



DEPARTMENT OF MINING GEOLOGY
WESTERN AUSTRALIAN SCHOOL OF MINES
LOCKED BAG 30
KALGOORLIE WA 6433

Telephone (08) 9088-6001
Fax (08) 9088-6010

UNDERSTANDING GEOLOGY (Geology for Non-Geologists)

An Introduction to geology & the role of the
geologist in the mining industry

ATTENTION

Chief Geologist Company or Training Manager

Once again, the Department of Mining Geology at the School of Mines is offering its "**Understanding Geology**" five day short course. This course aims to explain geology, geological methods, geological principles, and the role of the geologist, geochemist and geophysicist in mining and exploration. The course is designed specifically for technical assistants, non-professional field and mine personal, administrators, contractors, non-geoscience professionals, and office personnel. In fact anyone dealing on a regular basis with geology, mining, or exploration, who would benefit from carefully structured explanations of the basic principles, processes and terminology backed up with appropriate laboratory and field illustrations.

The course is also well-suited to those in the finance industry: **accountants and commerce graduates, bankers and stockbrokers, managers, investment consultants and advisors and company executives** who would benefit from a guided overview of basic geology, mineral exploration and mining concepts and practice.

We would very much appreciate it if you would bring this notice and the accompanying materials to the attention of anyone within your organisation who may be interested in this course.

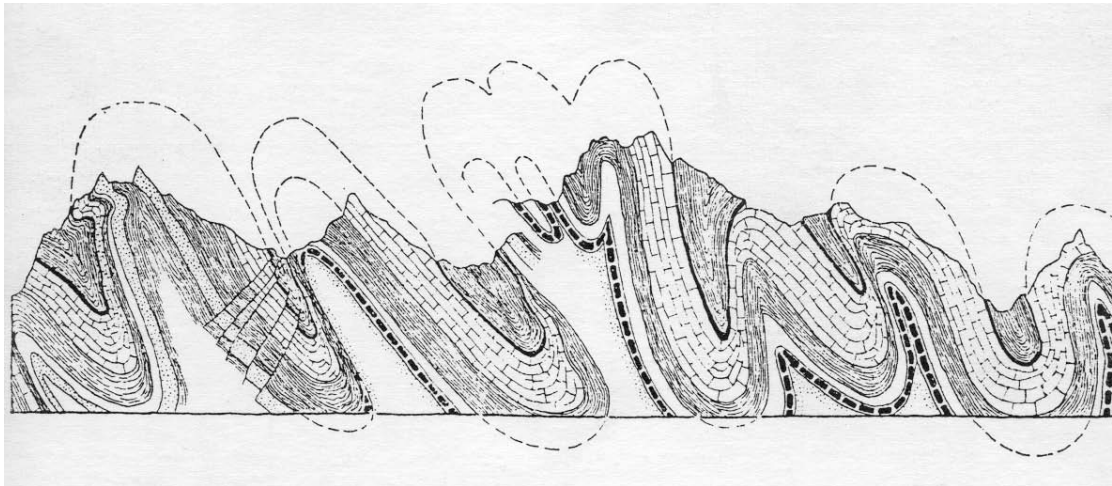
Dr Bob Fagan

Department of Mining Geology
Western Australian School of Mines

UNDERSTANDING GEOLOGY

An Introduction to geology & the role of the geologist in the mining industry

A Five Day Short Course In Geology For Non-Geologists



7th –11th November 2011

21st–25th November 2011

6th–10th February 2012

20th–24th February 2012

offered by:

**The Department of Geology
Western Australian School of Mines
Egan Street, Kalgoorlie**



ABOUT THE COURSE

Geology is the crucial thread linking all elements of the mining process. It provides an understanding of Earth processes through time including how economic concentrations of metals, fuels and other resources form and where and how they may be found. Detailed geological assessment and modelling of the deposit establishes the ore geometry, reserves, economic viability, provides controls on mine design and furnishes valuable input into mineral beneficiation, extraction and recovery processes.

This course is designed to introduce some basic geological principles and explain the role of the geologist in the mining and exploration industry. The course is suited to those in the finance industry: **accountants and commerce graduates, bankers and stockbrokers, managers, investment consultants and advisors and company executives** who would benefit from a guided overview of basic geology, mineral exploration and mining concepts and practice.

The course is also well-suited to **field, laboratory and mine technical assistants, service personnel; prospectors and others interested in gaining a more detailed insight and overview into geology and mineral exploration.**

Included in the course will two half day field excursions to observe geological features of local significance and a half day guided visit to one of the many significant producing mines in the Kalgoorlie region.

