June 2011
Tel. 036-3423122

Ingula Update

B&E Quanza - 650 days without LT1

The proud B&E Quanza team braving the freezing cold - ready for work at 6:00!

On 17 June 2011, B&E Quanza, the crushing plant and quarry contractor at Ingula, achieved a phenomenal 650 days without a lost time injury (LTI). Safety Officer, Johann Krugel, attributed this to exceptional team work.

Management's hands-on approach towards safety and involvement in safety processes such as toolbox talks had contributed greatly towards this success. But, above all, it had been the commitment, self discipline and honesty from every team member. Controlled entry to the site and good housekeeping had been key factors as well as bonuses and support that had helped keep staff motivated to drive the Goal ZERO safety campaign.

B&E Quanza's contract will end in August 2011 and their focus remains to complete their operation at a zero LT1 rate.

Revealing Ingula's past

Experts at the Bloemfontein National Museum are hard at work preparing the fossils excavated at Ingula. The fossils include significant vertebrate and plant impressions. The process of preparation cannot be rushed. It takes a long period of painstaking effort to expose the fossil, leaving enough surrounding rock (matrix) to keep the fragile pieces stable.

The most exciting finds are the skulls and partial skeletons of herbivorous and carnivorous therapsids - distant ancestors of mammals - that lived approximately 255 million years ago. According to Dr Jennifer Botha-Brink, Head of the Department of Karoo Palaeontology, the significance of this find is threefold.

Firstly, fossils of the carnivorous therapsids, known as gorgonopsians, are extremely rare. Thus, finding several gorgonopsian fossils in one locality is particularly exciting. Secondly, it is highly unusual to find such a large number of these fossil vertebrates in such a small area. Lastly, there appear to be other smaller reptile fossils among the larger therapsids that may represent new species.

Gorgonopsian skull being prepared at Bloemfontein Museum

Intake Channel: Excavations 96%
Channel floor slab: Concreting 97%
Channel side walls: 100%
Approach basin and transition concrete slab: 90%

Surge riser 1 and 2: bank steel installation and commissioning: 30%
Surge riser 3 and 4: bank steel installation and commissioning: 99%
Everyone likes ladybugs or ladybird beetles. Their bright red or yellow colouring is actually a warning to birds and other predators to stay away. When handled, they can secrete a bitter, yellow, unpleasant-tasting liquid from between the joints of their legs. They are, however, very good pest-controllers that feed on aphids which could easily overrun gardens and cultivated crops. They appear all over southern Africa but hibernate in rock crevices during the cold months.

Fire season at Ingula

As the beautiful green grass at Ingula changes to brown, the threat of veld fires becomes a reality. During the 2010 fire season seventeen breakaway fires were beaten back by the small team of environmental and conservation officers at Ingula. Ignorance about proper burning practices remains a challenge and every year the team hopes that the wetlands will be spared.

Approximately 120 km of firebreaks are burnt around the works and accommodation areas during the fire season to prevent harm to people and equipment. This is backbreaking and dangerous work. In some instances the firebreaks can exceed fifty metres in width.

Southern Bald Ibis nesting site

The Ingula Update has been true to its name by updating readers on the construction of the artificial nesting sites for a colony of Southern Bald Ibis near Bedford Dam. The existing site will be flooded once the dam is filled and one of the requirements for construction of the project was the creation of artificial nesting sites.

The design and selection of a suitable site was done in conjunction with BirdLife SA and three potential sites were considered. Taking the topography and geology into account the selected location proved to be the most suitable and needed the least excavation. The nests were designed so that water will drain away and positioned so that predators cannot reach the birds.

To create the new twenty six metre high cliff face about 11 000 m³ of rock were blasted out of the existing hill. The water level will be six metres below the nesting sconces and a contour wall positioned above the nesting site will prevent water runoff into the nests.

Blasting and excavation began in August 2010 and the project is now nearly complete. It is anticipated that the layers of shotcrete applied will weather and discolor with time and blend into the surrounding landscape.

Progress on key projects

<table>
<thead>
<tr>
<th>Transformer hall</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 2/1</td>
<td>Completed</td>
</tr>
<tr>
<td>Zone 2/2</td>
<td>Completed</td>
</tr>
<tr>
<td>Zone 2/3</td>
<td>Completed</td>
</tr>
<tr>
<td>Zone 3 50%</td>
<td>Complete</td>
</tr>
</tbody>
</table>

Total excavation: 62 868m³
Excavated to date: 56 737m³ (90%)

Low pressure headrace tunnels 1 and 2
- Downstream: shall be used as travel way for mucking decline 3 and 4 as well as access while concrete is poured in LPHT 3 and 4 (Total length 941m)
- Upstream: steel fixing 97% (109m)

Low pressure headrace tunnels 3 and 4
- Upstream: pouring concrete invert: 29% (109m)
- Downstream: assembly and embedding flange steel transition: 92% (Total length 941m)

Goal Zero

Workplace safety tip

Pay attention to your respective business mishap statistical data. When was the last mishap at your section/department or business? What lessons were learned from it? If it is hard for you to find out, you have discovered a problem. Find out where and from whom this information is available.

Nothing ladylike about these bugs

‘A pocket of ladybirds’ - a cluster of ladybird beetles hibernating in a rock crevice at Ingula’s upper site. Photo by Alastair Campbell

Beautiful sunrise over Bramhoek Dam - photo by Alastair Campbell