CREWES in the field, acquisition and preliminary results

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Available Field Test Sites

On campus test site





Differential GPS System



Geometrics Geode System 5 Geodes 120 Channels

Down hole tool used for VSP



US Seismic Systems Inc. (USSI) Down hole fibre optic system: 6 sensors spaced at 20 metres.



3C fibre optic accelerometer DHF-180F



Trigger

Impact Sources -Elastic weight drop thumper -Nitrogen driven shear wave thumper -Hammer



Industrial Vehicles International EnviroVibe



The planning stage

4

MAY GROOKS CMC TEST SPREAD. 28 30(Fri) - students priddis vells > SEISMIC AT PRIDDIS - WALK-AWAY VSPS - DD LINE X 2 - UP HOLE SURVEY (DYNAMITE) - DYNAMITE TEST HOLES - VIBRATOR - M SEQUENCES FIELD SCHOOL S-WAVE THUMPER .45 Oct 2-27 SEG NTA.





April 4th -5th: On campus equipment test



Weir-Jones to Aries adapter boards built by Malcolm Bertram

RAMs

Batteries

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Weir-Jones Cables



Field training for the new CREWES students





2013 Geophysics Field School August 19th – 30th



Geometrics Geode system with hammer source used at Shouldice Park











Refraction survey at 2013 geophysics field school

- located at Shouldice Park.
- Geometrics Geode system used to record.
- Hammer and plate source.
- 1 metre receiver spacing.





Survey at Inglewood wildlands park.

10 metre receiver spacing



X:709483.32, Y:5657144.92 Meters, SP:4397.0, T:0.567, line2mig

INOVA Hawk Nodal System



New wells at Priddis Determining their location





SITE

- Drilling dynamite shot holes:
- -2 vertical holes east and west of the well
- -4 holes at a 30° incline
- -1 hole with multiple charges at different depths





Return to Priddis test site to re-wire down hole phones and test msequence sweeps designed by Dr. Joe Wong







Dynamite shot of the vertical shot hole to the west of the well.



Same shot on the same record rearranged after acquisition complete.

Future work:

-Correcting the wiring of the permanent down hole geophones

-Updating thumper trigger systems

-Further experiments with the two newly installed wells at the Priddis test site





Thanks to:

- -Lawton Seismic Group for the use of the equipment
- -Carbon Management Canada for support with the new wells
- -The University of Calgary
- -The City of Calgary
- -Groundforce Drilling for getting the wells in the ground
- -Outsource for permitting and field safety
- -INOVA for equipment and support
- -Schlumberger (GEDCO) for processing software -Field school Professors Dr. Don Lawton, Dr. Adam Pidlisecky
- and Dr. Kris Innanen -Helen Isaac (The Dragon Lady) -CREWES staff and students -CREWES sponsors -NSERC



