Birds Hill Project: Seismic Refraction Survey

April 28, 2015

Group 1: Amandeep Dhatt, Adekola Ishola,

Kevin Ramlakhan and Easton Sato

Group 1 performed GPR and TEM surveys at Site 1 (Overlook) in Birds Hill, Manitoba. The Overlook is located right off of North Drive (Figure 1) and the UTM coordinates associated with the Overlook is 14U65950E, 5542850N.

GPR

The UTM coordinates for GPR line at 0 m are 14U0651962E, 5542993N +5.4 m. The coordinates for the GPR line at 320 m are 14U0651980E, 5542671N.

The instrument used was GSSI JIR Ground Penetrating Radar using a low frequency (200MHz) and high frequency (400MHz) antenna. The low frequency survey was completed using the following parameters: samples per scan: 1024, range: 150ns, dielectric constant: 8, rate: 120 scan/s and digitization: 100 kHz. The high frequency survey was completed using the following parameters: samples per scan: 512, range: 100 ns, dielectric constant: 8, rate: 120 scan/s and digitization: 100 kHz. Wheel calibration was done for low frequency and high frequency.

TEM

For the TEM survey, a rectangular transmitter loop was set, measuring 30 m x 40 m. The UTM coordinates for the corners were: (14U0652004E, 5542700N), (14U0651989E, 5542699N), (14U0652016E, 5542731N), (14U0651987E, 5542728N). The receiver and receiver antenna were both moved to 0 m, 40 m, and 60 m. The respective coordinates are 14U0652004E, 5542716N, 14U0652003E, 5542677N, AND 14U0652003E, 5542656N respectively.