

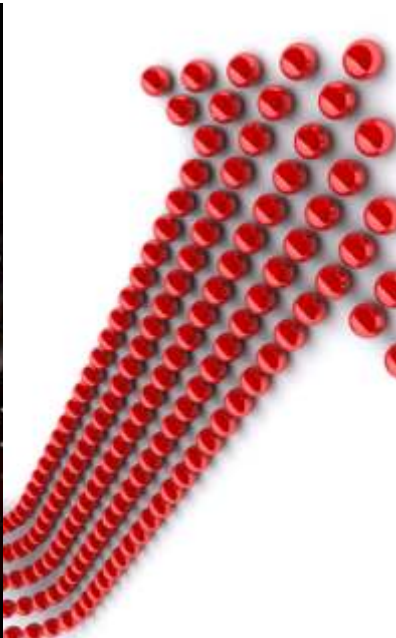
BlastingNews

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WEALTH UNEARTHED



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A MESSAGE FROM OUR MD - Tobie Louw

Tobie Louw, AEL's managing director, discusses how the latest changes in the group are aimed at benefitting customers.



The last 18 months have seen a rigorous enhancement of AEL in functionality and design in order for us to effectively implement our planned strategies across the 16 businesses in the group. Along with the enhanced company design, there has been an increased focus on technologies in order to facilitate the smooth delivery and deployment of these strategies. The new organisational model implemented last year has borne fruit and allowed our businesses to increase their focus on our customers with a single, consolidated services group backing them.

We understand the market pressures on our customer and our own industries and we ensure that we continually review and work on improving the benefits we offer our customer in mining safety, optimisation and security of supply. Notwithstanding that our global benchmark has inclusively shown that we deliver exceptional value to our mining and infrastructure customers, we continue to explore ways to improve on our existing offerings.

In addition, the centralisation of nitrates and initiating systems has improved the operations and purchasing functions. The focus on our cutting edge R&D team has upped the game from a technology point of view and you can read about some exciting new developments on this front, including the introduction of AEL's hot hole detector and our pioneering work in the area of the vertical drop of bulk base emulsions.

To support the growth of the business as a whole, we've enhanced our support and control of key financial and governance aspects, as well as business systems. Most importantly, we've also reviewed corporate services regarding safety and health, environment, HR and strategic projects.

Our new organisational design also aims at releasing the energy and capability of leadership of all the units in the AEL group. Our strategy of positioning AEL as a world-class mining services company with global technologies to create value and growth in Southern Africa, Africa and selected international markets has paid off handsomely, with the recent signing of the KPC contract in Indonesia, as well as other joint ventures globally.

Our two Southern African business units, Narrow Reef and Surface & Massive have recently been consolidated into the AEL SA business, under the leadership of Liesel de Villiers. Colin Wilson heads up the international business, with Stuart Wade in charge of all our African business. Our operations have been centralised under the able leadership of Cyril Gumede, who is driving capacity development, productivity and operational capability.

Dr Piet Halliday heads up our cutting edge R&D team which has delivered a number of world firsts and product cost improvements. Our finance and IT teams under Rafael Fernandes are totally aligned with our business changes. They are well-prepared to deal with the increasing complexity regarding growth and governance. New business systems have been developed to increase access and presentation of critical information throughout the group.

Over the past year, we have tightened our footprint at our Modderfontein site to allow land release into the green area around the plant.

At AEL, it is the season of change, with exciting developments on all fronts both locally, into Africa and internationally. As we all embrace change, at AEL we ensure that we do so with meticulous care, with total dedication to safety and the impact on the environment.

Enjoy reading this issue!

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AEL African Business

World-Class Explosives Plant at Lumwana Copper Mine



AEL Representatives at the opening of Lumwana Mine.



His Excellency Rupiah Banda, President of the Republic of Zambia, at the opening Equinox's Lumwana Mine

AEL Zambia Plc, a member of the international AEL Mining Services group, completed the construction and commissioning of the bulk emulsion manufacturing plant at Equinox Mineral's Lumwana Copper Mine in Zambia. Lumwana Copper Mine is situated in the north western province of Zambia, 220 km west of the copperbelt and 65 km west of the town of Solwezi. The opening ceremony of the mine was attended by His Excellency Rupiah Banda, President of the Republic of Zambia, local dignitaries, the board of Equinox Minerals, government officials and employees of Lumwana Mining Company Limited and the AEL group, as well as sub-contractors. Thinus Bierman, Managing Director of AEL Zambia Plc commented, "The opening ceremony at the mine officially heralded the commencement of the largest single investment in Zambia and the largest copper mine in Africa."

AEL at Lumwana

AEL Zambia Plc has been involved in the Lumwana Copper Mine since early 2005 and completed the construction and commissioning of the bulk emulsion manufacturing plant in January 2009.

All bulk explosives supplied at Lumwana Copper Mine, since the end of January 2009, have been manufactured at the facility.

The bulk emulsion plant at Lumwana is a modular plant, manufactured by AEL South Africa and assembled on site and thus has the capacity to supply all the current and future requirements of the Lumwana operations. The facility also provides an alternative production and buffer stock facility in Zambia, assisting in managing risk of supply concerns.

"Our emulsion plant at the mine is an example of how the AEL group can provide a world-class facility with a full range of customised products and services in strategic sites at remote locations around the world. AEL has recruited many of its staff from the local community, providing training and development," said Bierman.

AEL Zambia Plc has taken delivery of the first two of the three new generation 20t E-Series Mobile Manufacturing Units (MMUs) for Lumwana mine, which are used to deliver bulk explosives directly into the blast holes at the mine.

Jon Yelland, Mining Manager at Lumwana Mine

commented, "AEL Zambia Plc was chosen for their ability to meet high production requirements for the Lumwana project, as well as being able to provide a state of the art bulk emulsion plant and accessory storage facility, specifically based at the Lumwana mine.

"In addition, AEL's track record in operations within Africa and the support team and operation at Mufulira in Zambia, as well as in Modderfontein in South Africa, were the reason AEL Zambia Plc was selected to be part of the Lumwana project moving into the future."

"Our emulsion plant at the mine is an example of how the AEL group can provide a world-class facility with a full range of customised products and services in strategic sites at remote locations around the world. AEL has recruited many of its staff from the local community, providing training and development,"



An aerial view of the Lumwana Plant

AEL South African Business

AEL Achieves Shock Tube Conversion Success

In what has been one of the largest global product conversions in the mining industry, AEL Mining Services announced that it has achieved close on 75% shock tube conversion success in the Narrow Reef sector to date.

AEL started the customer conversion process from capped fuse and igniter cord to shock tube blast initiation systems in the Narrow Reef mining sector during 2006. Since then, annual growth of shock tube volumes has been significant, with expectations of completing the process by 2010.

Shock tube initiating systems, although available and successfully implemented in mines since the 1980s, were only recently adopted across the industry as the production and conversion costs became viable, and local manufacturing capacities were expanded.

