Narrow Vein Mining Conference 2012

Perth, Australia 26 – 27 March 2012

Editor:

Simon Dominy

ISBN: 978-1-5108-2143-9

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2012) by Australian Institute of Mining & Metallurgy (AusIMM) All rights reserved.

Printed by Curran Associates, Inc. (2016)

For permission requests, please contact Australian Institute of Mining & Metallurgy (AusIMM) at the address below.

Australian Institute of Mining & Metallurgy (AusIMM) P.O. Box 660 Carlton South Victoria 3053 Australia

Phone: 61 3 9658 6100 Fax: 61 3 9662 3662

publications@ausimm.com.au

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

CONTENTS

Keynote Addresses		
The Mining Industry Needs to be Shaken and Stirred	ASBamber	3
Geotechnical Challenges in Narrow Vein Mining	J Hadjigeorgiou	15
Narrow Vein Education – Back to the Future?	S Hall	23
Case Studies		
Lovisagruvan – Small Mine with a Long Future	P Bray	29
Nicolson's Find Gold Project, East Kimberley, Western Australia	M Csar	31
Overcoming Mine Design and Production Challenges at the Sinclair Underground Nickel Project	M J Ireland, D P Horne and S J Simpson	37
Pilot Study on Blast Movement Monitoring at Geita Gold Mine	F Mwijage	49
The Obuasi Mine – Longitudinal Retreat Mining Method Application and Challenges	F Nsarko and F Owusu-Mensah	59
Challenges Faced by Narrow Vein Graphite Mining and Influence of Graphite Infill on Wall Stability	H S Welideniya and K Ekanayake	71
Geology and Evaluation		
Review of the Advances Made in Geological Understanding and Mining Practices within the Costerfield Narrow Vein Antimony-Gold Mine, Victoria, Australia	C Davis	79
Application of Historical Data to Estimate a Mineral Resource at the Engineer Gold Mine, British Columbia, Canada	S C Dominy and I M Platten	81
Geology, Mineralisation and Potential of the Clogau St David's Mine, Dolgellau Gold-Belt, Gwynedd, Wales	S C Dominy and I M Platten	101
Using Borehole Radar to Refine Orebody Interpretations in a Narrow Vein Gold Deposit	C Kemp and G Morgan	121
Correlation as a Gold Path Finding Tool at Maldon, Victoria	J Krokowski de Vickerod and G B Ebsworth	131

The Benefits of using Photogrammetry in the Geological Interpretation of the Cosmos Nickel Mine	K Rees	145
Conditional Simulation of a Folded Lode-Style Gold Deposit	A Richmond	149
A Collaborative Approach to Mining the Complex Narrow Vein Lode Deposits of the Trident Gold Mine, Higginsville, Western Australia	S Sinclair, B M Wilson, R J Buerger and B J Turner	155
Geotechnical Engineering		
Continued Observations of Rock Mass Behaviour in Response to Stoping at the Tasmania Mine, Beaconsfield, Tasmania	P B Hills and R J Walton	169
Pillar Recovery at Cracow Gold Mine using Grouted Consolidated Mullock	L Potts, V Mutton and D Joyce	179
An Overview of Geotechnical Issues in Narrow Vein Mining	M P Sandy and J B Albrecht	185
Mining		
Why do Shareholders and Mining Executives Allow Mine Managers to Leave Behind High-Grade Broken Ore Underground?	K Biegaj	197
Wallaby Deeps – From the Optimal Opportunity to Reality	N S Rauert	207
Mine Fill in Thin Vein Mining	E G Thomas	215
New Technologies		
Evaluation of Low Profile Electric Loader in Conjunction with Electric Monorail Haulage System in Narrow Vein Mining	B Besa and E K Chanda	221
The use of High-Pressure, Water-Hydraulic (Hydropower) Technology in South African Narrow-Reef, Hard-Rock Mines	P D Fraser	229
Underground Preconcentration by Ore Sorting and Coarse Gravity Separation	B Murphy, J van Zyl and G Domingo	237
Author Index		245