WHO SHOULD ATTEND

This course is particularly designed for **field and mine site technicians and service personnel, operators, supervisors, mining contractors, field assistants, pit samplers, technicians and others** who work in or with the mining industry and are interested in an introduction to exploration and mine geology and geological terminology, concepts and methods. The course is also particularly suited to those professionals operating in the **investment and finance industries, accountants and commerce graduates, bankers and stockbrokers, managers, investment consultants and company executives** who would benefit from a guided overview of basic geology, mineral exploration and mining concepts and practice.

THE PRESENTERS

PRINCIPAL PRESENTER: DR BOB FAGAN



Dr Fagan has recently retired as a senior lecturer in geology at the Western Australian School of Mines, lecturing in pure and applied geology, and in mineral exploration.

Bob has been teaching and researching geology for almost forty years in several universities in Australia and New Zealand and has also worked in mines and mineral exploration, and has held a number of mining and exploration tenements throughout Australia in his own right..

SEMINAR PROGRAM

Day 1: Basic geological concepts and terminology

- the philosophical basis of geology – what is geology
- the rock-forming minerals
- Igneous, sedimentary and metamorphic rocks, processes and nomenclature
- the regolith, weathering & erosion

Day 2: Three dimensional and field geology

- Geological time, principles of stratigraphy,
- tilted rocks, folds and faulting, uplift, mountain building & 3D geology
- Geological maps and geological histories
- plate tectonics – why the Earth is the way it is.
- **afternoon field excursion** to examine aspects of the geology of the Eastern Goldfields including: The lower marine basalts, the intrusive contact of the Mungari Granite and its contact metamorphic aureole, the Kurrawang Conglomerate, the Kurrawang Syncline and unconformity, and the late Archaean shoreline of Australia.

Day 3: Ore minerals, ore bodies, and energy resources

- element distribution in the crust and the ore-forming minerals
- types of orebodies –where and how various ore bodies form (magmatic, hydrothermal & sedimentary)
- Fossil fuels and energy resources – origin and formation
- **afternoon field excursion** to continue to examine aspects of the geology of the Eastern Goldfields including: full laterite profile, the upper basalt succession, interflow sediments, felsic eruptives and magmatic feeder systems, pillow lavas, ultramafic (komatiitic) lavas, a small VHMS deposit, gossans, and evidence of multiple folding and faulting events.

Day 4: Finding an ore body. Visit to a major producing mine

- ownership and administration of minerals in Western Australia
- exploration philosophy, strategies and tenement acquisition
- introduction to the methods and principles of exploration geochemistry & geophysics, mineral target identification and assessment
- visit to a significant producing mine in the Eastern Goldfields.

Day 5: Special topics

- sampling, grade and ore reserve estimation methods
- the JORC Code
- QC and QA issues
- Native Title and Aboriginal heritage issues in mining & exploration
- Geotechnical & engineering geology
- computing methods in mining and exploration
- General discussion session on any pre-arranged topics
- Award of certificates of attendance, and wind-up drinks.

VENUES AND ACCOMMODATION

Because of its location in the centre of a major world class gold and nickel province, Kalgoorlie, and the Western Australian School of Mines is a particularly appropriate location for short courses of this nature. The course is by the Department of Mining Geology in Egan Street, in central Kalgoorlie. **The actual course venue however is the Mining Building at the corner of McDonald & Cassidy St, upstairs in Room 3201, commencing at 8.30 am.**

Comfortable field clothing and enclosed footwear (steel caps not essential) will be needed on Tues, Wed, & Thurs, with long sleeve shirts and trousers (no shorts) required for the mine visit on Thursday. During February daytime temperatures may exceed 40°C and sun protection is strongly recommended. Mid-year temperatures are mild although nights may be down to freezing temperatures.

If you require accommodation in Kalgoorlie for the duration of this course please let us know and we can provide a range of alternatives to suit your circumstances.

FAST EASY REGISTRATION

BY PHONE
Call us now on:
(08) 9088 6001

FAX
Registration to:
(08) 9088 6010

BY MAIL TO:
WASM Admin
WA School of Mines
Locked Bag 30
Kalgoorlie WA 6433
Email R.Rodman@curtin.edu.au /
wasmadmin@curtin.edu.au

Registration Fee:

- 7th—11th November 2011: \$1,100 6th—10th February 2012: \$1,650
 21st—25th November 2011: \$1,100 20th—24th February 2012: \$1,650

(includes GST, reference texts, full documentation, lunch and refreshments)

Please register me for the short course selected above

UNDERSTANDING GEOLOGY The Role of Geology in the Mining Industry

Surname _____ First Name _____
(block letters please)

Position: _____

Organisation: _____

Address: _____

_____ Post Code _____

Telephone: _____ Fax: _____

E-mail address: _____

p A cheque payable to the Western Australian School of Mines is enclosed.

p My Company purchase order number is: _____.

Signature: _____ Date _____