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Development - HYPACK Goes Utility Mapping

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INTRODUCTION

Ground-penetrating radar, or “GPR”, is a geophysical survey technique that uses radar pulses to image the subsurface layers. This nondestructive method transmits electromagnetic radiation in the microwave band radio frequency spectrum (UHF/VHF) and detects the reflected signals from subsurface structures much like acoustic signals used in traditional sub-bottom profiling. GPR works in a variety of different media such as rock, soil, ice, concrete and asphalt; and it is a very useful, non-destructive technique for locating buried obstructions or utilities prior to the digging, trenching or drilling work associated with infrastructure developments.

The principles governing GPR are similar to sub-bottom profiling, except that GPR systems transmit electromagnetic energy rather than acoustic energy, and energy may be reflected at boundaries where subsurface electrical properties change.

GROUND PENETRATING RADAR (GPR) IN HYPACK®

Based on customer interest, HYPACK has decided to enter the Utility Mapping market and we have starting working on a new software product for this market segment. The product will make extensive use of HYPACK precise time-tagging and positioning multi-sensor data together with the techniques we have developed for the newly launched HYPACK® SUB-BOTTOM package.

Initially, we intend to interface to ground penetrating radar systems, but this may be expanded to other sensors which are used in the utility mapping industry. It is anticipated that the new software product will also make use of HYPACK® charting functions together with our new 3D visualization techniques.

We are looking forward to this new challenge!

FIGURE 1. HYPACK General Manager Harold Orlinsky Testing a GPR Mapping System.



FIGURE 2. GPR Data Acquisition Simulated in HYPACK® SURVEY. The “parabola” feature in the data indicates the presence of a buried pipeline.

