 13:00 **2. Cambrian Alum Shale** (Sweden)
***Topics include**:*
- *Depositional environment, sedimentology, diagenesis*
- *Organic material characterization*
- *Thermal maturity and burial history*
- *Gas generation: from biogenic to late gas*
- *Porosity development*
- *PVT modelling*
- *Well planning*
- *Practical experiences from drilling activities*

Lunch

14:00 – open end **3. Insights into methods and application**
- Organic geochemistry and basin modelling
- Mass balances
- Organic petrology
- Mineralogy

4. Drinks and Debate
