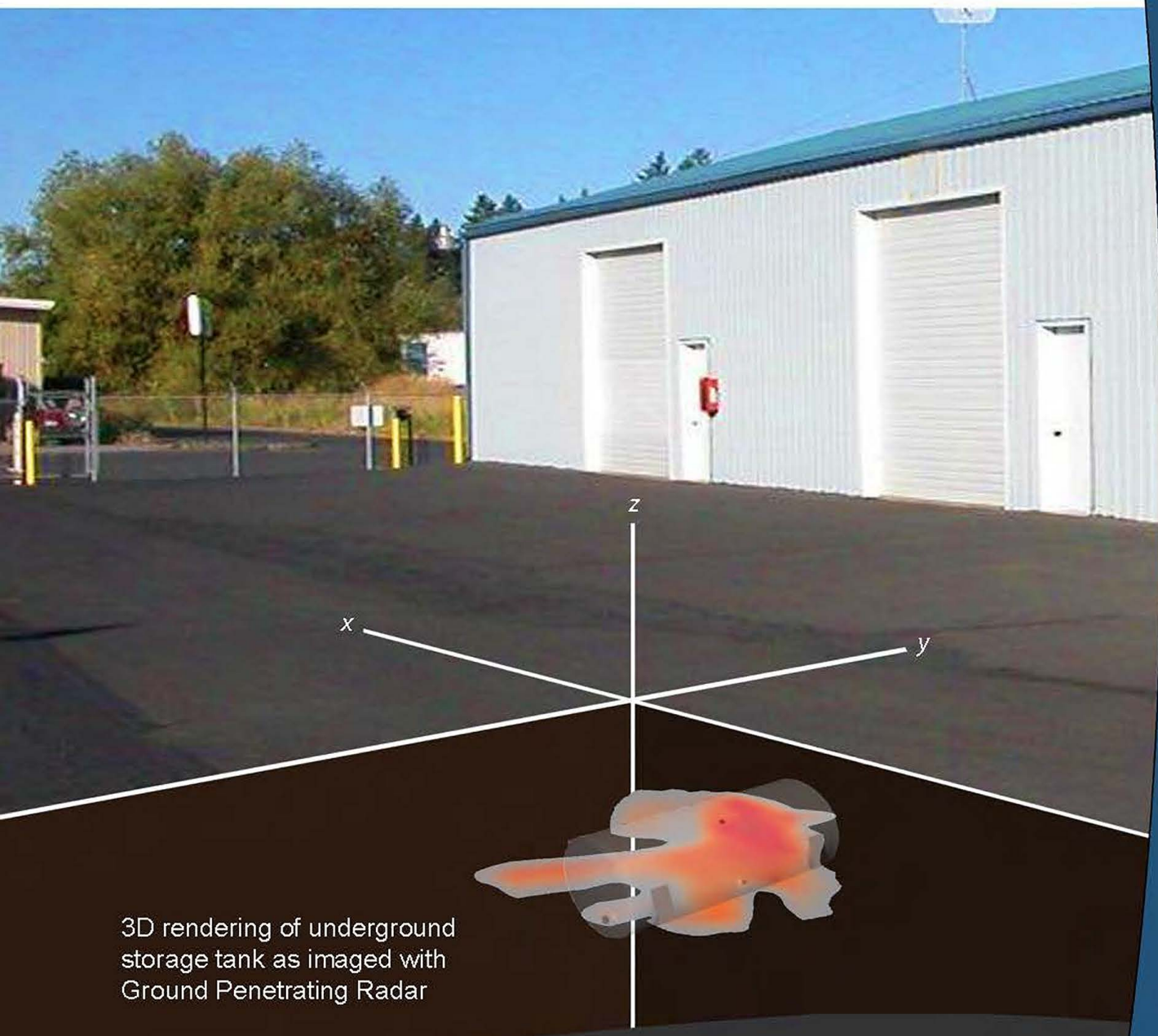
AKS GEOSCIENCE

NEAR-SURFACE GEOPHYSICS AND SATELLITE IMAGING



3D rendering of underground storage tank as imaged with Ground Penetrating Radar

