

2nd International Convention on

Geosciences and Remote Sensing

November 08-09, 2017 | Las Vegas, USA

Seismic exploration and mine planning, Comox coalfield Vancouver Island, Canada

Ernest Berkman¹ and Larry Lind²¹Emerald Exploration Consultants, Inc., USA²Lind Geophysical Company, USA

In 1997, Tsable River Coal Company owned the Raven coal project; in 2006, it was owned by Compliance Energy. The seismic investigation for both companies was conducted by Emerald Exploration Consultants, Inc. (EMEX). It consisted of a series of seismic lines totaling 43 km. The goal was to characterize the coal beds and any subsurface features that might affect the planned underground mine plan. In 2008, Compliance Energy formed the Comox Joint Venture which was made up of Compliance Energy which controlled 60%, 20% by I-Comox Coal Inc. and 20% by LG International Investments, Canada Ltd. It was to receive up to \$500,000,000 in funding from the minority partners. In 2009, additional core drilling was undertaken, and this data was reviewed by EMEX in 2010. In 2016, after spending over \$25,000,000 and failing to obtain the necessary permits all debts were paid and the joint venture and company was dissolved. The presentation deals with the location, seismic data, geology, geologic correlation, synthetic seismograms and the utilization of the newest seismic data display techniques. The reflectors are interpreted to be caused by coal/rock interfaces with reflections from rock/rock interfaces being infrequent. The data indicates the presence of multiple thrust faulted coal seams, with beds dipping to the northeast. Erosional surfaces and lithologic changes related to variations in the coal zone are present. The presence of several sonic logs makes correlation of the seismic reflectors to specific coal seams clear cut. The presence of shallow coal amenable to strip mining is noted.

Biography

Ernest Berkman has graduated from the Colorado School of Mines in Geophysical Engineering, 1958. He has worked for Mobil Oil for 20 years and then started EMEX. At EMEX, his experience includes prospect analysis and regional geological/geophysical studies including reflection, gravity, magnetics, MT, refraction analysis, in North America and worldwide; plus a lot of shallow seismic for coal mine development and site characterization. Interpretation background includes site characterization, and technical writing, modeling, quality control, project and team management, industrial teaching, and mentoring. He has been a Member of the SEG since 1955. He has 28 geological and geophysical papers.

ernieemex@aol.com

Notes: