



Training Courses

Offered by Gemecs (Pty) Ltd

*6 SandStreet
Middelburg, MP*

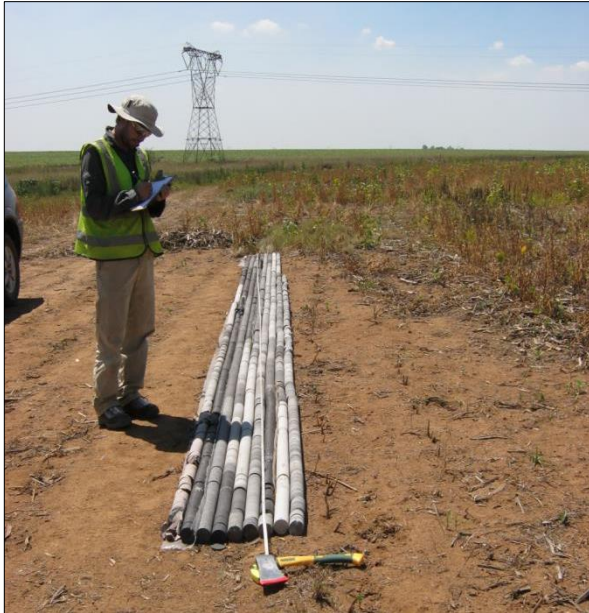


Gemecs Courses offered

- **Core Logging for Coal Mining Geologists (1 days)**
- **Introduction to Basic Coal Analyses / Coal Quality (1 Day)**
- **Minex Software – Basic Coal Modelling (4 days)**
- **Minex Software – Coal Washability (1 day)**
- **Wireline interpretation as a logging tool (In development)
(1 day)**

Core Logging for Coal Mining Geologists

- This course involves the gathering of data by means of the Logical Letter Coding method from diamond drilled core. Gemecs provides practical instruction on the core logging procedure with specific intent of importing it into a Database Management System. This includes a practical demonstration involving logging of a borehole.



BOREHOLE_ID	STRATIGRAPHIC CORRELATION	DEPTH_FROM	THICKNESS CALCULATION	DEPTH_TO	LITHOLOGY	GRAIN_SIZE	SEDIMENTARY_STRUCTURES	SECONDARY_MINERALS	COLOURS	CONTACT_TYPE	FEATURES OR STRUCTURES



Introduction to Basic Coal Analyses

1. General Overview

- Coal – General Overview
- Coal Combustion
- Coal Type
- Coal Rank
- Reflectance of vitrinite (ROV) (Measurement of coal rank)
- Coal Classification
- Physical properties of coals
- Introduction to Coal Petrology

