Trevor G Carter

Mississauga

Education

B.Sc. (Hons), Geology and Oceanography, University of Swansea, Wales, 1970.

S.M., Civil Engineering, Massachusetts Institute of Technology, USA, 1972.

Ph.D., Engineering Geology, University of Surrey, U.K., 1983.

Certifications

P. Eng. (Ontario), Eur.Ing., (FEANI), C.Eng., C.Geol., (UK)

Languages

English – Fluent

Spanish& French – adequate reading skills; rudimentary speaking ability

PROFESSIONAL SUMMARY

Dr. Trevor Carter, P.Eng.
Senior Consultant

Dr. Trevor Carter, P.Eng., is currently a Senior Consultant to the Rock Engineering group across the company, but principally based out of the Golder Associates Mississauga Office in Ontario, Canada. His specialization is in geological engineering principally for unravelling difficult conditions, mainly deep and shallow mining, deep tunnelling, and large dams and hydropower. Throughout his career, one of his key roles has been in synthesizing information from site investigations as a pre-cursor for undertaking engineering designs or for solving construction problems.

Dr Carter has published over 90 papers related to engineering geological topics pertinent to civil and/or mining in challenging ground conditions, including several keynotes.

EMPLOYMENT HISTORY

Golder Associates (on retainer, part time) also TGC-GeoSolutions, Oakville, Canada
Independent Specialist Geological Consultant / Review Board Member (2015 to Present)

Technical Advisor / Senior Consultant: to Golder Associates on engineering geological aspects of numerous mining and civil engineering projects

Independent Geological Engineering Member of Review Boards for World Bank and Several Mining Companies overseeing design and construction of dams, deep tunnels and hydropower and mining facilities.

Golder Associates – Mississauga, Ontario
Specialist Geological Engineer, Associate (1980), then Principal (1989) (1979 to 2015)

Senior advisor to mining rock engineering group; technical involvement on numerous mining and civil engineering projects worldwide, selected recent experience includes:

• review board participation

– hydro-electric projects – Chile, India, Indonesia;

– mining and/or heavy civil projects – US, Canada, Australia, New Caledonia, Chile, Peru

• engineering geological investigation overview for design for various hydroelectric stations, underground and surface mines, mills and heavy civil structures, with specific experience with:

• water conveyance, highway and access tunnel design and construction implementation (for TBM and conventional drill and blast), including evaluations for squeezing and swelling conditions;

• design and construction guidance for conventional and emergency grouting for dams, tunnels, building foundations, mine workings, shafts, open pits and quarries;

• rock mechanics appraisals for underground openings/shafts including:

– crown pillar stability appraisal for active and abandoned mine workings, extending to subsidence assessment for soft rock mines (gypsum and coal) and remediation designs

– structural appraisal of break-back and cave influence for block and panel cave mines, including assessment of geological control potential to influence open pit / underground transition stability

– evaluation for construction purposes of anticipated geological conditions influencing rock-structure interaction effects for major underground openings and deep tunnels, including assessment of rock-burst and fault slip potential for inducing spalling and/or squeezing conditions

• rock slope stability assessments and structural geological appraisal for deep open pits and/or for difficult highways cuts, including investigation, design and construction implementation

• concrete and rock deterioration investigations related to hydropower structures

• quarry and armourstone and cliff stability evaluation for marine and shore protection

Golder, Hoek & Associates – Maidenhead, UK
Senior Engineering Geologist (1976 to 1980)

Engaged on the 1000 MW Drakensberg Pumped Storage Scheme. Involved in all aspects of investigations and on- site construction control for excavation and rock reinforcement of the underground caverns, tunnels and shafts.

Binnie & Partners Ltd. – Artillery House, London, UK
Junior and Intermediate Engineering Geologist (1972 to 1976)

Involved in design and construction of large water retaining dams, including 35m Alton Water earthfill dam, and 60m high rockfill dam at Brenig. Involved in investigations for 2000MW Dinorwig Pumped Storage Scheme, N. Wales, U.K.

Key Publications

- “Putting Geological Focus back into Rock Engineering Design” (2020). Rock Mech Rock Eng. Vol 53 22pp.https://doi.org/10.1007/s00603-020-02177-1, (with V. Marinos)
- “Structural Geology Guidelines for Aiding Characterization of Deep Mining Fault Behaviour.” (2011) Handbook published by Centre for Excellence in Mining Innovation (CEMI), Sudbury, Canada. 204pp. plus 2 Appendices (with R.P. Bewick)
- "Prediction and Uncertainties in Geological Engineering and Rock Mass Characterization Assessment", (1992). Proc. 4th Italian Rock Mechanics Conference, Torino. pp. 1.1 - 1.22.

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