Latest Statistics

AEL's latest conversion statistics bear witness to the magnitude of the conversion project. According to AEL SA's Business Director, Liesel de Villiers, over 2,500 people have received formal training since conversions began in 2006, and this excludes post implementation support and individual coaching on the face.

"All our Narrow Reef customers are in the process of converting to shock tube, the main drivers being safety and improved blasting results", says de Villiers.

"The conversion process over the last couple of years has been an enormous challenge due to the large number of initiators involved. AEL developed a new generation of world class "super" shock tube products and is in the process of automating production facilities to a level unparalleled in the explosives industry worldwide.

"We are currently supplying assemblies produced at our existing plant, as well as at our new automated factory. The plan is to gradually increase the new plant capacity and phase out our manual plant by 2012."

Managing Change

Along with the challenges of producing world class shock tube products in tandem at the manual and automated plants, the largest challenge for AEL has been the management of the conversion process against a backdrop of 50 years of capped fuse usage.

De Villiers comments, "We developed a robust conversion methodology, which comprises a nine step training process that engages all users on the ground, including supervisory levels, and involves both surface and underground training over a period of three to four days. The most important step to ensure successful conversion is to engage users at all levels, and support management as they take ownership."

AEL adopted a phased training approach, which includes three major stages:- training of middle management; train-the-trainer at the customer's facilities; and training of the production crew.

"To demonstrate shock tube technology", says de Villiers, "we came up with an innovative concept and converted an articulated truck into a Mobile Training Unit and fitted life-size models which replicate a stope, gully and development end to show users how to connect shock tube for different applications."

Benefits of Shock Tube

The benefits of AEL's shock tube technology include enhanced safety features during production, storage and application.

De Villiers adds, "Many of our customers documented numerous benefits of shock tube during 2008, which not only contributed to increased safety but to cost savings. These included the reduction of the number of misfires, increased advance per blast, improved hanging wall conditions, a more uniform fragmentation profile, shorter blasting times and increased production."

Dilokong Excels at Conversion

An example of a successful conversion recently took place at Dilokong Chrome Mine, a wholly

owned subsidiary of ASA Metals, situated 30km from Burgersfort en route to Polokwane.

AEL has supplied Dilokong Chrome Mine with capped fuse initiating systems and explosives for many years. The capped fuse conversion project commenced in April 2008 and was completed within a couple of months.

Buks van Rensburg, Mine Manager at Dilokong comments, "We approached the conversion project with total commitment, and ensured that we were fully prepared for the process. This involved engaging our mine personnel at every level, from management through to production to ensure that we had buy-in from all staff members.

"We took into account that our staff have worked with capped fuse for many years and that there would be a certain degree of resistance to change, but we managed to communicate effectively the over-riding benefits of safety, ease of use and cost savings.

"AEL assisted us in the process and spent a week on site training over 120 staff," adds van Rensburg. "The process went very smoothly and once our staff realised how easy and safe shock tube is to connect, they were persuaded."

Moving Forward

As AEL's automated plant reaches its final phases of implementation, the group has the capacity to ramp up production to match demand and supply of shock tube assemblies.

"By partnering with our customers and planning the process together, we can ensure that there is always sufficient supply of world class quality products that contribute towards increasing productivity, delivering zero blast delays, lowering blasting costs, improving fragmentation, and increasing safety", concludes de Villiers.



AEL's Mobile Training Unit



Aerial view of Dilokong Chrome Mine



Liesel De Villiers

AEL South African Business

Success for AEL with first fully auto-assembled shock tube assemblies

AEL Mining Services has successfully launched its new fully automated assembled shock tube assemblies at numerous mining sites, including RPM Brakspruit, RPM Turffontein, RPM Townlands, Northam Mine and East Driefontein 5 shaft.

AEL took its first fully automated assembled shock tube assembly blast at Anglo Platinum's Brakspruit Mine in the North West province at the end of June this year, followed by successful field trials of 150 000 units.

The initial blast at Brakspruit marked AEL's adoption of automated assembled shock tube assemblies and comes on the back of the company's conversion of the South African Narrow Reef market from capped fuse to shock tube technology, which is set to improve safety and blasting results in the mining industry.

AEL embarked on the Initiating Systems Automation Project (ISAP) in 2006 and has designed, built and commissioned a high speed automated assembly line to deliver high volumes of shock tube product within a significantly

reduced cycle time relative to existing manual processes. The project entailed various stages of automation starting with the manufacture of detonators right through to the assembly of final products sold to the market.

According to Sean O'Brien, projects manager (Narrow Reef) at AEL, the conversion has been well-received by the market and is gaining momentum. Rigorous tests were done internally at AEL's Modderfontein ISAP plant before any field trials were implemented in adherence to the ISO 9001 quality system. "The product has performed well with no misfires reported. To date, approximately 700,000 units of our new fully automated assembled units have been used for blasting with successful results."

AEL's new shock tube product has been re-engineered to meet the stringent safety standards of automated manufacturing. The detonator of the auto-assembled shock tube is crimped onto shock tubing via a plug without affecting the product quality. A new ergonomical clip has been designed and figure 8 coiling of the shock tube introduced. Additional features include a crimper and a crimp which have been designed so the reduced cycle time of the high speed automation lines could be met whilst maintaining a high product quality.

O'Brien adds, "Numerous customers have commended the modified design of the 3G Reefmaster clip, which is easier to handle within the confines of the Narrow Reef stopping environment.

"Automated assembly in manufacturing is a milestone in the South African mining sector. It has been used extensively in the manufacture of cars. The mining industry is set to reap the benefits of reducing operator exposure, increasing the safety of operators handling sensitive products and delivering a quality product at a faster production rate."



Successful blast of AEL's first fully automated assembled shock

Gautrain Tunnelling Advances at Rapid Rate

The tunnelling of the Gautrain project has been completed, with the final blast having taken place on 9 October 2009, a few weeks ahead of the November deadline. One of the key contributors to the rapid advancement of the tunnelling was the consistency of the blasting technology provided by AEL Mining Services.



AEL's underground bulk system delivery vehicles at Gautrain

The Gautrain project involved 15.8km underground tunnelling, involving drilling and blasting of tunnels under the city of Johannesburg.

Projects of this magnitude usually take a few years to complete, but the tight deadline of the impending 2010 Soccer World Cup event required an explosives company that could advance at a rapid and efficient rate. AEL's Quarry Services division was awarded the

tunnelling explosives and initiating systems supply contract against stiff competition, offering two market leading technologies. These included Quickshot / Smartdet Electronic Delay Detonators, which are robust, flexible and user friendly initiating systems and R100G, which is a safe and efficient Underground Pumpable Bulk Emulsion explosive.

