

## CASE HISTORY

### GEOPHYSICAL EVALUATION OF SUSPECT PREFERENTIAL PATHWAY FOR LPH MIGRATION

#### **Challenge:**

As part of site remedial activities at a closed service station facility, MUNDELL & ASSOCIATES, INC. (MUNDELL) needed to delineate the extent of liquid phase hydrocarbon (LPH) material that had been newly identified at an off-site monitoring well south of the client's facility. It was believed that the LPH from an on-site source was migrating along a preferential pathway to off-site areas.



#### **Action:**

*Geophysical and Drilling Investigation:* MUNDELL performed 2-D resistivity studies to identify potential preferential pathways across the site, and later supplemented the findings with on-site and off-site soil boring data in the regions of most interest. One soil boring encountered apparent backfill material in the vicinity of the well documented to contain LPH. The area was then more thoroughly evaluated with ground penetrating radar equipment. The GPR scan identified a possible fill port and underground storage tank located on the *off-site* property, near the property line. The suspect fill port was unearthed. A plastic wrapped plug was found within a fill port to a previously undocumented UST. LPH and water were identified in the UST. The LPH (diesel range material) was later determined to be similar in nature to the LPH present in the nearby well.

**Results:** MUNDELL successfully petitioned that the off-site LPH and surrounding residual hydrocarbons previously thought to be associated with the service station client was in fact associated with the newly discovered off-site orphan UST, and therefore the responsibility of the property owner to the south. Had MUNDELL not been persistent in thoroughly evaluating the potential source of the LPH, the orphan UST would not have been identified, and the client would have been responsible for the off-site impacts.