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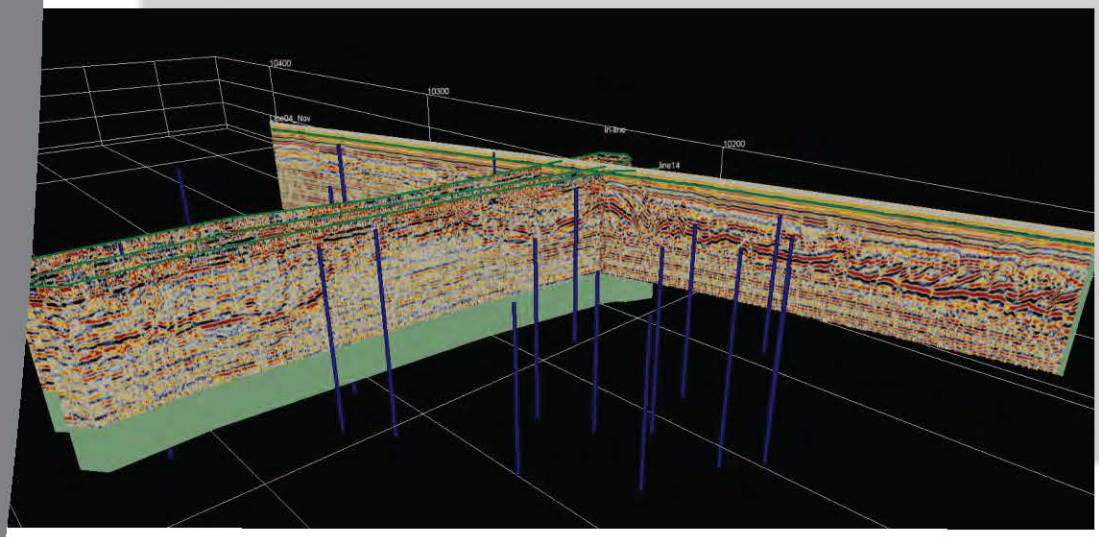
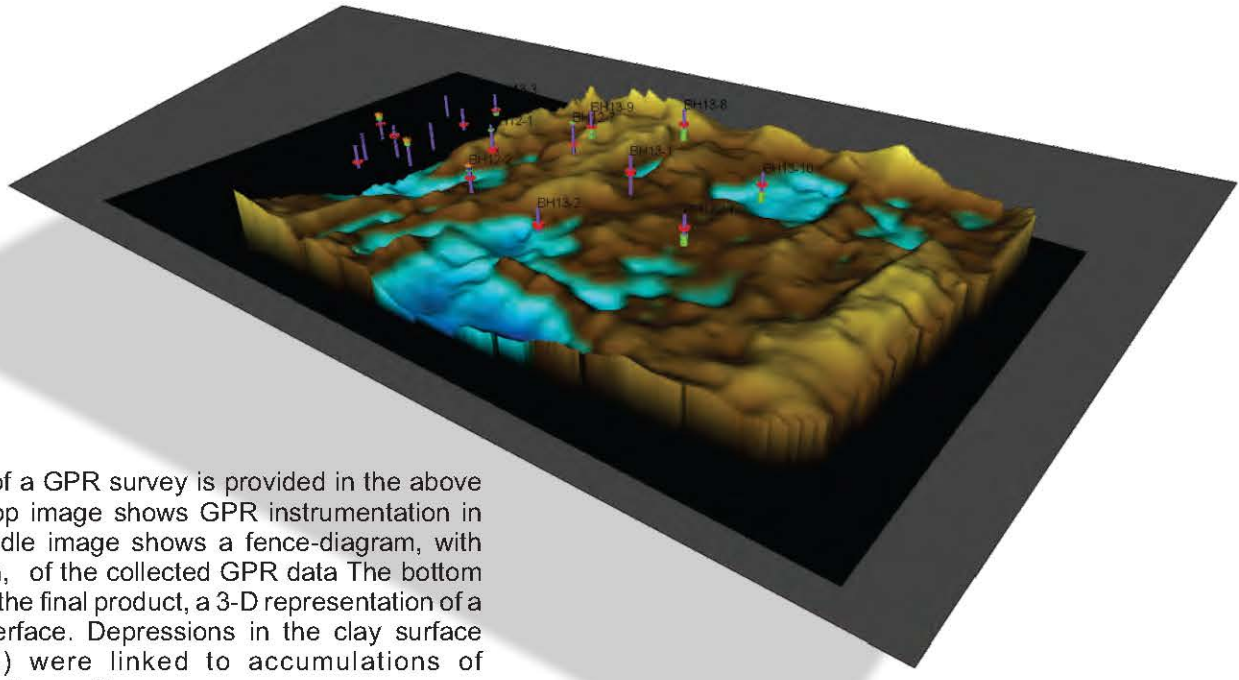
innovative
PROFESSIONAL
reliable