The tunnelling route includes 4 stations and 7 emergency shafts varying from 6 to 21m in diameter and depths between 35 to 90m. Considering the majority of the Gautrain stations being situated in close proximity to high value properties such as Sandton and Rosebank, the initiation and blasting system had to minimise air blast and ground vibrations. The blasting was executed with minimal interruption to business and residential areas.

The blasting and tunnelling has been done through two different rock formations, namely Granite and Witwatersrand, a heterogeneous ground composed alternatively of quartzite, siltstone, shales and andesites in various degrees of weathering. To minimise airblast and vibrations, Smartdet, AEL's fully programmable electronic initiating system, was used for the shaft sinking and the QuickShot for the tunnelling.

As part of the contract, the Bombela Consortium required the explosives supplier to manage the strict regulatory and statutory requirements associated with the transportation, handling, storage and usage of explosives in a built up environment.

AEL's Quarry Services manager, Des Decina says, "Statutory regulation didn't allow for the contractors to store explosives and initiating systems on the various sites. AEL assisted Bombela with sourcing the required permits and voluntarily shouldered the task of handling and transporting the materials from their magazines (storage locations) to the various sites and vice versa".

"Our technology has really been put to the test," adds Decina. "We were firing rounds of 5.5 metres, compared to the industry average of 3 metres. AEL's high energy bulk emulsion combined with the precision and accurate timing of the Quickshot system allowed for maximum advance rate under challenging conditions and time constraints."

Blast advance has been steady with an average weekly advance of 42 metres per tunnel end. The Marlboro portal and Mushroom Park tunnels, which were developed towards one another, hold the joint record total weekly advance of 128 m.

AEL's proven delivery and support with the Gautrain project has affirmed the organisation's position as one of the leading global players capable of delivering reliable and robust electronic initiation technology, within tight deadlines to specific requirements.

The tight deadline of the impending 2010 Soccer World Cup event required an explosives company that could advance at a rapid and efficient rate.

AEL News

AEL Launches New Generation E-20T Mobile Manufacturing Units - Suitable for Bulk Emulsions in Surface Mining Operations



AEL's new E-20T MMU

AEL Mining Services unveiled its largest ever, new generation E-20T Mobile Manufacturing Units (MMU) to customers and media at an event at the group's head office in Modderfontein, Johannesburg on the 8th October 2009.

The E-20T MMU is capable of pumping or augering bulk emulsions and ANFO to produce explosives in blast holes at surface mining operations.

AEL's extensive range of bulk emulsions, which complement the new E-20T MMU, was also highlighted at the launch, along with a new modified ECO-range.

Development of the E-20T

The new E-20T MMU was developed and designed within AEL, and is evidence of the company's research and development capabilities to meet the needs of its customers in the surface mining sector.

The current range of 12 tonne MMU vehicles in the field was designed during the mid-1990s, and although have proven to be excellent and reliable in the field, the technology and materials have changed significantly to warrant a total redesign.

The new E-20T on and off road trucks were developed in response to the need for a more cost efficient solution, which delivers a higher payload on bench in a quicker turnaround time, resulting in time and cost savings for customers.

According to Steven Burke, AEL's Equipment Services manager, a new design using different materials and parameters was required to meet the challenges of increasing the unit's legal road mass to carry more load, while simultaneously reducing the bin mass. "From an engineering perspective, we wanted to reduce the parts' count, labour hours and welding metres to fabricate the components, without compromising on quality, safety, and durability, which have been the hallmark of our 12 tonne MMUs.

"The new E-20T features an 8x8 or 8x4 chassis to accommodate a larger payload. The bins, which were custom-designed with roll-over protection to prevent spillage, are manufactured from stainless steel and designed to last through two seven year prime mover cycles. The trucks are suitable for rugged conditions in quarrying and surface mining operations."

"The units underwent Finite Element Analysis before assembly and testing

at AEL's Modderfontein plant, ensuring compliance with SABS standards, road-tanker legislation, as well as the internationally recognised European-based ADR standard. The ADR recognition allows AEL to tender and deliver on a global basis."

Currently AEL has a fleet of over 200 MMUs in the field in South Africa, Botswana, DRC, Zambia, Zimbabwe, Tanzania, Ethiopia, Egypt, Kenya, as well as in Indonesia.

"We manage our fleet of MMUs in the field," adds Burke, "and have a comprehensive Replacement Programme, which will replace the older MMUs with the new generation E-20T units when the appropriate mileage and years are reached. We have recently delivered three E-20T vehicles to Equinox Mineral's Lumwana Copper Mine in Zambia, one to a mine in the DRC and six to Indonesia for the KPC operation."

AEL's Range of Bulk Emulsions

AEL has a range of bulk emulsions, including water-resistant doped emulsions to heavy Anfo blends, which provide scalable and appropriate energy to suit a wide range of applications, such as tunnelling, civil works, trenching, quarrying and mining and pre-splits (fissures in rock) in most geological conditions, from hard rock to soft coal.

AEL has also developed modified ECO blends, which have a percentage of fuel oils that have been replaced with eco-friendly recycled oils. The use of waste oil in mining operations assists in reducing environmental waste.

Burke concludes, "The flexibility of the MMUs provides the capability of manufacturing AEL's entire bulk emulsion range. This method of producing application-specific explosives at our customers' operations is extremely cost efficient, as it allows for total flexibility, as well as last minute changes on the bench to suit the different mine's blasting requirements. The MMUs are backed up by a comprehensive range of engineering and support services to ensure that the best blast result is achieved."



Steven Burke

AEL Sales Division Moves to New Premises

AEL Mining Services has moved its sales office from Leraatsfontein to Ben Fleur in eMalahleni (Witbank).

The new sales office, which houses a staff component of eleven, is located in the more central business district in Ben Fleur. Customers from in and around eMalahleni will reap the benefits of a more convenient and easily accessible location.

AEL Mining Services Sales Division's new physical address is:

Office no. 203 & 204
Smokey Mountain Office Village
Route N4
Business Park
Corridor Crescent
Ben Fleur X11
Witbank
Tel: 013 690 1242

AEL News

AEL Advocacy to Save Customers R50 million

AEL has negotiated its ammonia price, which has translated into ammonia cost saving in excess of 10% or a value of more than R50 million. In line with AEL's customer focus value, these savings were passed on to customers. After weathering volatile market conditions in 2008, this brought relief to AEL's ammonium nitrate customers in the mining sector.



Trevor Roberts

AEL buys ammonia at the international market price and sells ammonium nitrate as a main derivative after a capital intensive conversion process.

AEL's ammonium nitrate is preferred amongst its customers for its superiority in friability, size uniformity and oil absorption, which all contribute to optimum explosive performance. This was achieved through a scientific process that started to bear fruit in 2004 when a step change in quality was achieved.

