

Until 2006 company growth had been via organic means & growth by means of acquisitions presented a new and challenging concept to S&B.

The geographical footprint of S&B grew by means of all four of its acquisitions.



Acquisitions afforded the company entry into further disciplines within the civil engineering and construction market.

Stefanutti & Bressan **ACQUISITIONS**



*Mike and John on ECMP's
first 4x4 Landini tractor.*

ECMP

Established:
1991
Acquired:
March 2007

ECMP

Environmental, Civil and Mining Projects (Pty) Limited

ECMP was established in July 1991 and provides professional engineering services to a wide range of clients across the African continent in the fields of design, construction and operations of tailings disposal and tailings recovery facilities. Over the past five years, ECMP has expanded its services into surface mining where it is involved in open pit mining operations, including the design and management of mine spoil dumps.

HISTORY

Mike Smith and John Robbertze had worked together for 17 years at SRK Consulting and whilst they were both doing well, found themselves hankering for more. Both were over 40, in secure jobs as directors, and supposedly set for life. However, the desire to do more than merely sell their professional time was stronger than their need for stability and, much to the surprise and shock of their colleagues, the two resigned in 1991 to venture into the construction side of tailings operations.

In the early nineties, the Fraser Alexander Group had a monopoly of the tailings operations in Southern Africa, but Mike and John decided they had what it took to take on the big boys! Their venture was self-financed and they took out extra bonds on their houses. Within a month of registering, ECMP was awarded their first contract at the Randfontein Estates Gold Mine (owned by JCI) – a R 90 000/month service agreement (which incidentally they still have now 17 years later with mine owners Harmony Gold Mine Limited).



First day at the office – John, Koos & Mike.



The Randfontein Estates team at their first site braai.



The company ditcher hard at work.

- 1991
Founding of ECMP
- 1991
Award of first project for JCI at Randfontein Estates Gold Mine
- 1991
Annual turnover R1 million
- 1994
Start of West African Operations with a project in Ghana
- 1995
Opens Welkom office
- 1998
Opens Barberton branch
- 1998
Opens Richards Bay branch
- 1999
Opens Kimberley branch
- 2000
Start of Southern African Operations with Zambian project
- 2001
Opens Centurion design office
- 2002
Move to the Broadacres office and consolidation of all services into one office
- 2003
First open pit mining project
- 2006
Annual turnover R80 million
- 2007
Acquisition by Stefanutti & Bressan
- 2007
Annual turnover R380 million

Design and construction of 800 000 ton/month tailings storage facility.



To work efficiently the company required specialist equipment and initially set to work using their 4 x 4 Landini tractors with agricultural disc ploughs, until the first ECMP ditchers arrived in South Africa from Italy.

The award of the Randfontein project marked the start of the company's tailings operations, followed by further offices opening across South Africa, including Welkom (for Anglo Gold); Kimberley (for De Beers); Barberton (for ETC); and Richards Bay (for Ticor).

From the early days, ECMP undertook construction work affiliated with tailings, and this business grew parallel to the operational side.

In November 1996, Vaughan Shaw joined ECMP to head up the construction division, growing the business both in South Africa and Zambia with the construction of the Chambishi tailings dam and operation thereof. Vaughan left in 2006 to pursue other prospects, but by then had made his mark on the growth of ECMP.

In 1994, motivated by Wits University's Professor Geoff Blight, ECMP started exploring opportunities in Ghana which soon led to design work and project management across West Africa, including Ghana, Mali, Burkina Faso, Guinea and Niger. The company suffered a setback when Mike was involved in a serious car accident in Ghana in 1998. However, he was back to working full steam within three months.

At the beginning of 2000, ECMP had a dedicated design division, lead by Guillaume de Swardt, in Randfontein and Centurion. Struggling to find talented people willing to work in the company's remote locations, ECMP in 2003 decided to consolidate their head office, moving both the Randfontein and Centurion design offices, as well as all the support services to Broadacres. The more central location made it easier to recruit talented engineers, designers and support staff.



Erosion control tests at Doornkop Mine.



Ten-year service awards - West Rand.



ECMP offices in Broadacres.

The design, construction and operations were all run from the Sandton office, but when both Vaughan and Guillaume resigned to pursue their own ventures, the original partners decided to regroup and refocus on growing the business. Mike and John decided to revitalise the construction division, employing estimator Peter Troward and contracts manager Stephen Goodhead to inject new zest into the division. At the same time John re-established a design team to service turnkey projects.

