

KROPZ BULLETIN

KEY MILESTONES



A rainbow over the Elandsfontein phosphate processing plant.

Construction update

August and September have been busy months for the construction teams, with 1,048 people working on the construction site. All major construction, such as civil, structural steel, piping, electrical and instrumentation are operating at peak production capacity. We have commenced with the establishment of the mining box cut, which is the area where the strip mining will start. The first phase of the softs stockpile has been handed over to the mining team.

Although some days have been lost due to good seasonal rains on site, we are still forecasting that we will have the first ore delivered to the plant by the first quarter of 2017.

Women trained to fulfil jobs as drivers on site

The proudly branded Kropz vehicles used at the Elandsfontein mine already provide employment to over 100 drivers, including women who have been specially trained for their new jobs.

In support of equality at the workplace, 15 women have completed an advanced driving course and five more are working towards completing their training as truck drivers, with licences ranging from code B to EC.

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AFRICA'S SMALLHOLDERS
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OF FEEDING THE CONTINENT
- SO LONG AS THEY BOOST
THEIR YIELDS BY USING
THE LATEST AGRONOMIC
PRACTICES IN COMBINATION
WITH APPROPRIATELY
ADAPTED SEEDS
AND FERTILIZER.

— KOFI ANNAN —

Food And The Transformation Of Africa,
Foreign Affairs, Feb 2016

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A Kropz excavator.

By September 2016, there were 121 drivers employed at Elandsfontein mine to operate vehicles such as excavators, graders, bulldozers and service trucks. Currently, 24 of these drivers are women. As work increases at the mine more drivers will be employed, providing opportunities for both men and women.



Mark Maynard with Curro Langebaan students.

Igniting interest in phosphate and food production

The first series of Kropz's Eco Kids Talks is underway. An interactive presentation took place at Vredenburg Primary School on 31 August and the second presentation at Curro Primary School Langebaan on 16 September.

These talks are intended to educate pupils from local schools about the relevance of mining; the importance of phosphate in fertilizers; the well planned, environmentally considered mining process at Elandsfontein and the various career opportunities that exist.

Mark Maynard, from Elandsfontein's operations team, took an engaging approach in getting students excited about environmental responsibility and food security, and invited these scholars to participate in the Seeded Paper Project. This project involves following the instructions for planting tomato and carrot, or basil and rocket seeds and then keeping track of the vegetable and herb growth stages. The schools were asked to send photographic updates on the growth of the plants and we plan to share these in an upcoming bulletin.

The aim is to encourage children to learn about the importance of food supply; responsibility for their environment and how to grow their own food for future benefit.

"We found the talk very interesting and everyone loved the seeded paper. I was very impressed to hear what is done at the mine to look after the environment." said Ms Muller of Vredenburg Primary.



Celebrating 365 days without an LTI.

Celebrating 365 days without a Lost Time Injury

On 14 September, a celebration was held at Elandsfontein mine to celebrate the proud achievement of 365 days without a Lost Time Injury. Wynand van Dyk, Project Manager, stated at the achievement ceremony: "Seventeen years ago, on my first major project, going two months without a Lost Time Injury (LTI) was virtually unheard of. Today we celebrate 365 days without an LTI. It's a remarkable achievement by a remarkable group of people."

HIV and TB awareness campaign

Together with the Department of Health, Kropz launched a week-long HIV and TB awareness initiative on site during the last week of August.

TB/HIV Care Association, an NGO assigned by the Health Department and lead by Sister Lulama Jacobs, were on site for a week and provided free counselling, screening and testing for HIV and TB, as well as providing information on sexually transmitted infections.



Employees being tested.

TB is a communicable disease and is a major challenge for the Primary Health Care Services in the Saldanha Bay District.

33% of all workers were tested and know their status, and the campaign will run again early next year for all permanent employees.



One side of the fossilised jaw of a rhinoceros found.

Working with experts on collection of fossil finds

Due to the mine's proximity to the Elandsfontein Fossil Dune Site (a Grade II Provincial Heritage Site, which was declared as such in a collaborative effort between the Provincial Heritage Resources Authority, Heritage Western Cape and Kropz), Heritage Western Cape requested that construction and mining at the Elandsfontein Phosphate Mine be monitored in case additional fossil material is present elsewhere. Initial monitoring of work on the construction platform has produced a number of fossil bones. This has raised expectations for further finds in the mining area.

John Pether, in his paleontological impact assessment, stated that the "mine pits and construction excavations furnish the 'windows' into the coastal plain and thereby provide access to the hidden fossils. The impact is positive for paleontology, provided that efforts are made to watch out for and rescue the fossils."

Due to the importance of the potential fossil finds at Elandsfontein mine, a team of archaeologists from ACO Associates has been appointed to monitor the on-going mine development. On Friday 12 August, they recognised and recovered the fossilised jaw of a rhinoceros as well as sections of fossilised elephant tusk in the excavations for a storm water channel around the softs stockpile. The tusks were recovered from their original position in the trench section. DRA assisted in moving overburden so that the tusks could be safely removed while the positions of the finds were accurately surveyed with the assistance of Trollope Mining, to determine their position for future reference and geological context.

The finds have not yet been analysed by scientists to determine age and species, but this will be done in the future. The finds are likely to date back many thousands of years, though are much younger than the bones that can be seen at the West Coast Fossil Park.

The tusk sections are completely mineralised (have become stone-like) and are covered with calcareous (cement-like) deposits. Unlike modern tusks, which are often removed from hunted elephants, these ancient specimens have no financial value due to their age and condition. Rather, their value lies in the scientific and heritage information they, and other bones can offer about the past environment of the West Coast area.

Any bones recovered will add to the extensive fossil collection from the Fossil Dune area to the west. The archaeologists are particularly interested in finding ancient stone tools associated with the bones to indicate if animals died naturally, or were perhaps on occasion being hunted by the early human inhabitants of the area.



A section of elephant tusk showing the calcareous deposits that cover the external surface. The small units on the scale represent centimetres.



Flotation section of the processing plant at night.

There is some confusion about the processing facility on the mine, what is happening there?

The ore which will be mined at Elandsfontein occurs at a phosphate grade of approximately 10% P_2O_5 (P_2O_5 is the chemical symbol for phosphate). The ore is a blend of silica sand and the phosphate mineral known as apatite. The mined grade has to be increased for sale to fertilizer producers. The target grade at Elandsfontein is 32% P_2O_5 . This upgrade is achieved at the processing plant, which is being constructed at the mine site.

The processing plant achieves the target concentrate grade by removing some of the silica sand present in the ore. This is achieved by a simple classification into different size fractions using screens and hydro-cyclones, and then the subsequent flotation of the two size fractions.

In the flotation process, air is pumped into the pulp mixture, referred to as 'a slurry' (simply formed by mixing the sand from the mine with water), in the flotation columns. A flotation reagent is used which attaches to the silica particles, causing them to float, while the apatite sinks to the bottom of the columns.

The flotation reagent used is an amine, which forms a strong bond to the silica particles, and then biodegrades over a period of time, leaving clean silica sand and the final waste product.

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