

A brief look at CREWES fieldwork in 2018

Kevin L. Bertram*, Kevin W. Hall, Kris Innanen, Malcolm Bertram, and Don C. Lawton
klbertra@ucalgary.ca

Abstract

CREWES continues to use acquisition equipment to carry out surveys year round. These surveys are designed in house to gather data and test theories. It also provides an excellent opportunity for students and researchers at CREWES to witness first-hand how field data is collected. Furthermore, some researchers have actively been involved in data collection which they have then used for their reports this year.

Acquisition projects that CREWES took part in 2018 include: a) several small surveys at the CaMI Field Research Site; b) although not technically an acquisition project CREWES took part in the 2018 Earth Science for Society event; c) the 2018 Geophysics undergraduate Field School; d) a walkaway/walk around VSP; e) the deployment and test of a multicomponent DAS layout.

Earth Science for Society

For several years now CREWES has had a presence at Earth Science for Society (ESFS).



The display consists of the Geode system showing the readout from several geophones in a four by four wooden beam as well as a single three component geophone connected to an oscilloscope, a GPR cart, and an earthquake seismometer with the output shown on a screen.

CaMI FRS

Including field school, CREWES was at the CaMI FRS six times this year for acquisition. The first time was in February using the IVI Envirovibe and the Hawk nodal system as well as a new system being tested by Inova Geophysical. The second time was in June using an S-wave Envirovibe and 3C land streamer from Echo Seismic Ltd. The third survey was an interactive demonstration for visiting researchers in August. The fourth project at FRS was the field school. The fifth survey was a large scale walk around/walkaway VSP. The final project of the year saw a return to the CaMI FRS to test the prototype DAS array newly buried on site.

Hawk 3C nodes and new receiver being tested side by side.



Echo Seismic Ltd.'s S-wave Envirovibe and the Seismic Group's Envirovibe.

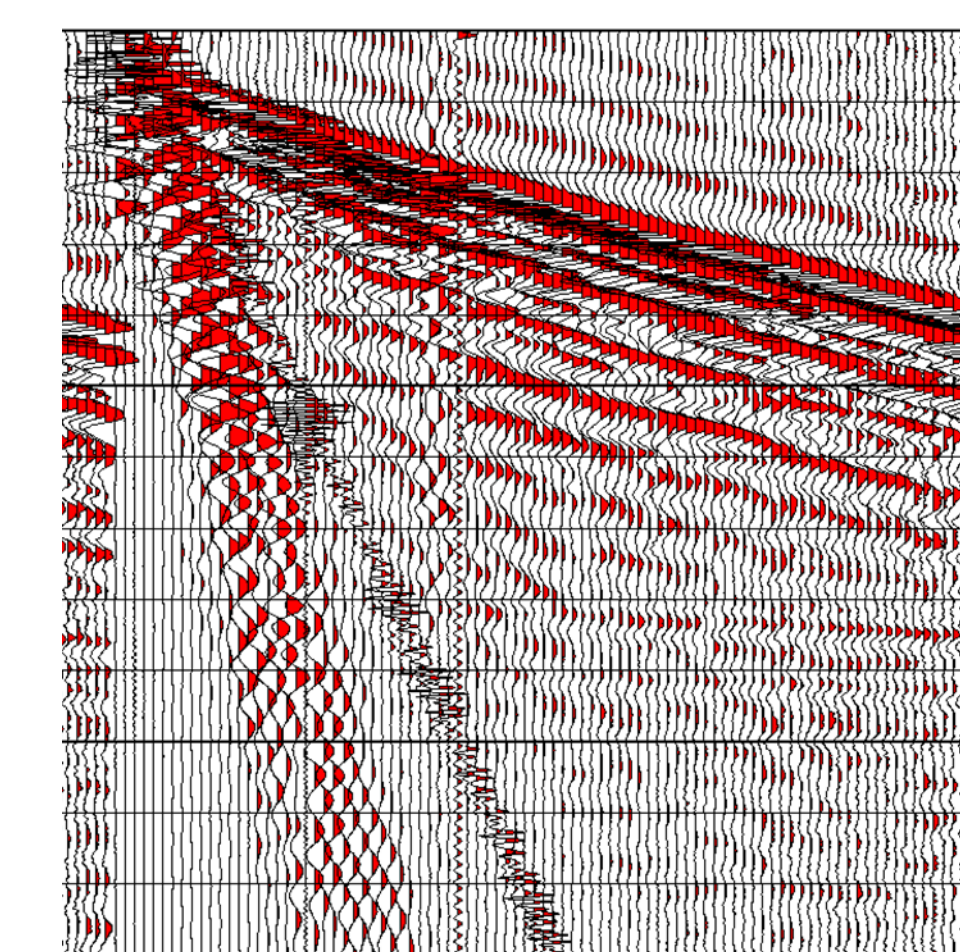
Researchers from NTNU getting hands on with geophysical acquisition.



Left: 324 1Hz vectorseis receivers being put down the observation well.
Right: The prototype DAS array being buried.

Field School

CREWES has been helping the University of Calgary's Geophysics 549 undergraduate course for many years. The primary objectives of the field school is to have students participate in field surveys. The students themselves operate the geophysical instruments and other equipment. The students then have to gauge the quality of the data and make some initial assessments of it. Students are randomly assigned to a group of four or five members. This provides the first challenge as the groups do not get to choose who they work with, providing a more realistic experience for working in the industry. Once a morning safety meeting was completed each of these groups then spend a day in the field running one of four activities. The four activities are separated into a refraction and VSP survey, an ERT survey, seismic line crew, and seismic recorder crew.



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