



Vancouver Geotechnical Society

A Local Section of the Canadian Geotechnical Society

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NOTICE OF UPCOMING DINNER PRESENTATION
Tuesday, June 07, 2011

SUBJECT: **Excavation Support at the Bow Encana and Surrey Memorial Hospital**

SPEAKER: **Mr. Matthew Janes, M.E.Sc., P.Eng. MBA**
President of Resonance Technology International Inc.

Matthew Janes, M.E.Sc., P.Eng. MBA has over 25 years experience in design and management in the fields of consulting engineering, equipment development and foundation construction. He received his Bachelor and Master of Engineering Science degrees from the University of Western Ontario, where he specialized in foundation and structural dynamics. He also holds an MBA.

Matthew has been involved in the development and promotion of special techniques, equipment and new technologies throughout his career. Accomplishments include the development of advanced Geo-structural analytical methods and construction techniques and the development and marketing of foundation testing equipment, pile hammers and vibratory hammers. Highlights include a unique system that uses solid rocket fuels to test structures and install foundations in the deep ocean floor. In addition, he has served as a Sr Design Geo Structural Engineer on most of the major structures recently built in Toronto including the Sheppard Subway, Shangri la, College park and Maple Leaf Square.

For the past 7 years Matthew has served as President of Resonance Technology International Inc. a firm specialising in the development of high frequency resonant vibrators for the construction industry.

Matthew presently resides in Vancouver BC, with his wife Dr. Maria Fabbro, ND and their three children: Kieran 13, Gigi 11 and Juliet 7.

CONTENT: The Bow Encana complex in Calgary comprises the largest office building west of Toronto. The Bow is situated over 2 city blocks with six levels of underground parking, spread under 6th Avenue SE at Centre Street in downtown Calgary. The excavation required a shoring system encompassing over 150,000 square feet of shoring that would control movements within the challenging downtown Calgary geology.

Terzaghi's Observational Approach was employed for the design of an interlocking caisson wall over shotcrete system. A major design concern was the lack of information regarding the strength and in-situ stresses of the bedrock and the location and effects of shear band propagation in weak rock layers. FLAC analysis of several scenarios accounted for varying residual rock stresses and the location and composition of weak rock layers suspected of causing shear band movement. A detailed monitoring program was installed including precision survey targets, 12 inclinometers and 5 extensometers. The results of the program were used to identify the rock movement mechanics and further refine the FLAC analysis as the project progressed.

The interlocking caisson wall approach is being employed at the Surrey Memorial Hospital expansion. With excavation depths of 12 m within soft to firm clays over artesian sand and gravel tills adjacent to sensitive structures, movement control is of great importance. A design build contract using the Terzaghi Observational Method for Geo-Structural design resulted in significant saving for the owner while ensuring safety of the adjacent structures.

DETAILS

Executive Inn, 4201 Lougheed Highway, Burnaby, BC V5C 3Y6 (Phone: 604-298-2010)

Social Hour: 5:30 to 6:30 pm (drinks available at the hotel bar)

Technical Presentation: 6:30 to 7:30 pm

Dinner: 7:45 pm (\$10 will be charged for dinner to cover a small portion of the cost.)

RSVP: Dinner reservation to ali.amini@shaw.ca by Friday, June 03, 2011