

Field acquisition in 2017

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Abstract

CREWES continues to be one of the few research consortiums that has access to industry acquisition equipment. CREWES also has the collective knowledge to use this equipment to design and carry out acquisition experiments at any time of year. This provides the opportunity to take ideas formed in the office to the field. These experiences are also used to educate staff and students on the procedures and realities of data acquisition.

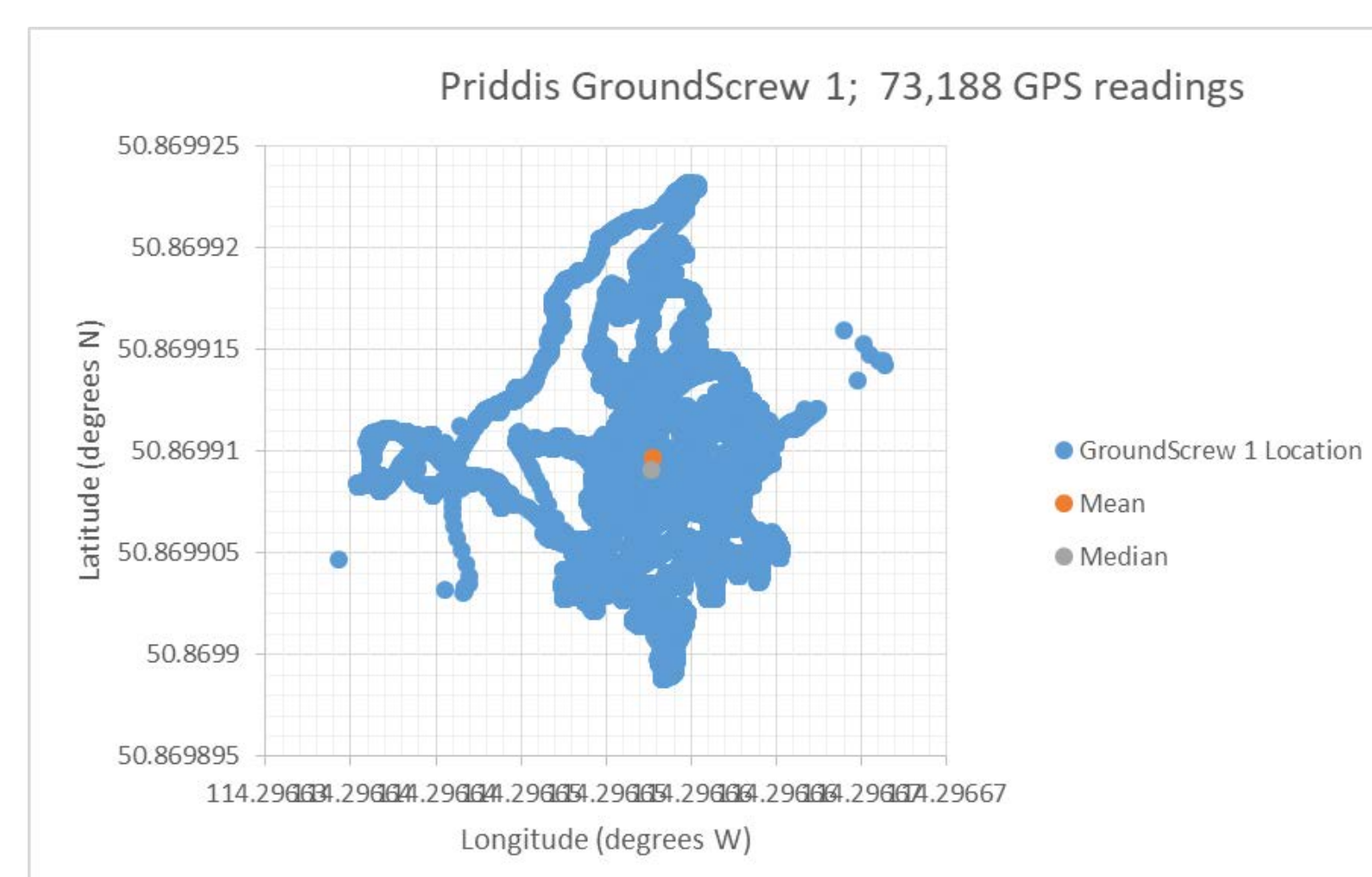
Acquisition that was carried out by CREWES in 2017 include: a) a multi receiver 3D 3C seismic survey at FRS with vibe and thumper sources in May; b) GPS experiments at Priddis in June; c) another multi receiver 3D 3C seismic survey at FRS with just the vibe as a source in July; d) the geophysics undergraduate field school in August; e) a final multi receiver 3D 3C seismic survey at the FRS in October.