Trevor Roberts, Global Commercial Manager at AEL comments, "AEL's Managing Director, Tobie Louw, spearheaded the negotiation process to ensure the best possible deal for our customers, which brings enormous relief and benefits in this tough economic climate. After an intense six month negotiation process, AEL closed a deal ensuring continuity of supply at very competitive prices."

"With AEL operations expanding globally, we have enhanced our ammonium nitrates supply policies to identify and source from top quality sources worldwide," adds Roberts. "There was however a nitric acid capacity constraint in 2008 in South Africa, and we envisage another capacity constraint within the next 18 months."



Ammonium Nitrate Prices drop in 2009

New Bulk Emulsion Plant at Gold Fields in Ghana

African Explosives (Ghana) Limited (AEGL) commissioned its new bulk emulsion plant at Gold Fields' Tarkwa operation in Ghana, following the renewal of the explosives supply agreement between the two companies for a further period of 5 years.

AEGL's supply contract provides for a full down-the-hole service and on site storage of bulk emulsion packaged explosives and accessories.

The plant at the Gold Fields - Tarkwa Operation, which was planned to coincide with the expansion of the mine's projects, has the capacity to manufacture 2 500 tons of bulk emulsion per month. The plant is based on AEL's modular design concept, which is replicated internationally to world-class standards, and forms part of the ISO 9001 and 14001 listing.

Gold Fields is undertaking the expansion of its open cast operation at Tarkwa mine with a 'cut back' in waste that will expose ore body extensions.

Glyn Rees, Managing Director of AEGL said, "Our association with

AEL Mining Services has expanded its footprint into Africa with the establishment of AEL Namibia Limited.

AEL Namibia has opened a regional office in Swakopmund, and constructed an explosive and accessory magazine at Karibib in the Namibian midlands, which is licensed to store 1,000 cases of packaged explosive products and 400 cases of initiating systems.

According to Neill Liebenberg, AEL Namibia's regional manager of Quarry Services, sales are currently targetted at the smaller blasting operations in the civil construction and quarrying sectors.

"Several of the larger gold and uranium mining companies have expressed interest in our services after introductory meetings, with the view to securing future bulk explosives supply contracts," adds Liebenberg. "The global shortage of ammonium nitrate last year presented us with the opportunity of supplying a significant quantity of imported ammonium nitrate porous prill to Rossing Uranium Mine."

Several trial blasts have recently also been undertaken at two of the larger uranium mining companies, namely Paladin Australia's Langer Heinrich and Areva's Trekkopje, utilising AEL's S400 Eco bulk emulsion, delivered from a re-pump Mobile Manufacturing Unit (MMU). The trials also incorporated high speed photography and video analysis of the blasts, conducted by AEL's Blast Consult department.



The plant at the Gold Fields' Tarkwa

Goldfields dates back to AEL's inception as a registered Ghanaian company in the mid-1990s. The extension of our previous four year contract was based on past performance during this term, as well as our undertaking to establish a dedicated bulk emulsion plant on the Tarkwa site to guarantee the supply of bulk explosive raw materials at a time when commodity scarcity is a reality, and transport and national infrastructure a logistical challenge."

Peter Turner the Vice President of Gold Fields West Africa, commented on the plant and its operation. "The investment made by AEGL in this plant shows commitment from a supplier who is serious about strengthening a partnership and who is prepared to provide Gold Fields (Ghana) Limited with a reliable and secure supply on its doorstep".

According to Rees, AEGL's team comprises in excess of 60 personnel of various disciplines on site, responsible for the seamless interface with the mine on a 24/7 basis. "Approximately 3000 bulk tons per month are delivered down-the-hole with seven Mobile Manufacturing Units (MMU) dedicated to the Gold Fields operation.

"The high number of vehicle units on site ensures that Gold Fields can maintain high levels of production and that AEGL can respond immediately to sudden increases in demand," said Rees.

AEL Environment

AEL Receives Green Thumbs Up from SABS

The South Africa Bureau of Standards (SABS) has given AEL the green thumbs up by officially listing 27 AEL sites under the ISO 14001 Certification.

The listing certifies that all the sites satisfy stringent Environmental Management Systems (EMS) requirements which amongst others, include compliance to local environmental legislation, operational policies and procedures and monitoring and measurement programmes.

AEL, previously listed in 2006 with 7 South African sites, not only retained the listing, but has brought on 21 more sites which were previously not included in the listing. Among the sites included are those in Ghana, Botswana and Zambia, which demonstrate AEL's commitment to pollution prevention and continual improvement. This is an affirmation of the hard work put in by all AEL sites to effectively introduce AEL's environmental management system.



SABS Certificate

AEL Reduces Ammonia Emission at Modderfontein Plants

AEL recently commissioned its modified Ammonium Nitrate Solution (ANS) plant, which is set to reduce ammonium emissions from 100 tons per month to 10 kilograms per year. The reduction benefits the environment and residents from surrounding communities in Modderfontein.

The technology used at the Modderfontein plants was based on a model developed by Alfa Laval, whose head office is in Sweden. The Alfa Laval system uses a process similar to that used in the Middle East to extract sweet water from the sea to separate ammonia from the steam produced by the ANS plant.

The Alfa Laval system was installed at AEL's ANS plants. There are only two other plants of this kind in the world in Germany and Japan. AEL ran the modified ANS plant for 110 hours during May. During this period it was shown that the plant is capable of processing 17 tonnes of steam per hour and recovered 300 kilograms of ammonia.

Previously, relatively large quantities of ammonia were discharged together with the steam. The ammonia from the stacks was diluted quickly with air and did not exceed limits set by the government on human exposure limits.

With the concentration of ammonia in the air now reduced to almost zero, residents from surrounding neighbourhoods will no longer see the white steam emission nor smell the ammonia.

Alan Pikor, AEL's technical services manager comments, "We are very pleased with the results from the first two months of the plant's

commissioning. However, the pH control is a finicky part which has not been consistent. Our objective is to get a smooth and controlled pH curve and then maintain this pattern once the machine is automated."

AEL has invested R27-million towards installing and running the equipment at its Modderfontein site, and the returns are already evident. "The beauty of the solution", adds Pikor, "is that it is paying for itself. The process needs hardly any external energy to work, as it uses the process heat energy in the steam from the stacks. The best part, however, is that the former ammonia pollution can now be converted into ammonium nitrate, thereby saving the company the cost of buying an additional 100 tonnes of ammonia per month."

AEL's plants have been certified as ISO14001 compliant, an environmental accreditation issued by the South African Bureau of Standards.



The Alfa Laval Services equipment installed at the AEL

Industry and Nature Co-exist at Mankwe

At AEL's Mankwe Depot, the licensed circle buffer zone has been utilised as a Wild Life Reserve since Mankwe Factory was established in the early 1980s.

The few animal species that were fenced in at that time have increased over the years to the extent that there are now 48 species of large mammals in the Reserve. These are supplemented by more than 300 bird species, over 20 species of reptiles and countless invertebrates and amphibians.

