

Holistic scheduling facilitates  
15 year project life

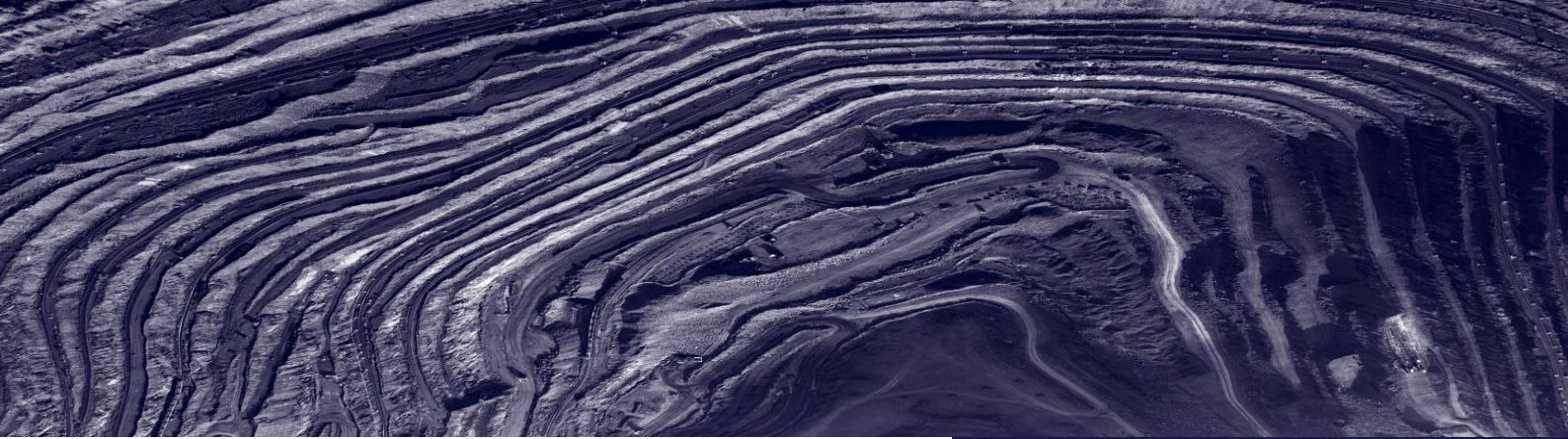
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## Partners in Mine Planning

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

This project was a joint venture between orelogy and Australian Premium Iron

## Project Summary

orelogy began its involvement in the West Pilbara Iron Ore Project (WPIOP) in July 2009 and since this time has worked on all mining related aspects of the project, prior to the project being acquired by Baosteel.

Implicit in all of this work was the need to meet tight product specifications throughout the life of the mine, while maximising the ore potential of the resource

## The Challenge

Eight different deposits, stretching 60 kilometers that required blending at all times to maximise the ore tonnage from the resource.

- Tight product specification for four components – iron, alumina, silica and phosphor.
- Reporting periods varying from months in the first 4 years, quarters in next 3 years and annual periods for remainder of the schedule.
- Maintain orderly mining sequence and even material movement schedule.
- Avoid high levels of waste mining early on and maximise direct backfilling.
- Block size 25m x 25m x 4m, 150,000 blocks approx. (constrained pits).
- Value adding by maximising ore resource, value, mine life and backfill capability whilst minimising rehandle requirements, product variability.

## Mining engineering Definitive Feasibility Study

### Project West Pilbara Iron Ore Project (WPIOP)

### Location

West Pilbara, Western Australia

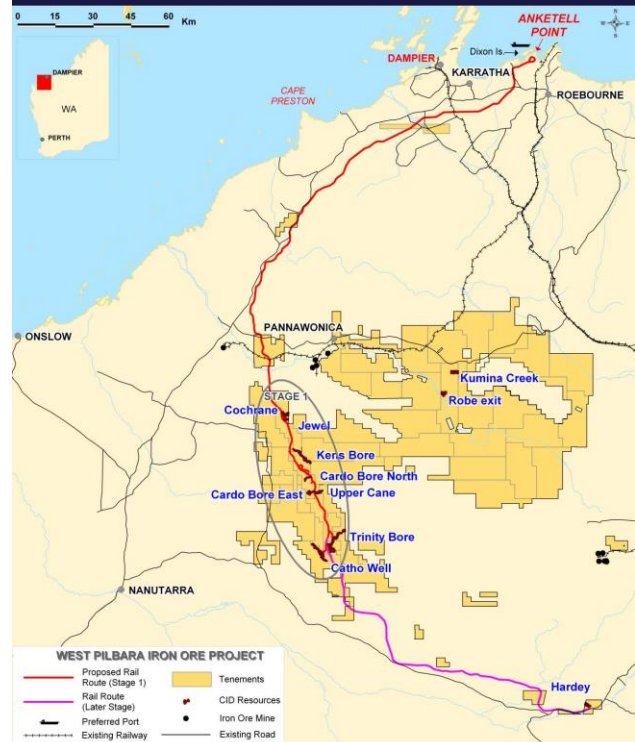
### Client

Australia Premium Iron

Joint Venture

### Web

[www.apijv.com.au](http://www.apijv.com.au)





## The Scope

### Feasibility Study - Mining Section

- Pit designs, dump designs and backfill strategy.
- Mining recovery and dilution estimates.
- Equipment selection.
- Mining schedules for multiple processing scenarios and constraints, with various reporting periods.
- Productivity estimates and scheduling of equipment, consumables and manpower requirements.
- CAPEX and OPEX estimates for the mining schedule.

### Reserve Estimation

- Cut-off Optimisation and development of a second product type.
- Pit optimisation.
- Scheduling.
- Sensitivities.
- Additional mining and scheduling scenarios using revised pit designs.

## Client quote

I have seen some very good results with the API data and from a Metallurgists perspective I can't see how we could have achieved the mine to ship dynamic modelling of tonnage and grades, using more traditional techniques."

**Mark Esvelt**  
Chief Processing Engineer  
Worley Parsons



## Business Benefits

Using orelogy developed open-pit scheduling software, we were able to deliver a practical mine plan that met multi-objective product specifications and maximised the resource potential.

**Owner/shareholder:** Maximising the value and utilisation of the resource. Managing risks and/or identifying opportunities by increasing mine planning visibility in a block-by-block environment. Increased mine life by 2 years and reduced overall strip ratio.

**Mining Engineer:** Being able to fully utilise equipment, reduce re-handle requirements and provide reconciliation feedback.

**Process engineers/metallurgists:** Ability to blend and manage contaminants and minimise short term variability.

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