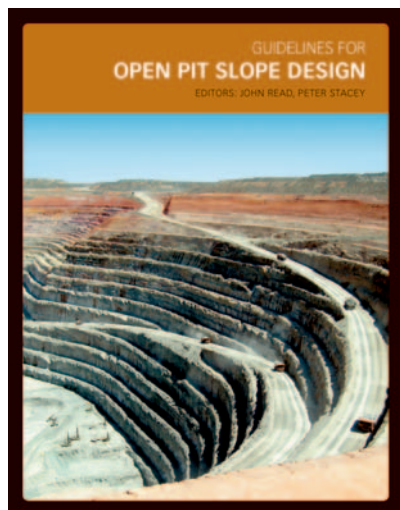


Guidelines for Open Pit Slope Design

Editors: John Read and Peter Stacey
Publisher: CSIRO Publishing, Australia,
2009, 512 pp.
RRP: \$195.00 (hardback), \$170.00 (ebook)
ISBN: 9780643094697



Being an underground mining engineer, geotechnical engineer and geologist I only have a few years experience in pits. The operational experience I have obtained in Western Australia, Queensland and Papua New Guinea is a broad mix of just about everything of relevance. I later obtained consulting experience in pit design, optimisation and financial sensitivity analyses. With this background in mind, I have had the pleasure of reviewing this textbook.

I found the book a concise and comprehensive collation of all the important facts you need to know from pre-feasibility study level through operations and closure of open pits. This is quite a feat as there is so much to know these days, but Read and Stacey have achieved this by recruiting some highly esteemed colleagues to

contribute chapters on their areas of expertise.

The book flows like an engineers' design flowchart. It starts with raw data collection, geological and structural modelling, rockmass modelling and hydrogeological modelling, then geotechnical modelling (based on all the above).

In recognition of the variability of Mother Nature, the next section is on 'data uncertainty'. A pit design is only as good as the data it is based on. To avoid surprises, the design must be based on comprehensive and consistent geological and geotechnical field work (the same can be said for underground mine designs).

Following this the book delves into the world of 'acceptance criteria', which in old fashioned terms was 'Factor of Safety' but today is more like 'Probability of Failure' if you are leading practice. The risk modelling process is explored, aimed at cost-benefit and slope angle decision making.

The book then moves into the more hands-on engineering topics of slope design methods, design implementation (such as blasting, excavation, scaling and support) and then the equally vitally important process of assessing and monitoring pit performance during operations.

The next chapter on risk management, co-authored by the eminent Ted Brown, is in keeping with the times. Regulatory bodies are increasingly trending to risk based approaches to minimising hazards in the workplace, preferably through designing out the hazards. The mining industry in general should be working to remove reactive cultures and replace them with proactive/resilient cultures

on mine sites and in mining company boardrooms.

Appropriately the final chapter is on pit closure. It encompasses all you need to consider from a safety and environmental perspective after you leave a big hole in the ground.

This book is full of informative tables, charts, diagrams and checklists that are a must-have for all open pit mining professionals, whether they be geologists, mining engineers or geotechnical engineers. It is a highly visual presentation of information, which will appeal to the visually stimulated types (non-readers). The level of detail provided in all chapters is excellent, providing a great source for revision as we get rusty on certain topics. This book will definitely reside in my professional library, right next door to *Underground Mining Methods: Engineering Fundamentals and International Case Studies*, edited by W. A. Hustrulid and R. L. Bullock (Society for Mining, Metallurgy and Exploration, 2001).



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Innovation in Industrial Research

by Paulo de Souza

Publisher: CSIRO Publishing, Australia, 2010, 135 pp.

RRP: \$44.95 (paperback), \$38.95 (ebook)

ISBN: 9780643096431



This book is written by a physicist and research director at CSIRO in Tasmania.

When I opened it I had the impression of lots of words. Clearly, this was a person who had run the research gauntlet around the world. The book is aimed at researchers in companies, and being in Australia, I really wondered if there would be any market. As I read on I realised that much of what was said would actually be useful to university students. Indeed, much of the text is devoted to explaining the basics of how you go about the method of research, and why a researcher needs to do a good literature review. But this came from the basic concept that the researcher is given funding for whatever comes to mind which in reality, is not the case (maybe this is how CSIRO Tasmania operate?).