Introduction to Basic Coal Analyses continue

2. CONVENTIONAL ANALYSIS

Proximate Analysis

- Fixed Carbon
- Ash Analysis
- Inherent Moisture
- Volatile Matter

Ultimate Analysis

- Oxygen
- Total Carbon
- Hydrogen
- Nitrogen
- Sulphur

Calorific Value

Total Moisture

Physical Analysis

- Coal Abrasiveness
- Hardgrove Grindability Index

Handleability of Coal

- Size Distribution
- Bulk Density

Free Swelling Index

Reporting of Results

3. TECHNOLOGICAL (HIGHER ORDER) ANALYSIS

Ash elemental analyses

Ash mineralogical analyses

Ash Fusion Temperatures

Radioactive analyses

Petrographic analyses

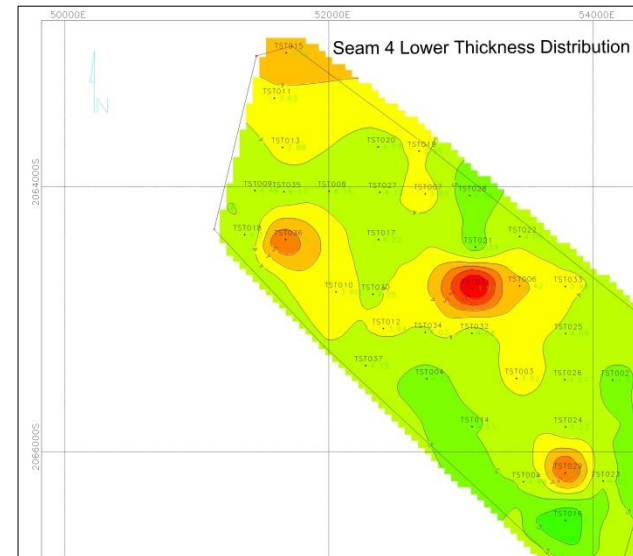
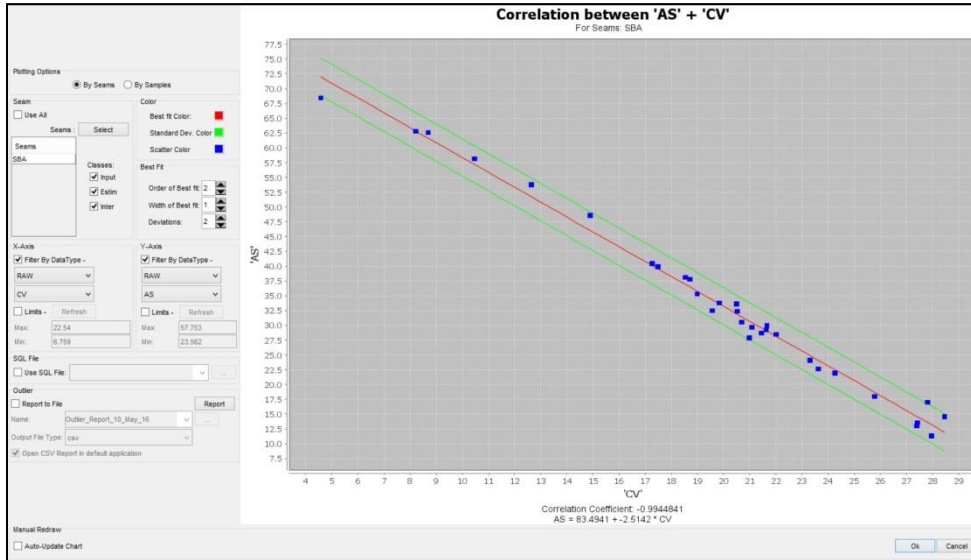
Trace elemental analyses

Forms of Silica

Results are reported on an air-dry basis							
Wash R.D.	Fractional Results						
	Moisture %	Ash %	Volatile %	F.C. %	Sulphur %	Gross C.V. MJ/kg	Yield %
F1.40	11.0	10.1	29.9	49.0	1.07	24.25	48.6
F1.45							0.0
F1.50							0.0
F1.60	7.0	30.5	24.4	38.1	0.97	18.02	20.3
F1.80	5.6	44.2	20.6	29.6	1.08	13.78	18.0
S1.80	4.1	56.1	17.9	21.9	4.95	10.20	13.0
							100.0
-0.5 Raw	7.7	25.2	25.7	41.4	1.61	19.58	

Minex Software – Basic Coal Modelling

- This course is a practical introduction to the basic principals of building a stratified geological model using the Geovia Minex Geological Software. Touching on route directory and parameter setup, structural modelling steps and modelling raw coal analytical data.



Minex Software – Coal Washability



ROM Beneficiation

Product Parameters Seams, Variable Suffixes and Grids

Prime Product

Prime Product Minimum Yield: 0 Output DD Name: MOD

Use Cut Point Variable: AAS Prime Target: 0

Middling Product

Middling Product Minimum Yield: 0 Output DD Name: MOD

Use Cut Point Variable: AAS Middling Target: 0

Reject Product

Reject Product Minimum Yield: 0 Output DD Name: MOD

Fit Parameters

Curve Fit Type: Spline Piece-wise Gamma: 0

Debug/Report Option

Report Values File ... Select Mesh Points

Ok Cancel

ROM Beneficiation

- Practical instruction is given on the building of a coal washability model based on cumulative laboratory results to report several wash products with their yields and product densities.



- All courses offered at the Gemecs Middelburg Office
- For course bookings and prices – email Nico Denner at nico.denner@gemecs.co.za