Raax Borehole Survey Details

1. Operating Conditions

ODS probe diameter: 50mm
Borehole survey range diameter: 60 to 200 mm (all PQ, HQ and NQ holes)
Directions: Borehole direction – any direction; vertical, inclined, horizontal or upward. For inclined holes we recommend the holes to be -60°, or steeper from horizontal, to ensure borehole stability.

2. Borehole preparation

Borehole imaging starts from the drilling stage. Proper borehole preparation is essential for high quality and cost-effective imaging. Drillers should thoroughly flush the holes with **clean water** at 6m intervals. Water clarity is essential for high quality imaging. **We carry a special flocculent and a purging pump to use if water was found cloudy**. **Casing must reach the top of the hard rock** – as even a small interval (few centimeters) of weathered clay or silt between the casing bottom and the top of the hard rock can cause blockage and/or mud-caked/smeared wall, which can become serious obstacle in imaging, resulting in deteriorated data quality or abortion of the survey.

3. Unnatural magnetic field

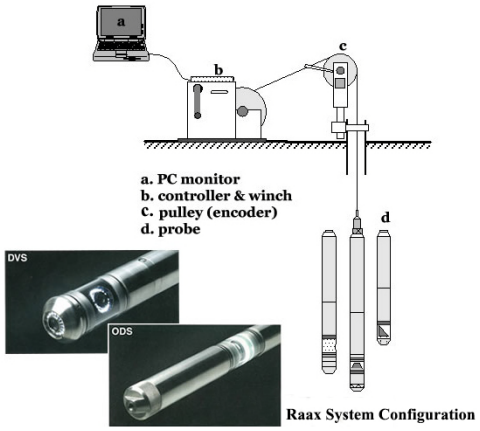
In some of the urban areas strong unnatural magnetic field affects the BIPS magnetic compass. The problem often occurs near metallic and magnetic bodies/rocks, underground cables, power lines, railways, etc. It can occur inside the buildings, demolished building sites and dam walls. Before imaging commences, we check magnetic stability and, if found, we take proper remedial procedures on site and during processing.

4. Raax's new borehole orientation method

Raax Australia has developed a new innovative borehole orientation method using the current field work setting. Azimuth and declination are recorded and compared with the calibrated orientation data. Its accuracy is +/-1 degree.

5. BIPS ODS image resolution

Early this year we have acquired an upgraded system, **BIP-V**, whose horizontal pixel number is, 720 (0.28 mm for NQ hole), and vertical pixel size is 0.25 mm; it allows to see a 0.125 mm object. Later this year to early next year, we will acquire an ultimate imaging system, **BIP-VI**; its pixel number is, 1440 (0.14 mm for NQ hole) horizontally, and 0.125 mm vertically, allowing to see a 0.07 mm feature.



Raax System Configuration

Bore Hole Imagery for Precision Geology