Since 1996 the Reserve has been utilised by a steadily increasing number of schools and universities for educational and research purposes. Field courses are run for seven different universities and colleges from the United Kingdom, in addition to research projects carried out by local and overseas university students. On average over 200 university students and researchers utilise the site every year in addition to the courses run for local schools.

A major research project into the endangered brown hyena was initiated at Mankwe in conjunction with the Universities of Brighton and Pretoria. Mankwe is still the hub of the project which has now expanded to cover the entire North West Province. The International Earthwatch organisation supports and partially funds the project and provides up to 60 researchers a year, mainly from the USA, United Kingdom and Europe.

Another project research involving the white bearded (GYPS) vulture commenced at Mankwe under the supervision of Durham and Pretoria Universities, in conjunction with the Endangered Wildlife Trust. A Vulture "Restaurant" is in daily use and over 50 vultures have been tagged, 3 with GPS transmitters.

The Wild Life Reserve is run by Dougal MacTavish, an ex AEL employee, and his staff, who make use of the same area of land as the AEL explosives plant. AEL's Mankwe site is ISO 140001 compliant and this together with the enthusiastic management of the Wildlife Reserve, has led to the harmonious co-existence of industry and nature, which AEL is proud of. This is an example which others could follow in these times of environmental change!

AEL Safety

Kopanang Safety Milestone

The Narrow Reef team at Kopanang is proud to announce the completion of six years (8,300 shifts/ 58 000hrs) with no injuries or fatalities in the stope emulsion project. This is an outstanding achievement considering the nature of Narrow Reef mining and the fact that the Department of Minerals and Energy reported eight fatalities in the gold mining sector in December 2008.

Significant interventions have been made over the last decade to reduce and eliminate the hazards that employees are exposed to.

Tough Conditions

Initially, the team was made up of four operators and one miner who went underground daily to charge up stopping panels in a Narrow Reef gold mine. The team started with one production panel and gradually acquired panels until each team member facilitated charging operations on his own. Team members were responsible for getting emulsion, pumps and other accessories underground to ensure a timely blast every day. At the outset of the project, the team had to get all the material to the stope face and physically charge the blast holes and in doing so, were directly exposed to all the mining hazards of deep level mining.

Significant interventions have been made over the last decade to reduce and eliminate the hazards that employees are exposed to, but the underground workings remain dangerous. On a daily basis, workers are exposed to such risks as high temperatures (up to 32 degrees C), wet bulb, radiation, dust, falls of ground, hazards associated with materials handling and rolling stock, narrow and confined working spaces, slip-trip-and-fall hazards, inclined workings (rolling rocks) and flammable gases.

The reward

The team was recognised for completing six years without injury. Safety recognition braais and recognition awards for every six months of injury-free work completed are regularly held at the Klerksdorp sales office to keep the team motivated.

Recognition, encouragement, active involvement in safety initiatives such as weekly/monthly safety meetings and active monitoring audits underground are crucial in preventing injuries and fatalities.



Some of the Narrow Reef team at Kopanang Mine - (Back row from left): Franky Botha, Henry Merrick, George Kraft, Sean O' Brien. (Front row from left): Qoi Tsiliso, Gert van der Merwe, Ezail Khoetha, Edward Mahapela, Tefo Masilo

AEL Ghana Drives Safety



Tobie Louw cheers on the winners

As part of its ongoing crusade for safety amongst employees, AEL Ghana hosted a drivers' competition in Bogoso to demonstrate the need for increased driver awareness and attentiveness under challenging conditions.

Drivers in Ghana's Western Region are particularly exposed to challenging conditions as the national roads in the area experience high volume of traffic from large freight companies and the region is the hub of the country's mining activity.

A range of written and driving tests formed part of the assessment, which was facilitated by AEL's Operations and Engineering Manager, Ian Thomson and the Regional Co-Ordinator of the National Road Safety Commission, Bismark Boaky.

After an intense competition, Robert Tay from AEL's Magazines division came out triumphant as the final winner.

An awards' ceremony took place on the 10th of March, where Tobie Louw, AEL's Managing Director from South Africa officially awarded the prize, which consisted of a floating trophy and a cash prize. Peter Tanu accepted the award on behalf of the Magazines Division.

After an intense competition, Robert Tay from AEL's Magazines division came out triumphant as the final winner.

The competition will now become an annual event with the objective of increasing the safety of AEL drivers.

AEL Research & Development

AEL Pioneers Early Warning Devices for Hot Holes

AEL Mining Services has developed and launched a hot hole monitoring detector a temperature monitoring device which will assist in detecting and reducing the safety risks posed by hot holes in coal surface mining.

Developed and researched in conjunction with electronics expert, Designs Unique, the patented device provides a cost-effective early warning device to the coal mining sector.

According to Dr Andre Pienaar, an AEL Chief Technologist, burning coal exists at coal surface mining sites often associated with abandoned underground operations. "When oxygen enters these old workings through openings such as the blast holes and mixes with the coal, it may cause the coal to spontaneously combust before the hole is loaded with explosives.

"This product certainly addresses the safety threat posed by hot holes in coal mining and will go a long way to reduce the risk to the blasting team. We commend AEL's innovation and drive to improve methods and safety of operating in the coal mining industry."

A hot hole loading procedure has been developed in partnership with the industry which is to be used to safely load explosives in any holes with a temperature above 40 degrees Celsius. Holes above 60 degrees are considered hot and attempts are made to cool these holes down with either water or other chemicals such as pyrocool. The temperature of these holes are monitored after cooling and loaded only if the temperature is cooled down below 60 degrees Celsius.

Pienaar adds, "Holes that are hotter than 80 degrees are abandoned and not loaded. Due to the uncontrolled nature of these underground fires, holes previously cool or those cooled below 60 degrees and loaded with explosives can suddenly be subjected to heat again, exposing the on bench loading crew to danger. It is AEL's belief that it is a challenge to formulate an explosive product capable of working effectively above 100 degrees Celsius providing a greater safety margin."

AEL's Research and Development (R&D) team conducted field trials on the bench probing temperatures and pressures in blast holes as deep as 30 metres. The original testing equipment cost R100 000, which was funded by Coaltech Research Association of South Africa. Informative data regarding the nature of hot holes was captured during these experiments and the need for an early warning device became apparent.

AEL's newly developed device ensures continuous monitoring of loaded blast holes and provides early warning for changes in the blasting conditions, which assists the blaster before and during operations.

Larry Wilson, AEL's technical manager, adds, "AEL has patented the product and is bringing it into the market at an affordable price. AEL has modified the design of the product extensively to make it disposable and highly affordable. It comes with a protective rip tag, which is connected to the battery, and is guaranteed for approximately 8 hours of safe usage. The hot hole detector doesn't guarantee safer blasting, but provides a cost effective tool that is an early warning device for these unpredictable blasting operations."

