

## **PALM PILOT FIELD DATA COLLECTION**

*A. C. Newcombe, N. P. de Guzman, and S. J. Bedosky*

*LFR Levine•Fricke (Tallahassee, US)*

To improve field data quality and recording efficiency, LFR Levine•Fricke has developed and implemented an Electronic Field Data Collection System (EFDCS). The EFDCS consists of Good Laboratory Practice (GLP) validated electronic forms that are operated on Palm Operating System™ compatible palm pilots.

These forms simplify the data management cycle, making hand-recorded field observations, subsequent data entry, and data availability delays things of the past. The integration of remote printing capabilities (via wireless printer) into the palm pilot application enables the user to generate hardcopy records for subsequent data archiving. Additionally, data can be transferred remotely from the palm pilot via modem to a Microsoft® Access/SQL database developed on a central server, using Hotsync™ technology.

The incorporation of an infrared bar-code scanner into the palm pilot allows electronic recording of unique sampling locations (e.g., study plots and monitoring wells) and sample identities (e.g., soil cores and water samples).

The EFDCS system was successfully implemented in 2001, as part of a national scale drinking water survey conducted in the United States. As part of this study, electronic data collection was implemented in 9 US states simultaneously. An additional application for field scale studies was successfully launched the following spring (2002). Prior to launching each application, validation procedures were successfully incorporated into the system to ensure the recorded data complied with GLP regulations.

To date approximately 11,000 data entries per month are being collected using the EFDCS system and more than 97% of field samples from these projects (approximately 3000 samples) have been successfully collected using the EFDCS system.