

Construction-Practice Classifications

In many instances, historic construction practice may not be known or documentation readily retrieved. RoadMap GPR Services creates images and tabulated data which classify changes in construction practice. The example shown here is from an investigation of a section of Hwy. 401 near Toronto, Ontario. Sample data from the area, indicated in Figure 1, clearly show the unique character of joints in the subsurface concrete slab. The concrete slab is covered by 200 mm of asphalt and not visible.

An example of GPR image in Figure 2 shows a short section of the road. This character was observed over several kilometers indicating the uniform road construction practice.

After correlating the GPR with other data, the abrupt localized changes were confirmed to be joints in the underlying concrete slab. The change in signal character is associated with fine grained material and water retained in the concrete joints.

Slight deformation of the asphalt structure above the joints suggest upward migration of the deformation. These characteristics are clear indicators of slab movement at the joints.



Figure 1: Google Earth map showing the location of detailed GPR data presented in Figure 2.

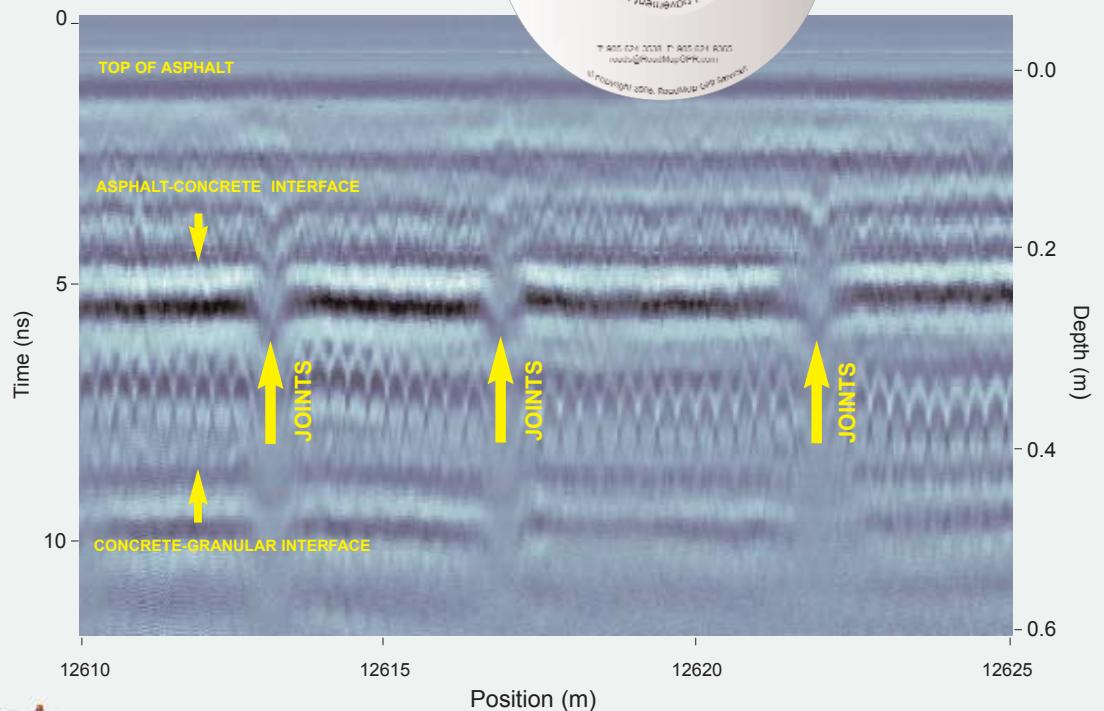


Figure 2: Survey data showing joints in a concrete slab covered by asphalt (indicated by yellow arrows). Disturbance observed in asphalt above the joints indicates movement of asphalt layer has occurred above joints which lead to cracking and the potential for water inflow.