GPS Experiment

CREWES deployed the base station of the differential GPS to take a sample every second and left it for a day and a half.

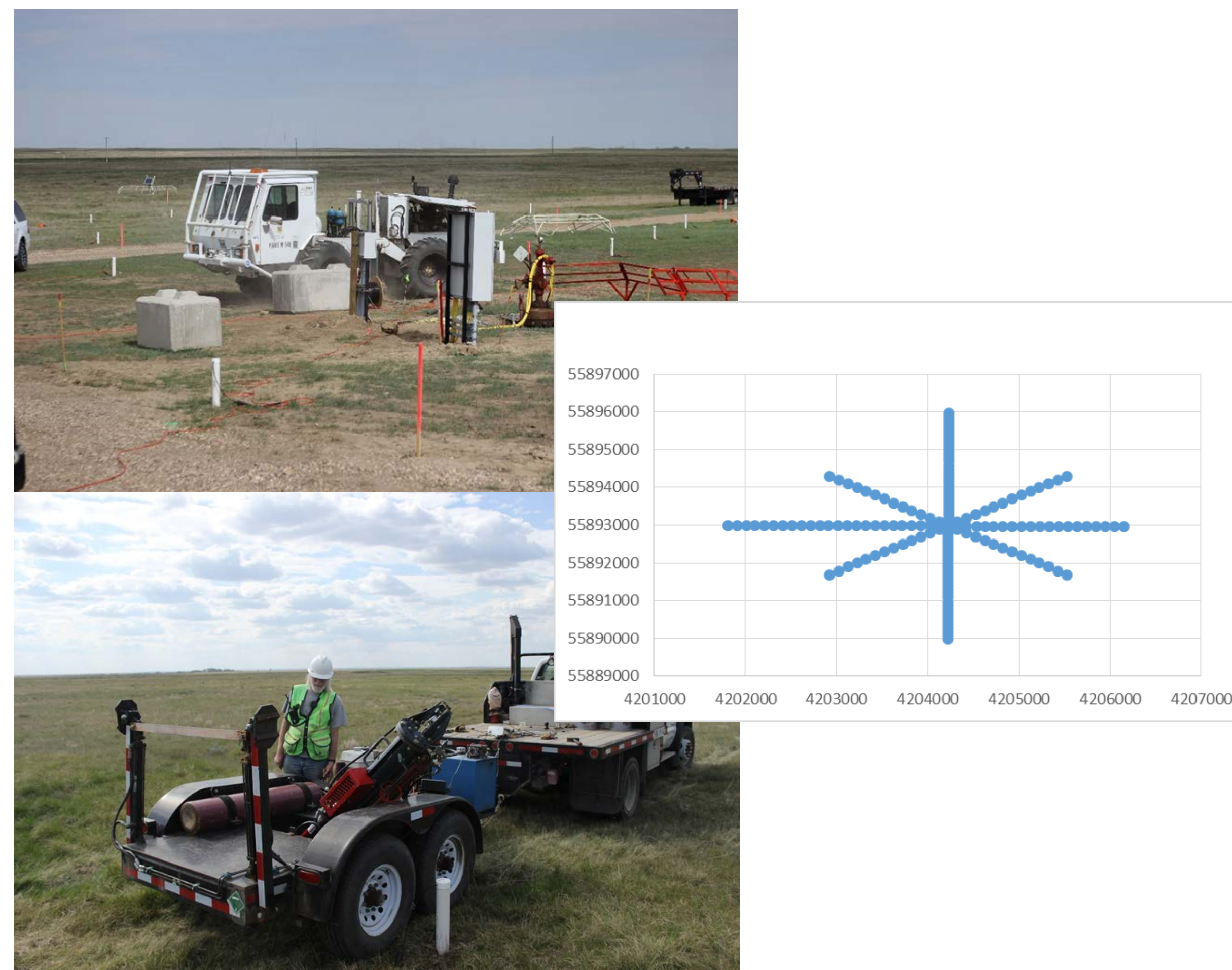


Using only half of the GPS system meant that there were not corrections being made with the recorded position. After 73,196 samples were collected and plotted the results were a little surprising. The accuracy was worse than expected.

