

Tropicana Gold Mine  
Anglo Gold Ashanti

Minimise Haulage Costs



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## Partners in Mine Planning

orelogy is a specialist mine planning consultancy with extensive experience in the planning and management of a resource. orelogy personnel have operational and consulting experience throughout the world, in a range of different commodities.

Established in 2005, orelogy is an agile and innovative consultancy that adopts a partnership approach with clients to develop practical solutions within a strategic framework. This approach ensures the delivery of key client outcomes.

In February 2022 orelogy was acquired by idoba.

idoba is an innovation ecosystem that identifies and solves problems by connecting technology offerings, expertise, and (mostly but not exclusively) energy and resources sector technical capability, to co-create a better future.

We now provide idoba with crucial mining domain knowledge as part of their vision to co-create a better and more sustainable future, in mining and beyond.

Our number  
one goal is to  
unlock the  
true value of  
your mining  
project



## Project Summary

orelogy commenced work with the Tropicana Gold Mine during late 2012 with a proof-of-concept study to highlight the effectiveness of orelogy's Scheduling software.

This Scheduling software was acquired by Maptek, a mining solutions developer and rebranded 'Maptek EVOLUTION' and is used across all facets of scheduling.

The work with Tropicana Gold highlighted the capability of this software in reducing haulage costs by developing a practical operating plan which meets all of the complex objectives associated with operational readiness as well as minimising haulage cycle times. Analysis highlighted that the purchase of 3 Caterpillar 793F trucks could be delayed for 18 months, saving over 1,000 hours of haulage time per month for this period as well as deferring the cost of capital.



## Haulage optimisation: 18 Month Mining Schedule

Project  
Tropicana Gold Mine

Location  
Western Australia

Client  
AngloGold Ashanti

Web  
[www.anglogold.com](http://www.anglogold.com)



## The Challenge

To meet mill feed requirements as well as maximise recovered metal production whilst minimising haulage costs:

- The project consists of one large block model which extends over 5 km of strike and to a depth of 400 metres.
- There are 10 waste destinations and plans need to incorporate building infrastructure (tails dam lifts, RoM pads & haul roads), plan for growth medium (i.e. topsoil) as well as encapsulation of potentially acid generating material (attached figure).
- Build in truck ramp up strategy.
- Variable period length.
- Variable crusher throughput dependent on lithology to process 5.8 to 6.6 Mtpa.