Using the hot hole detector, an intermittent alarm goes off once the hole temperature reaches 60 degrees and a second, continuous alarm sounds at 80 degrees, indicating that the hole is no longer safe and the operator should evacuate the bench. The hand-held device has a 30m temperature probe wire, which is dropped down the hole.

Johan Beukes of Coaltech Research Association of South Africa, comments on the launch of the hot hole detector, "This product certainly addresses the safety threat posed by hot holes in coal mining and will go a long way to reduce the risk to the blasting team. We commend AEL's innovation and drive to improve methods and safety of operating in the coal mining industry."



An artists impression of the Hot Hole Detector MKIV

AEL Research & Development

AEL Spearheads Ground-breaking Vertical Drop of Bulk Base Emulsion

AEL Mining Services has developed a method to deliver bulk base emulsion underground by means of vertical piping, referred to as 'vertical drop'. This base emulsion is then mixed with a sensitiser at the face to create explosives in the blast-hole.

AEL's Research and Development team, in collaboration with Professor Irina Masalova, rheology* specialist from the Cape Peninsula University of Technology, developed a predictive model to measure and control emulsion behaviour for down-the-hole delivery of emulsion in what has been a 3 year development project.

The new development will revolutionise the mining industry and result in a logistically quicker turnaround time and reduce the need for bulk emulsion delivery trucks, as well as costly security and storage measures. The predictive model is also set to alleviate pressure problems and material waste associated with the vertical drop of emulsion.

AEL's R&D team conducted tests at AEL's plant in Modderfontein, as well as two sites, namely Doornbosch Mine and the Gautrain project. Rheometry principles were used to develop a predictive model to predict the flow characteristics of specific emulsions for different mining applications.

At Doornbosch Mine, AEL's underground bulk emulsion was dropped 42 metres using a 3-metre pipe to fill the underground unit. A second pipe was used to carry the gassing agent.

Dr Andre Pienaar, AEL's Chief Technologist, comments, "At Doornbosch mine, we tested the rheometry principles that we used to develop the predictive model, based on a flow curve using a specific formula. The test confirmed our model. It took two to three minutes to fill the underground units. The research team inserted a double valve to monitor the change in pressure and observed that when the valves open the pressure flow was much better."

Planning is underway at Waterval Mine to drop emulsion 180 metres from the charging unit to four 20t underground storage tanks and thereafter to progress to 600 metres. An open-ended valve system will be used to ensure that no emulsion residue remains in the pipes.

Waterval Mine uses approximately 500 tons of emulsion per month. The traditional method of using loading vehicles to



View of silo and 35m drop to mine tunnel

deliver the emulsion to the face can take up to three hours. The use of the pipeline to drop the emulsion underground results in a logistically quicker turnaround time, which contributes to faster production, as well as reduced fuel and maintenance costs.

Dr Pienaar adds, "Controlling the pressure of emulsion proved to be quite tricky as emulsion properties differ greatly from other liquids, such as water. If the emulsion is dropped too quickly, it shears the product, making it ineffectual as an explosive material."

The team used the model to predict the flow of different emulsion types, taking into account factors such as pipe diameter, pumping pressures and emulsion temperatures, flow rate and pressure. This model assists in designing a system to suit the different vertical drop applications at respective mines, and ensuring that the emulsion properties remain effective and intact.

This ground-breaking predictive model and technology is just the start and will allow us to develop systems to drop emulsions down to even greater depths, which will go a long way to saving the mines time and money, and impact on increasing productivity, as well as safety and security."

* The study of the flow of liquids

AEL Features

AEL Women at the Forefront

The changing landscape of mining services has over the past decade is evident in the increasing number of women in leadership roles. Our editor caught up with the women who contribute significantly to the success of AEL. We found out what makes them tick.

Liesel de Villiers – business director, AEL South Africa



Q: What does your role at AEL entail?

A: I am responsible for leading AEL's South African operations, which comprise eight

businesses which focus on providing services, explosives and initiating systems to a diverse sector of the mining environment. Our customers include some of the largest and deepest gold, platinum and chrome mines in the world, coal, diamond and base metal operations, as well as entrepreneurs in the quarrying and construction environment. Our challenge is to understand the unique requirements of each customer so that we can contribute positively to mining productivity and safety.

Q: What do you love the most about your job?

A: The complexity of the business requires an understanding of many different customers, service and product strategies. I enjoy the array of different interactions with customers, my team and all the stakeholders on an ongoing basis to create a clear direction regarding the way forward. It's great to see how these strategies evolve into a practical reality.

Q: How do you stay on top of your game in a male-dominated industry?

A: I believe that if you develop a good understanding of the environment you are operating in, and engage with people in a calm, confident and respectful manner, you can generally overcome any prejudice which may or may not exist. I enjoy the honesty and directness of the many dedicated and competent people in this industry and I believe this helps to build positive business relationships.

Q: What is the phrase you hear yourself saying the most at the office?

A: We can do it.

Q: How do you relax?

A: I find spending time with family and friends - enjoying good food and conversation, very relaxing.

Q: Describe yourself in three words.

A: Positive, in-touch, focussed

Zola Khoza – ISAP Plant Factory Manager



Q: What does your role at AEL entail?

A: I manage the Initiating Systems manufacturing business, which comprises 18 manufacturing units with labour intensive, semi-automated and highly automated operations. These manufacturing units are run on multiple shifts, with a total workforce of 1700. The bulk of the operations are based at the Modderfontein factory. There is also a satellite manufacturing facility at Mankwe (North West Province). The manufactured products serve local and international markets.

Q: What do you love the most about your job?

A: The role offers a diversity of issues and there is never a dull moment. Each day is different and exciting.

Q: How do you stay on top of your game in a male-dominated industry?

A: I work with individuals as opposed to labels. I do not allow anyone to dictate to me who I should be. I am not averse to making decisions that may be contrary to popular belief and not averse to confrontation. I make time to understand the ever changing environment in which I operate. I always try to get the right person for the job. I also coach my team to improve their competence with the changing environment and business requirements.

Q: What is the phrase you hear yourself saying the most at the office?

A: Eloquence is not equal to delivery (E D).

Q: How do you relax?

A: I get into (my son) Vuyo's world and make the most of it.

Q: Describe yourself in three words.

A: I am fair, firm and decisive.

Fafa Adinyira – human resources manager, AEL Ghana



Q: What does your role entail?

A: I am the Human Resources Manager for AEL,

Ghana with additional responsibility for other West African Countries namely Mali, Burkina Faso, Guinea and Nigeria.

Q: What do you love the most about your job?

A: Working in a multi-cultural environment. This is great experience and it has given me the opportunity to understand and appreciate different work cultural values.

Q: How do you stay on top of your game in a male-dominated industry?

A: I do not have any problems at all working among men. You see, I come from a male dominated family background – a large family of eight children with seven boys. So right from my infancy I have lived and learnt to work among men which has helped me to believe in myself and not to be intimidated.