GROUND PENETRATING RADAR

When and Where?

Ground penetrating radar (GPR) is extremely useful for imaging the subsurface, especially if detailed positioning of artifacts is required. Responding to variations of electrical properties (dielectric constant), GPR measures radar impulses which are triggered by variations of rock properties, or the introduction of a foreign object within a homogeneous medium. The stronger the reflection, the greater the difference in the dielectric constant.





An example of a GPR survey is provided in the above figures.The top image shows GPR instrumentation in use. The middle image shows a fence-diagram, with borehole data, of the collected GPR data The bottom image shows the final product, a 3-D representation of a sand/clay interface. Depressions in the clay surface (blue zones) were linked to accumulations of hydrocarbon after a spill.

IDENTIFICATION

What's going on under there?

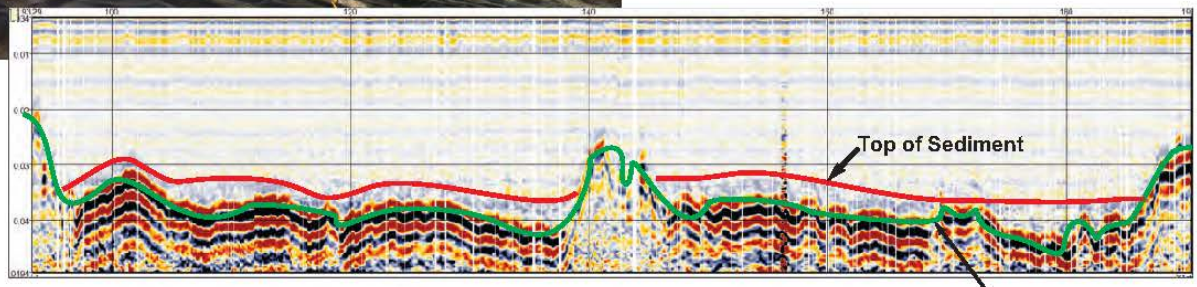
WHERE WE HAVE USED GPR

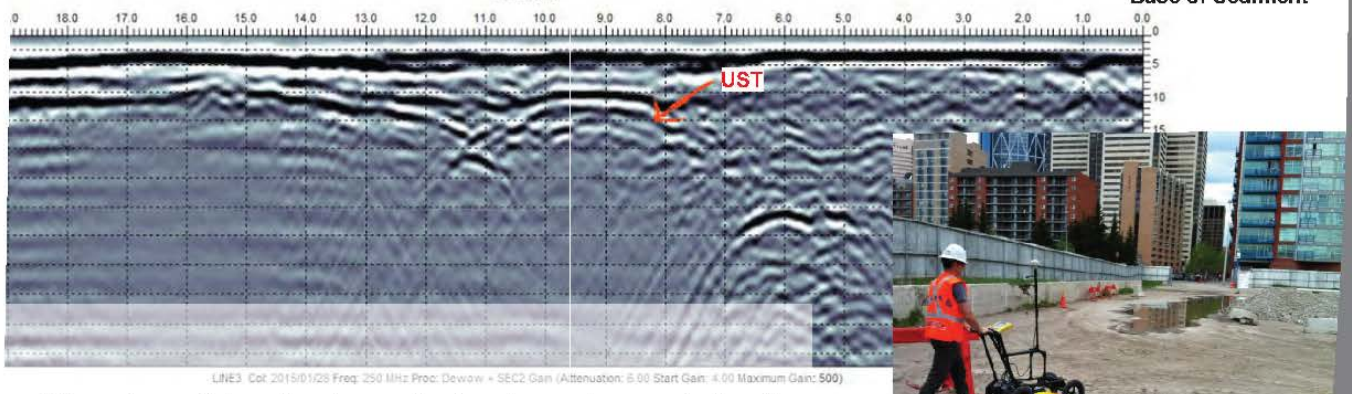
TAILINGS POND

BATHYMETRY SURVEYS

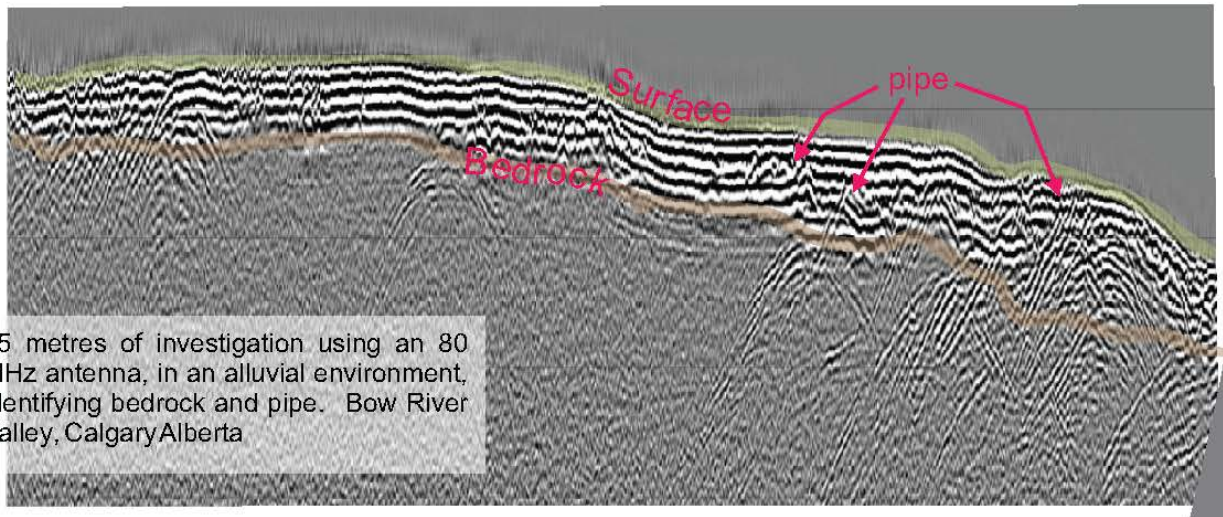
URBAN DEVELOPMENTS

Determining the amount of sediment in a tailings pond is achieved while using an unmanned boat and GPS enabled data acquisition. A 250 MHz antenna achieves 1.5 metres of high resolution imagery, as seen below.





2.5 metres of imaging in a clay/sandy environment, locating an underground storage tank. Increase in clay content on left side of image corresponds to a decrease in imaging depth, an important consideration when using GPR in western Canada