Chapter 5 discusses the use of various management tools, but seems to me to be a bit old hat – stuff practised by industry in the 90s and perhaps CSIRO is the only research house in Australia which can afford to continue these practices. Chapter 4 on statistics is very enlightening and would be useful to any aspiring PhD student who might want to have a simple explanation for the various ways one can

present data, while Chapter 6 on secrecy applies to few in Australia (although universities do practice the concepts) since little Australian research is game changing – clearly it is at CSIRO.

When I finally arrived at the end of this book, I totally agreed with the notion that in order to improve innovation, researchers should be paid according to their performance. This is a very informative little book, which would be more useful to the starting PhD student rather than the practising industrialist.



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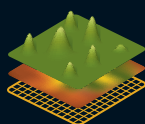
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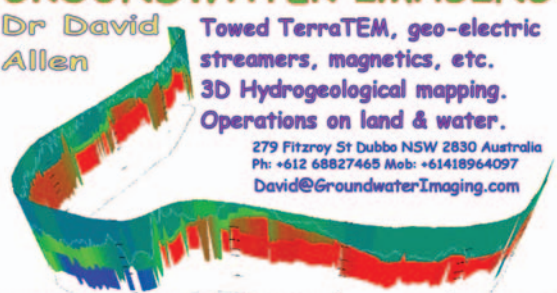
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ROCK PROPERTIES

MASS - Density, Porosity (permeability also avail.)

MAGNETIC - Susceptibility, Remanence; Aniso.

ELECTRICAL - Resistivity, Anisotropy; IP effect [galvanic]

ELECTROMAGNETIC - Conductivity, mag k [inductive]

SEISMIC - P, S Wave Velocities, Anisotropy

DIELECTRIC - Permittivity, Attenuation (by arrangement)

THERMAL - Diffusivity, Conductivity (by arrangement)

MECHANICAL - Rock Strength (by arrangement)

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21–22 Mar	West Australian Geothermal Energy Symposium http://www.wageothermalsymposium.com.au	Perth	Australia
April			2011
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10–14 Apr	SAGEEP 2011: Information Exchange for Near-Surface Geophysics http://www.eegs.org/sageep	Charleston	USA
May			2011
9–13 May	Recovery 2011: CSPG, CSEG, CWLS Joint Annual Convention http://www.geoconvention.org	Calgary	Canada
11–12 May	DEVEX: The Productions & Development Conference & Exhibition http://www.devex-conference.org	Aberdeen	Scotland
23–26 May	73rd EAGE Conference & Exhibition incorporating SPE EUROPEC 2011 http://www.eage.org	Vienna	Austria
June			2011
22–24 Jun	International Workshop on Advanced Ground Penetrating Radar 2011 http://www.congressa.de/IWAGPR-Workshop-2011	Aachen	Germany
28 Jun – 7 Jul	IUGG 2011: Earth on the Edge: Science for a Sustainable Planet http://www.iugg2011.com	Melbourne	Australia
August			2011
28 Aug – 2 Sep	Geosynthesis 2011: Integrating the Earth Sciences Conference & Exhibition http://www.sbs.co.za/geosynthesis2011	Cape Town	South Africa
September			2011
12–14 Sep	Near Surface 2011 http://www.eage.org	Leicester	UK
18–23 Sep	SEG International Exposition and 81st Annual Meeting http://www.seg.org	San Antonio	USA
October			2011
24–26 Oct	IGCP 5th International Symposium: Submarine Mass Movements and Their Consequences http://landslide.jp	Kyoto	Japan
30 Oct – 2 Nov	Society of Petroleum Engineers ATCE 2011 http://www.spe.org/atce/2011	Denver	USA
November			2011
15–17 Nov	2011 International Petroleum Technology Conference http://iptcnet.org/2011	Bangkok	Thailand
December			2011
5–9 Dec	AGU 2011 Fall Meeting http://www.agu.org/meetings	San Francisco	USA
February			2012
26–29 Feb	22nd ASEG Conference and Exhibition 2012: Unearthing New Layers http://www.aseg2012.com.au	Brisbane	Australia
August			2012
5–10 Aug	34th International Geological Congress http://www.34igc.org	Brisbane	Australia

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