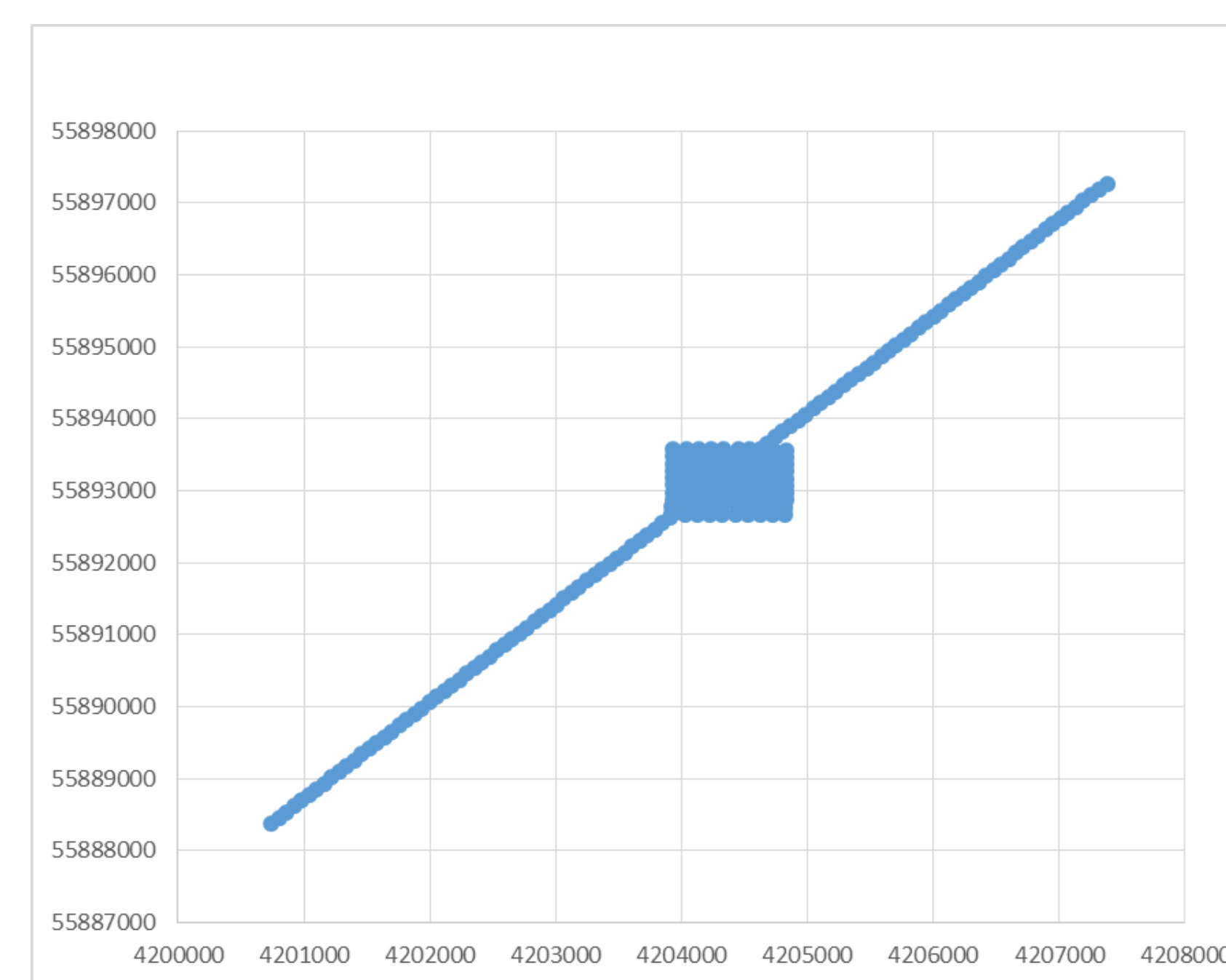


CaMI FRS

CREWES was at the CaMI FRS three times this year for acquisition. The first time was in May, this survey used both the IVI Envirovibe and shear wave thumper as sources. Recording was done using Aram Aries 3C for geophones as well as optical fibre. The second time was in July. The Envirovibe was the only source this time. A mixture of both Inova Geophysical Hawk nodes and Aram Aries cabled systems were used to record the 3C geophones. Once again optical fibre was used as well. The final project of the year saw a return to the CaMI FRS for a final survey. The number of 3C geophones used to record was significantly cut down and more attention was placed on the fibre data.



The sources and source locations.



The surface receiver locations.

Field School

CREWES has been helping the University of Calgary's Geophysics 549 undergraduate course for many years. This course is unique in that it allows geophysics students to experience the process of data acquisition. This has been seen as a major advantage by companies looking to hire geophysics graduates from the University of Calgary. CREWES staff has many years of practical acquisition knowledge that is used to educate the students. This creates a better understanding of why data may look the way it does. Field school is usually split into two groups, one focused on seismic acquisition and the other on non-seismic methods.



Acknowledgements

We thank the sponsors of CREWES for the continued support that makes this work possible. This work was funded by CREWES industry sponsors and NSERC (Natural Science and Engineering Research Council of Canada) through the grant CRDPJ 461179-13.