

2018 Committee Report

Value of Integrated Geophysics (VIG) Committee

Submitted by Ruth Peach (Chair)

The VIG Committee was created in 2013, upon recognizing a need to build stronger connections among geophysicists, geologists, engineers, managers and the oil and gas finance community, in order to bridge understanding and thereby increase success. In past years, VIG has striven to do this mainly by teaching engineers through SPE and APEGA talks, and by teaching geophysicists through CSEG talks, VIG-related Recorder articles, Doodletrain courses, etc.

A. Accomplishments in 2018 (chronological):

- 1. CSEG Luncheon Talk, Jan 2018** (David Gray and Dragana Todorovic-Marinic): “Forecasting Bitumen State and production from 3C-4D Seismic”. From conventional 4D seismic data, steam chamber volume can be determined. From 3C-4D (3-component, 4-dimensional) PS (P-wave down, converted S-wave up) seismic data, the liquid state of the bitumen, immediately producible bitumen, and future producible bitumen can be forecast.
<https://cseg.ca/technical/view/forecasting-bitumen-state-and-production-from-3c-4d-seismic>
Can this talk be given to SPE?
- 2. SEG/CSEG VIG Discussion (May 2018):** At GeoConvention 2018, Mike Hall and John Duhault of VIG discussed the VIG concept with SEG Executives Nancy House (President) and Bill Abriel (Past President). Nancy and Bill supported the idea and created five “Business of Applied Geophysics” (BAG) plenary sessions at the 2018 SEG Convention in Anaheim. Of note, at one of these sessions, Google Cloud geoscience/marketing VP (Darryl Willis, see link below) said Google is recruiting geoscientists. How will Google affect our business?
- 3. CSEG VIG Online Reading List (June 2018):** This reading list was created to provide geophysicists with tools to teach geophysics to non-geophysicists. We reviewed VIG-related papers and built a short list of links to those papers. Papers demonstrate how geoscience can lower costs, lower risks, and increase profits. The list needs to be kept current and useful.
<https://cseg.ca/assets/files/technical/CSEG-VIG-Reading-List-Version-1.0.pdf>.
- 4. Distinguished Lecture Tour (Fall 2018-Spring 2019):** David Gray delivered the VIG concept to emerging geoscientists and their professors at universities across Canada. Learned that Google is recruiting from the Colorado School of Mines. <https://seg.org/Annual-Meeting-2018/Schedule/Opening-Session-and-Presidential-Address>. Also learned that banks are recruiting geophysicists for their inversion skills. Students at INRS (a Quebec geological survey mining research school) are being hired before they graduate.
- 5. Lunchbox Geophysics (Oct 2018)** (Ahmed Ouenes): “The added value of geophysics in estimating natural fractures and reservoir stresses in 3G integrated workflows”. This talk was generously given by Ahmed over the lunch hour while he has in town teaching his Doodletrain course. 15-20 people attended: mainly young geophysicists plus 2 engineers. There was lots of

discussion and junior geophysicists seemed to express great interest in learning more about reservoir/resource engineering, and in giving engineers geophysical information to import into their models. <https://www.cseg.ca/technical/view/dded-value-of-geophysics-in-estimating-natural-fractures-reservoir-stresses>

6. **VIG-related Doodletrain Course (Oct 2018)** (Bill Abriel): “Business Fundamentals of Petroleum Geophysics” Attended by 19 geophysicists. <https://cseg.ca/education/doodletrain/dt-business-fundamentals-for-petroleum-geophysics>
7. **CSEG Luncheon Talk, Oct 2018** (John Duhault): “Maximizing Success within a Business Team Environment using Integrated Geophysics” The most successful oil and gas companies use integrated geophysical tools to mitigate their risks and maximize their chance of success, thereby improving the financial metrics of their respective companies. <https://cseg.ca/technical/view/maximizing-success-within-a-business-team-environment-using-integrated-geop>
8. **APEGA Evening Seminar, January 9, 2019** (David Gray): “Demystifying Geophysics for Engineers”. Arranged in 2018 and attended by 36 APEGA members. Pragmatic discussion of how geophysics can help companies optimize well/pad placement and understand more about reservoirs and their surrounding pressure regimes. See March Recorder article. Great course – would they like to see it in 2020?
9. **Costs for 2018:** Approximately \$50, mostly in website fees for the VIG Reading List.

B. Future work:

We plan to continue to take our message, through technical talks, to engineers and the public. We are investigating SPE talks as well as “Bacon and Eggheads” (scientific presentations to parliamentarians).

C. Current members (2019): Louis Chabot, Dennis Ellison, David Gray, Mike Hall, Ruth Peach (Past-Chair) David Timko. Chair - vacant.