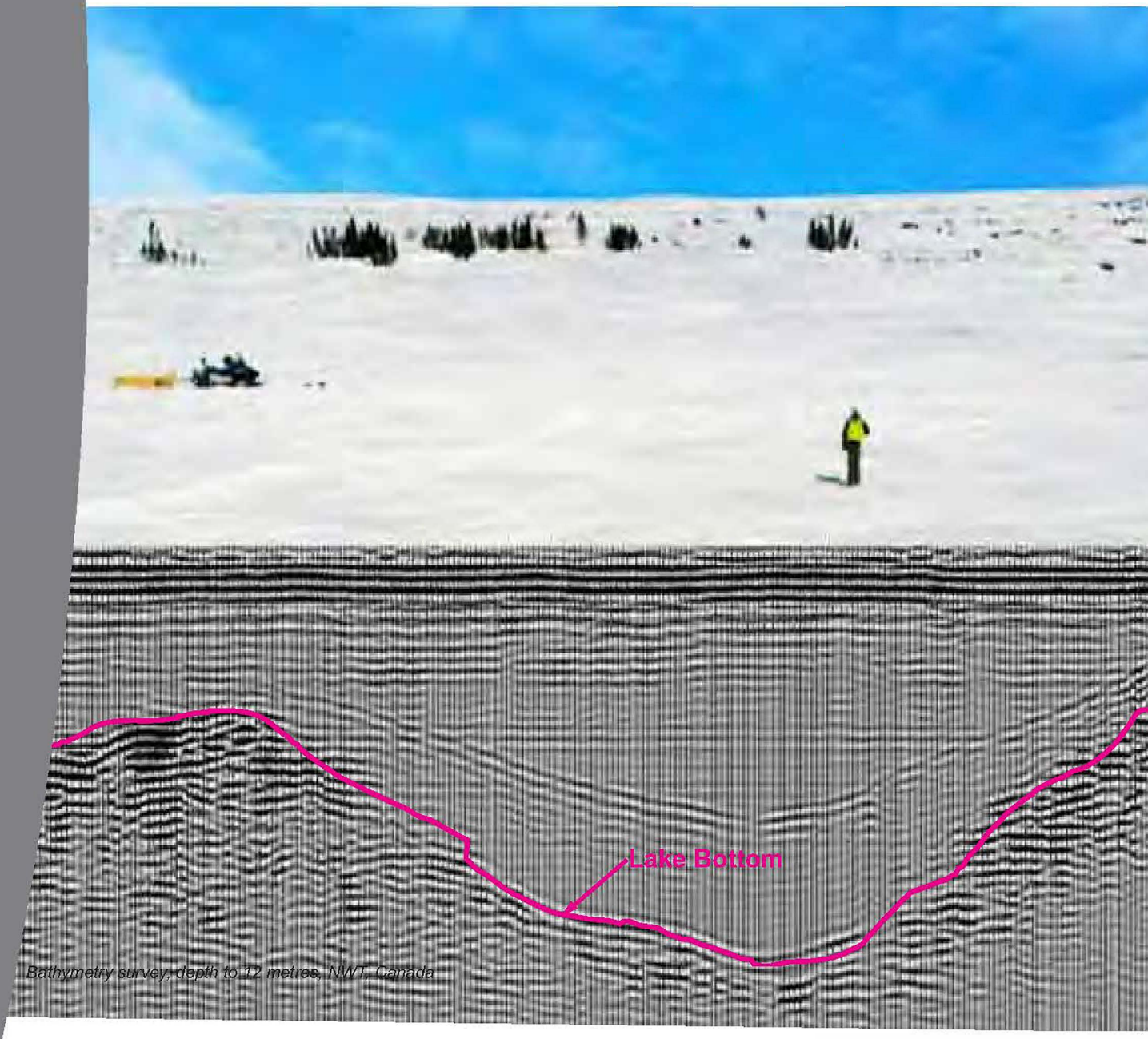
15 metres of investigation using an 80 MHz antenna, in an alluvial environment, identifying bedrock and pipe. Bow River Valley, Calgary Alberta

GEOPHYSICAL SERVICES

AKS Geoscience is a progressive, independent firm comprised of professional geophysicists and engineers. We provide geophysical expertise on complex environmental and engineering problems

Drawing on 30 years of domestic and international project experience we bring a unique perspective to many of the issues facing the environmental and engineering communities.

We offer a full suite of near-surface geophysical methods that are highly useful in delineating soil/groundwater contamination, locating buried objects and utilities, and mapping the shallow subsurface geology. Geophysical methods we specialize in are electromagnetics, resistivity, GPR, seismic refraction, and magnetics.



Bathymetry survey, depth to 12 metres, NWT, Canada

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