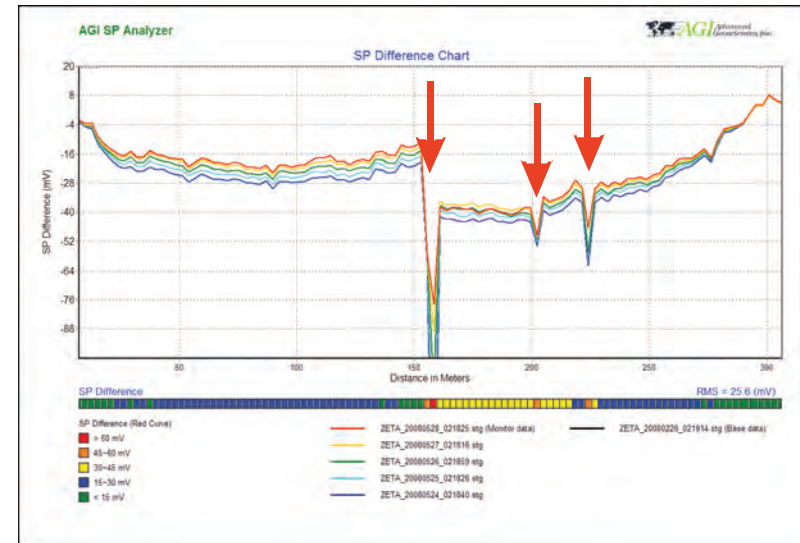


Detection of Underground Water Paths Using Streaming Potential (SP)



The sensors were placed on top and along the quarry rock face



The result of five nights measurements (May 24-28, 2008) is displayed as curves along the 304 m profile. The three anomalies (red arrows) indicate underground water paths, where the water flow gradually decreases over the five day period after a rainfall.



The non-polarizable electrodes (sensors) were buried along the survey profile

112 non-polarizable electrodes had been buried at 9 ft spacing along the top of the quarry rock face. Automatic measurements of the streaming potential (SP) were taken every night when the electrical activities at the quarry was the lowest. Several anomalous zones regularly appeared for a few days after each rainfall, indicating that underground water was flowing in these zones.

- Principle:** Underground streaming water causes measurable voltage differences at the surface of the ground
- Objective:** Monitoring streaming potential along the rock face of a quarry
- Survey date:** 2008
- Survey site:** Hummelstown, Pennsylvania, USA
- Instrument:** SuperSting R1 with 112 non-polarizable electrodes at 9 ft spacing
- Electrode array:** Absolute mode
- Processing:** AGI SP Analyzer software
- Units:** Meter and mVolt



Tel: +1 512 335-3338
 Fax: +1 512 258-9958
 Email: sales@agiusa.com
www.agiusa.com