



## Phil Burke

Phil Burke is one of only a handful of individuals who can claim to have developed a new branch of geotechnical engineering. Phil pioneered the application of industrial rope access techniques on rock face and slope stabilisation projects in the early 1980s and has now amassed well over 20 years experience in this specialist field. In 2,000, Phil set-up his own company, Rock Solutions Ltd, based near his home in Derbyshire's beautiful Peak District.

Born in 1950, Phil attended Stockport Grammar School and subsequently studied for a BSc in Process Measurement and Control at Liverpool University. Whilst at school, Phil developed a fascination for the local abandoned copper mines and joined the Derbyshire Caving Club: by the time he was twenty-five he had completed descents of the world's five deepest caves. Rock climbing was a natural progression and Phil quickly became one of Britain's leading Alpine climbers, having climbed the North wall of the Eiger as his first Alpine climb. International expeditions included establishing two of the world's hardest big wall climbs in Patagonia. This profile could easily have ended here. In 1986, already active in industrial rope access, Phil was persuaded to join the British K2 expedition and was on the mountain during a period when 14 climbers died in severe weather conditions: a tragedy which will soon be the subject of a movie directed by the team which filmed 'Touching the Void'.

In geotechnical terms, Phil's career started in earnest in 1979 when he began working for quarrying companies in the Derbyshire area designing controlled and production blast patterns. Phil also gained extensive hands-on experience of tunnel stabilisation including bolting, diamond drilling and sprayed concrete: techniques that are used extensively when implementing rock face stabilisation solutions.

In 1983, Phil worked for a French company on a project in Martinique which employed rope access techniques. Returning to the UK, he joined fellow climbers in establishing Britain's first industrial rope access company and the earliest geotechnical job consisted of rock scaling at Whitby for the local council. Drifter drilling rigs used in conjunction with rope access techniques were first employed in the UK in 1984 to install rock bolts above a rail tunnel portal near Aberdovey in mid-Wales.

Phil identifies a project at Camp and Little Bay in Gibraltar in the early 90s as the time when geotechnical rope access techniques truly came of age. "The Gibraltar job was extremely complex. Particularly challenging was the design and installation of 20m GRP permanent anchors. To achieve this we developed DTH rigs incorporating winching systems designed to conform to the LOLER regulations introduced in 1992. These rigs were critical to the success of the project which received considerable coverage in Ground Engineering at the time. I think this was the first time that many in the geotechnical community started to seriously consider rope access as a practical and cost-effective solution. Today, many consulting engineers specify rope access as the preferred option when they design rock face and soil slope stabilisation schemes. I've no doubt this is partly due to the impressive safety record built up by the rope access industry over the past twenty years."

Phil was one of a small team that worked with the Rev Malcolm James of the Health and Safety Executive in the mid 1980s to develop the first advisory code of practice for rope access techniques, the forerunner to the current Industrial Rope Access Trade Association (IRATA) guidelines. “The majority of equipment in industrial rope access is derived from caving, including the static rope which was first used by RAF mountain rescue teams in the 1970s. In the early days the hardest task was changing the mindset of climbers and cavers to use two ropes – a primary and a safety – instead of one. Nowadays the use of two ropes is unquestioned and provides an extremely safe working environment. This is particularly attractive to clients for whom safety is critical such as Network Rail.”

The railway sector is one of Rock Solutions’ primary sources of work with typical projects including the installation of rock fall netting and anchors in cuttings and soil nailing to stabilise embankments: “We’re already Link-Up approved and in October we are hoping to become the first rope access company to pass our core Network Rail audit. I believe our systems and procedures are much tighter and more professional as a result and I hope that Network Rail continues to drive out those companies which do not take quality and safety seriously.”

Phil says he has no regrets about his career choice. “I have been very fortunate and have managed to combine my two great loves: climbing and engineering. I would encourage anyone to consider geotechnical engineering if they love the outdoor life and the satisfaction of overcoming practical challenges.”