Q: What is the phrase you hear yourself saying the most at the office?

A: No! You can't do that, it's not right!

Q: How do you relax?

A: Listening to sermons and watching TV

Q: Describe yourself in three words.

A: Very affable, honest and assertive

The above feature is a tribute to Zanele Ngumbela, marketing manager at AEL, who recently passed away in a tragic accident with family members. She instigated this article. Our condolences to her family, friends and colleagues.

Article continued in next issue

AEL Features

Botswana Boasts AEL's First Female Rig Operator



Ketshepaone Masiela from AEL Botswana is proud to be the first female Rig Operator within the AEL group.

Ketshepaone, affectionately known as Tshepi, started with AEL Botswana at the Jwaneng Plant

in 2005 as a temporary employee with subsequent full employment a year later.

Her duties included cleaning, assisting in the plant and with document control, until Robert Siku, Rig Operator, took her under his wing to train her in rig operations.

Being a fast learner, Tshepi was trained in two months and in August 2008 became the first female rig operator within AEL.

Whilst being versatile in her learning abilities, her current training path is orientated towards the administration side, where AEL looks forward to the contribution and value she will undoubtedly add to the organisation. She was rated as top overall performer at Jwaneng AEL Plant in the 2008 end-of-year appraisals.

Congratulations to Tshepi for achieving a

wonderful feat at a very young age.



Botswana's First Female Rig Operator in the factory

Piracy Hampers Trade and Transport of Explosives

Shipping explosives has become a greater challenge with the real and ever-increasing threat of piracy. Hijacking, kidnappings for ransom, death threats and killings on the high seas are a far cry from the romantic, epic perception portrayed in fiction novels and films about pirates. They are dangerous criminals who hamper trade and the global transport of goods.

During 2008, 111 acts of piracy were recorded in the Somalia region and in excess of 140 acts of piracy have been reported to date during 2009.

Figures released by the International Maritime Bureau (IMB) show that 64% of the world's piracy incidents in 2008 were in Africa, with the majority of incidents occurring along the Somali coast and the Gulf of Aden. Approximately 1600 ships pass the northern coast of Somalia per month and the Gulf of Aden handling almost 10% of the world's marine trade traffic. Pirates in these regions are adopting more sophisticated methods as they organise and stage operations in larger groups.

In April 2009, a Maersk ship was hijacked 500km off the Somalia coast. Pirates held 20 US crew hostage at gunpoint. The captain offered himself up as a hostage for the release of his crew. The US Navy Seals forces interrupted the piracy operation, rescued the captain and killed three pirates.

Similarly, in January and February 2009, the

French navy arrested Somali pirates along the Gulf of Aden. They were captured and imprisoned in Mombasa, Kenya and will be tried at an international court.

A report released by the IMB shows that the 2008 figures surpass all figures for hijacked vessels and hostages taken recorded by the Piracy Reports Centre since it began its worldwide reporting function in 1992. During 2008, 111 acts of piracy were recorded in the Somalia region and in excess of 140 acts of piracy have been reported to date during 2009.

Organisations such as NATO and the European Union (EU) have taken serious measures to defend the seas and bring the pirates to justice. Nato has deployed battleships to patrol, guard and defend ships against pirates, but the ocean is very vast and the navy cannot be present everywhere. With the increased naval presence in the Somali region, pirates are moving south and targeting ships in the Mozambique Channel.

International regulations do not allow for ships to arm their crew members, which forces shipping lines to use other preventative, costly measures to ensure the safety of ships, crew and cargo against piracy. Taking additional insurance cover on goods, engaging the services of armed escorts or taking alternative, safe but often much longer routes to destination ports. All these additional measures to combat piracy drive up the price of shipping goods.

Ron McConnell, Commercial Services Manager at AEL comments, "Carrying explosives by ship is a logistical challenge and is even more so with the real threat of piracy in certain areas. Although explosives are inert and safe to transport, the majority of shipping companies are reluctant or refuse to carry this product. This, I believe is largely through lack of understanding of the product properties.

"Another challenge which we face is discharging cargo at a rapid rate. Cargo needs to be delivered timeously in order to maintain competitiveness, the same way in which a bus driver offloads passengers. This is difficult to execute at congested ports, as was the case recently at Dar es Salam. In such cases, a delivery may be re-routed to a neighbouring port and sometimes we may be forced to deliver by road, which is more expensive.

"AEL's international footprint has extended greatly over the past few years which has made ocean freight inevitable. We are committed to making use of all resources at our disposal in overcoming the challenges and risks of volatile mode of transport" concludes McConnell.

Watch this space - in the next issue, we look at the challenges of road transportation in Africa.



Piracy in Somalia

Source: ICC Commercial Crime Services

AEL Corporate Social Responsibility

AEL and Maths Centre provide Formula for Success

Through AEL's continued support, previously disadvantaged schools are improving their performance in Maths, Science and Technology subjects.

AEL initially established a partnership between the Maths Centre and six schools in Tembisa in 2004. A decision to increase the support to eight schools was taken by the Social Investment Committee at the end of 2007.

The Maths Centre is an NGO aimed at improving Maths and Science performance amongst learners from disadvantaged schools. Through AEL's support, the Maths Centre has run several projects, which include a revision programme for learners and teacher training sessions.

The learner programme also included Saturday classes to assist struggling learners and to maximise the potential of learners who displayed a solid understanding in the Maths and Science learning areas. The extra classes certainly paid off with 16 learners achieving distinctions in Mathematics and seven achieving distinctions in Mathematics Literacy.

Improvement in Results

The overall pass rate in all the schools in Mathematics increased from 38% in 2007 to 46% in 2008. The Maths Literacy pass rate increased from 31% in 2007 to 58% in 2008.

Learners' performance in Science also showed improvement by increasing from 38% in 2007 to 46% at the end of 2008. These results clearly show the hard work and commitment from the learners and the facilitators.

Structured Teacher Programme

A structured and supportive teacher development programme has also contributed to the improvement in results in the key learning areas. Representatives from the Maths Centre pay regular visits to the schools to observe teacher's understanding of the subject matter, how they present the material to learners and how learners respond to the material. After assessing areas of strength and weakness, the representatives hold workshops with the teachers to guide them on how they can improve areas of weakness.

"The introduction of the new syllabus did present a few challenges for some of our educators, but the assistance we received from the Maths Centre allowed us to overcome these and the benefits have been passed on to the learners. Their hands-on, open-door approach has assisted us

immensely and this would not have been possible without AEL's continuing support." says Jobe Mokobane, the Maths Head of Department from Zititkeni Secondary School in Tembisa.

AEL's Moloko Malahlela added, "Improving performance in Maths and Science is a significant stepping stone in producing South Africa's future engineers and industry leaders. Interventions such as the Maths Centre help us to unlock the immense potential that is in our township schools and ensure that these learners become leaders who will one day own and drive the country's economy"



AEL's Steve Kgomo and learners with the Minister of Education, Naledi Pandor at the Maths Centre during the funder's lunch.