The operations side of the business continued to grow steadily with the now experienced area managers (Mike Abbott – Randfontein; Kobus Kirchner – Welkom; Marc Elliott – Kimberley; Freddie Strydom – Barberton; and, more recently, James McAlister – Richards Bay). In 2004 ECMP ventured into the open pit mining arena, when Freddie Strydom, the entrepreneurial area manager in Barberton, offered ECMP's services to the Nkomati Mine after they had identified the requirement to start open pit mining.

ECMP has always aimed to stay a step ahead in terms of technology, offering the best operational, design and construction solutions to their clients. Mike has been publishing papers since the mid-70s and has become a regular speaker at mining and industrial waste management conferences. ECMP's working relationship with Wits University led them to implement trials for erosion control at Doornkop Mine, which resulted in the award of some large projects in the early 2000s.

ECMP pioneered the international trend of paste technology in South Africa and was involved in the first South African project that implemented thickened tailings/paste rather than conventional tailings. In this regard they played a major role (design and construct) in the first "true blue" paste disposal facility at CTP in Kimberley. This pioneering work on paste technology was taken a step further when, in 2006, they won the contract to design, construct and operate the new paste tailings dam at the BKM Mine, which included the design, construction and operation of the thickener – the first time this was done as an integrated project. ECMP has recently been awarded the operations of a paste facility at the new De Beers Voorspoed Mine near Kroonstad.

Until 2006, ECMP had continued to experience significant annual growth. However, capital was needed to grow the company further. Mike and John found themselves at a cross road, well into their fifties by now and seriously looking at succession planning. The approach by civil engineering and construction company Stefanutti & Bressan in 2006 offered a desirable solution to ensure that their legacy lived on and, in March 2007, the acquisition of ECMP by Stefanutti & Bressan was finalised.

In addition to partners Mike and John, the company directors include Stephen Goodhead, Freddie Strydom, Craig Morris and Ross Cooper. The two partners are contracted to stay on until 2009, but until then it's business as usual.



Open Pit Mining Operation.



The ECMP management committee.

Rock cladding of tailings dams

By Michael Smith, ECMP (Pty) Ltd - South Africa

Numerous technical papers have been published in the past on the subject of the application of rock to the side slopes and top surfaces of tailings dams. The cladding is applied to provide long-term wind and water (rainfall) erosion control and to prepare for closure of the dam at the end of the life of the facility. This article reviews previously published test work on alternative rock cladding applications and presents an appropriate specification for the successful placement of rock. There have been a number of large-scale projects where rock cladding has been applied to the side slopes of the facilities, some completed over eight years ago, which provide interesting data on the longer-term performance of these measures.

In 1994 a programme to determine the effectiveness of utilising mine waste rock (dump rock) to clad the side slopes of tailings dams was formulated. This programme was initiated with a large-scale experiment at the Doornkop tailings dam on the West Rand (Randfontein Estates gold mine). A technical review of the experiment results concluded that several rock cladding options can be considered for the implementation of large-scale projects, provided a detailed engineering design of each unique facility is completed prior to the execution of the works. A summary of the findings is presented below.

OPTIONS

Fine rock

This is typical material obtained from mine dumps, consisting of a combination of fines interspersed with some coarse rock - a coarse 'crusher run'-type material.

- The placement of a 300 mm layer of fine rock onto the in-situ, unprepared side slopes reduces the quantity of material eroded by rainfall (water erosion) by $\pm 60\%$ when compared to the erosion measured from untreated slopes. This significant improvement can however be further increased from $\pm 60\%$ to $\pm 90\%$ by applying an appropriate levelling/compaction process to the in-situ surface of the slopes. Base preparation therefore makes a significant contribution to the overall erosion control exercise. The cost of base preparation is relatively low where minor erosion has already taken place, the cost is considerably higher. In these cases, the most practical solution is to fill the erosion gullies with the fine rock material prior to the base preparation exercise.



A completed side slope

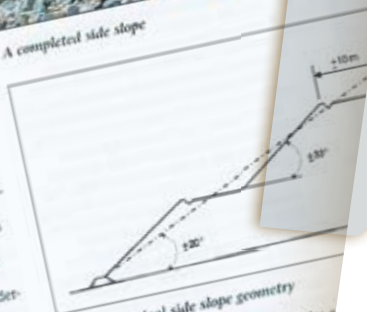


Figure 1 Typical side slope geometry

(placed on a prepared base) provides a benefit of $\pm 3\%$ of



Conventional tailings disposal.



Paste disposal - old and new technology (inset).