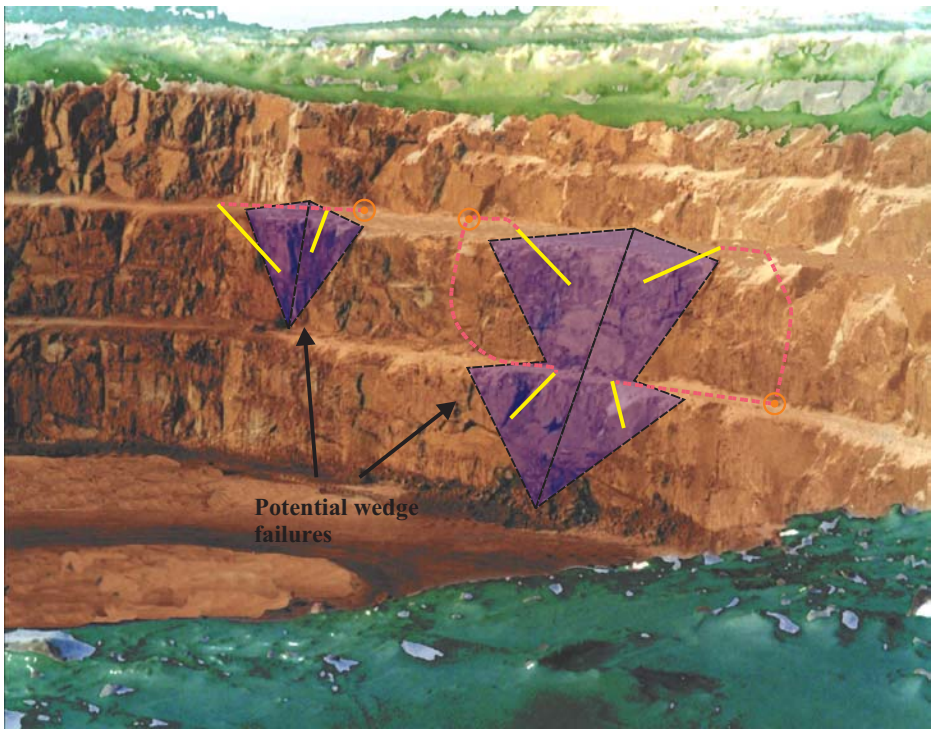
TDR GROUND MOTION MONITORING
SYSTEM LAYOUT

At present, two systems are available for geotechnical TDR ground motion monitoring. These are single point, manual hookup systems and automated network systems.

Single point systems require that an operator walk to the pickup point, attach the TDR unit to the cable, take the reading, and store the trace in memory. All monitoring cables are picked up in the same fashion. When the operator returns to his/her office, this data is downloaded from the instrument into a PC computer. If the Campbell Scientific TDR100 is utilized, then the pickup unit is a laptop computer, in which case, the trace is already loaded onto the computer. At that point, manual comparisons can be made between the original, baseline, trace for each cable and the present trace. Alternatively, the data set can be sent for analysis to a remote site via e-mail or direct modem communication.

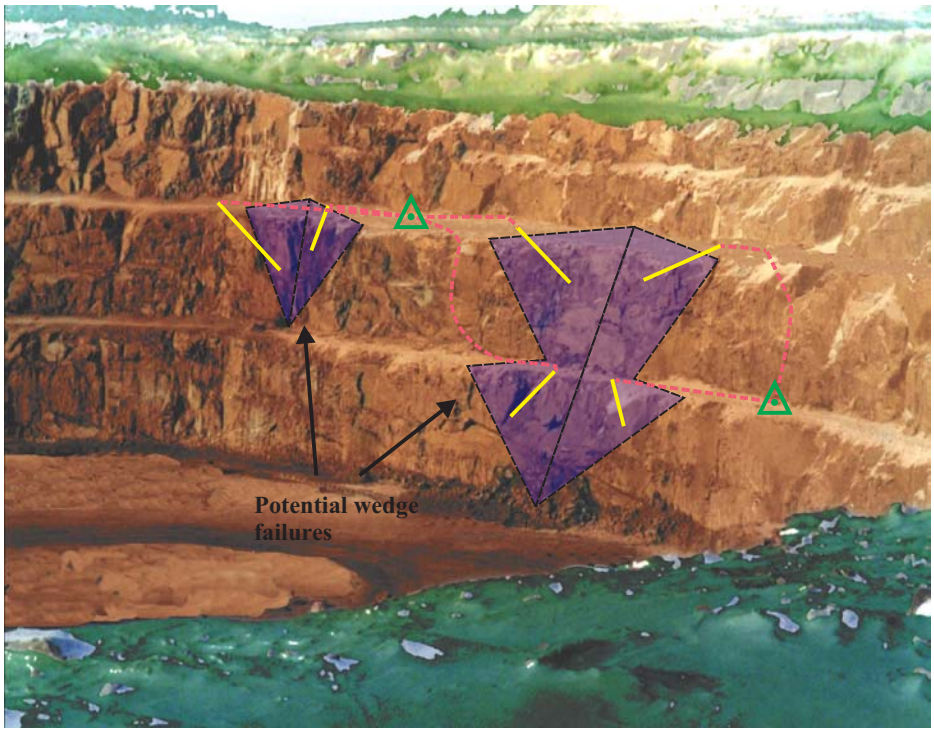
TDR systems are limited in range to around 2000 ft (600m) from any single collection point.. This includes the trunkline and downhole portions of the monitoring cable. As such, multiple data collection (data logger and TDR pulse unit) nodes may be required, especially if a larger area is to be monitored

PERCEPTUAL LAYOUT - MANUAL TDR PICKUP



Coaxial trunk line (armored and protected) Manual connection/pickup point
TDR ground motion sensors

PERCEPTUAL LAYOUT - REMOTE TDR DATA TRANSMISSION



Coaxial trunk line (armored and protected) TDR unit/datalogger/remote transmission station
TDR ground motion sensors