Reaching out in Lesotho

The true meaning of the saying "It's better to give than to receive" was realised by Des Decina and Colin Wilson when they represented AEL on a charity trip to the Lesotho Highlands.



The team on the way to Lesotho

In a collaborative effort with the Aggregate and Sand Producers of South Africa, the Ready-mix industry and the Dutch aid body, Dorcas Aid, all parties drove to deliver donations to the community of Letsobeng village. The donations included 250 blankets, clothing and food supplies and 10t of cement.

The convoy of 26 4x4s carrying 54 volunteers set off in the early hours of the morning - by 9h00 they

left Bethlehem, travelled via Ficksburg and reached their campsite, Mohale Dam after 18h00. The next morning, they were off again in the freezing weather at 5h00, travelling through some rough terrain between Montsonyane and Letsobeng. It took them nearly three hours to cover 41 kilometres between the two small towns as the land was rough with very steep hills and hardly any charted out roads to navigate.

The donations included 250 blankets, clothing and food supplies and 10t of cement.

They finally arrived in Letsobeng at 13h00 where the community eagerly assisted them to offload the donated supplies. By 14h00 they were on their way back to Motsonyane to refill before 18h00. They finally arrived at their Katze Dam night-stop at 20h30 after travelling 14 and a half hours to cover only 250km across rugged terrain. They enjoyed a lovely supper and a good night's sleep before heading home the next morning.

"We were really cold and very tired," said Decina, "but the expressions on those children's faces and the look in their eyes made it all worthwhile. It makes one realise that we should all be more thankful for what we have, especially when you meet those who have so little and are so grateful for the little they receive."

It was a memorable experience and another trip to Lesotho is already being planned for 2010.

AEL Cares for the Community

For the past three years, AEL has supported the Haven Care Centre, an inter-denominational organisation founded in 1999 in the East Rand. The centre provides food, shelter and clothing to struggling communities, and assists members with spiritual upliftment and personal well-being, and in the long-term, self sufficiency.

The negative economic climate has severely affected the poor communities, with families struggling to meet basic needs. The Haven Care Centre embarked on a feeding scheme in the Northmead, Daveyton and Barcelona Informal Settlements, running soup kitchens from local clinics within the communities. The clinics are mostly utilised by the elderly and mothers with young children and food hampers are also delivered to needy families and pensioners.

The Haven also assists in meeting the educational needs of children within the communities by providing transportation and funding for toddlers and school-going children.

Children who have never experienced the sea are given the opportunity to learn about marine life through sponsored holidays to the coast.

AEL Events

Industry funding helps rheology project develop safer mining explosives

Rheology researchers at CPUT were recently awarded a million rand to extend a project that focuses on emulsion technology and the development of a safer and more accurate blasting practice for the mining industry.

For the past nine years, the Material Science and Technology group, which is based at the Cape Town campus, has been conducting research in collaboration with African Explosive Limited (AEL), a world leading innovator in explosives technology and manufacturer of bulk emulsion explosives.

The emulsion research project lead by Prof Irina Masalova has proved to be such a success that AEL has committed to fund CPUT for an additional three years.

The research has allowed AEL to develop an eco-friendly version of their repump, doped and blend emulsion bulk explosives, using waste fuel oil generated by mining machinery.

"We have managed to successfully apply rheology, which is the study of the flow of complex and multi-phase liquid, as a tool for predicting the stability and pumpability of AEL's bulk emulsion explosives," said Prof Masalova.

"Methods for investigation surfactant characteristics have been developed as well, which allows the company to do quick optimisation of the quality and quantity of the right surfactant in order to manufacture cost effective emulsion with optimal stability."

Prof Masalova said funding from AEL and the National Research Foundation's Technology and Human Resources for Industry Programme (THRIP), has also resulted in CPUT establishing a world class rheology laboratory, at a cost of R8.5 million. The centre is the only of its kind in South Africa.

Recently the centre's achievements and projects with AEL were highlighted at the Department of Trade and Industry's award ceremony, which celebrated successful research projects that received THRIP funding.

THRIP's mission is to improve the competitiveness of South African industry, by supporting research and technology development activities and enhancing the quantity of skilled people.

It does this through a partnership programme which challenges companies such as AEL to match government funding for innovative research and development in South Africa.

The emulsion research project clinched the runner up prize from the Department of Trade and Industry in the Advanced Higher Technologies Category at the awards ceremony which was held in Somerset West on 22 October 2009.

Prof Masalova said: "The DTI evaluated projects in terms of the outcomes and how it impacts industry. They have seen this project to be efficient and beneficial for industry."

She said the collaboration would not have been possible without the buy-in of AEL, a South African company.

"The Research and Development Department at AEL is lead by Dr Piet Halliday, who believes that investment in research will allow the company to produce a new generation of products and technology," said Prof Masalova.



Prof Masalova in centre with AEL R&D team

The nine years of support from AEL and THRIP has resulted in the institute producing the following: 3 Post Doctorals, 2 PhD Projects, 5 Masters Projects (All Cum Laude), 4 BTech Projects, 20 Journal Publications and 75 Conference Papers/presentations

Source: Cape Peninsula University of Technology website
<http://info.cput.ac.za/News/news.php?aid=797>

AEL shines at 40th Annual IOQ Conference

AEL's Quarry Services Team, accompanied by representatives of our Marketing Department and sister company, DetNet, attended the 40th Annual Institute of Quarrying Conference held at the Elangeni Hotel in Durban in April 2009.



AEL Flag Flies High at Mining

The Institute of Quarrying (IOQ) is an international professional body with over 6,000 members in about 50 countries worldwide. The IOQ provided an ideal platform for networking, when over 140 delegates from all over South Africa gathered to mark the institute's 40th anniversary celebration. In attendance were the International Chairmen from the UK, Australia, New Zealand and Malaysia.

AEL had an exhibition stand where the main focus was the DigiShot range of electronic detonators. The exhibition was a success with many of the delegates from all sectors of the industry showing a keen interest. Questions were asked and fruitful discussions held.

There was a diverse range of presentations covering quarrying, surface mining and the related extractive and processing industries. Ian Thomas's Power of the Pride presentation, in particular was both entertaining and thought-provoking. He used the analogy of a pride of lions who work together as a team to hunt big game to describe the key ingredients that constitute a successful team in business.

Theo Venter highlighted in his Political Overview presentation that although there is a decline in private sector investment and mining activity, South Africa's economy is in a relatively healthy state. He advised calmness and described the current economic crisis as "merely a speed hump" on the road of the country's continued growth.

Harley Dent made an interesting case in point and highlighted that the 2010 World Cup had buffered the quarry industry from the effects of the global economic downturn.



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