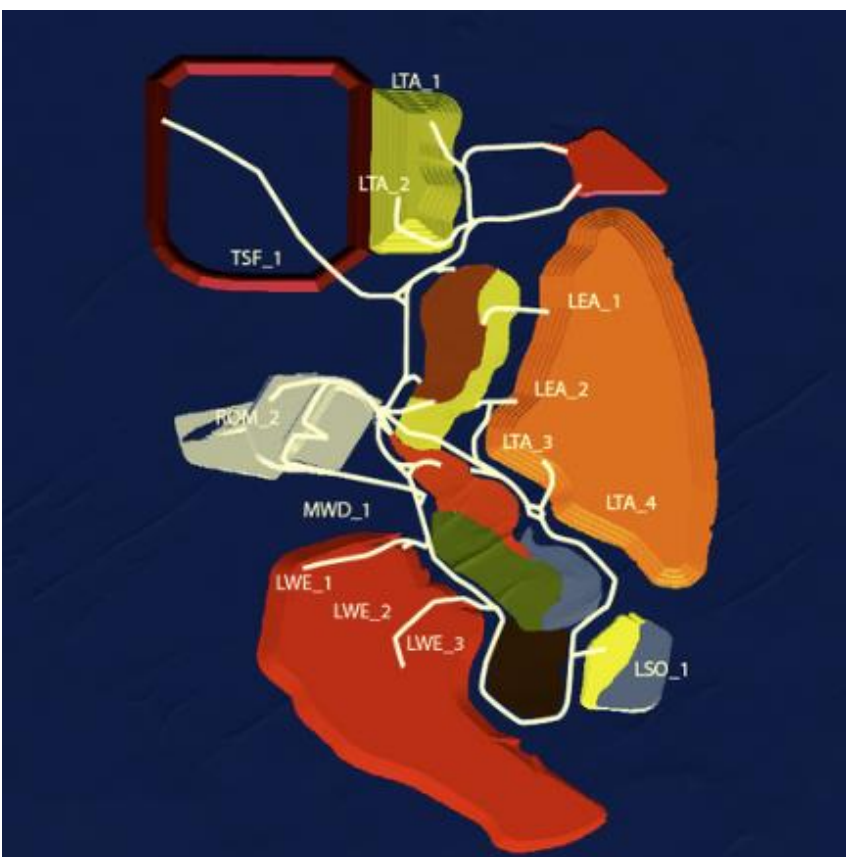
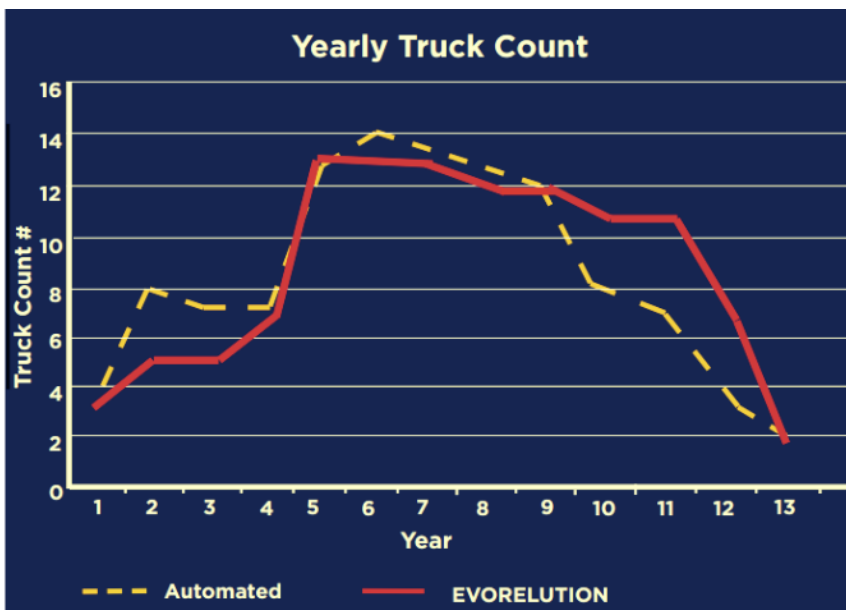
## The Scope

Develop a practical mine plan which:

- Uses the same dataset to produce both a medium and long-term plan.
- Minimises the haulage hours required to achieve mill throughput.
- Maximises recovered metal production.
- Minimises stockpile re-handle.
- Accurately models reality.



**Minimise waste haulage costs & improve project value:**



## orelogy quote

“The Scheduling Software's fully integrated approach delivers the ability to dynamically allocate routes, minimise haulage cycle times and waste placement costs early in a production schedule.

This can generate savings of up to 10% which translates into millions of dollars over the life of an operation”

**Steve Craig**  
CEO orelogy



## Business Benefits

### Executive management:

- Maximise value by meeting required metal production.
- Reducing haulage costs by up to 10%.
- Deferring capital costs for 3 trucks by 2 years.
- Defer clearing costs - Identifying when and how much land needs to be cleared.
- Fully costed closure plan – include closure planning as part of the mine schedule and identify areas when final landform development can commence early in the mine schedule.
- Minimise software purchase & maintenance costs.

### Technical/Users:

- Undertake production scheduling, route allocation, haulage cycle time analysis and waste landform optimisation within the same package – result - 30% reduction in mining software costs.
- Improve efficiency by working across planning horizons – reduced training costs, improved workflows.

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