

THE RISE OF COBALT

A Laterite Wars Story



Conference Dinner Address

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At the ALTA 2011 dinner, I likened the survival of PAL for nickel laterites to a **great survivor from the world of movies.....**

James Bond.....



**We saw that like Bond, everyone
seemed to be trying to kill off PAL**

but in 2011 it was

STILL ALIVE!!!!!!

At the ALTA 2013 dinner, I continued the story and likened PAL to another great survivor from the movies.....

JASON BOURNE.....



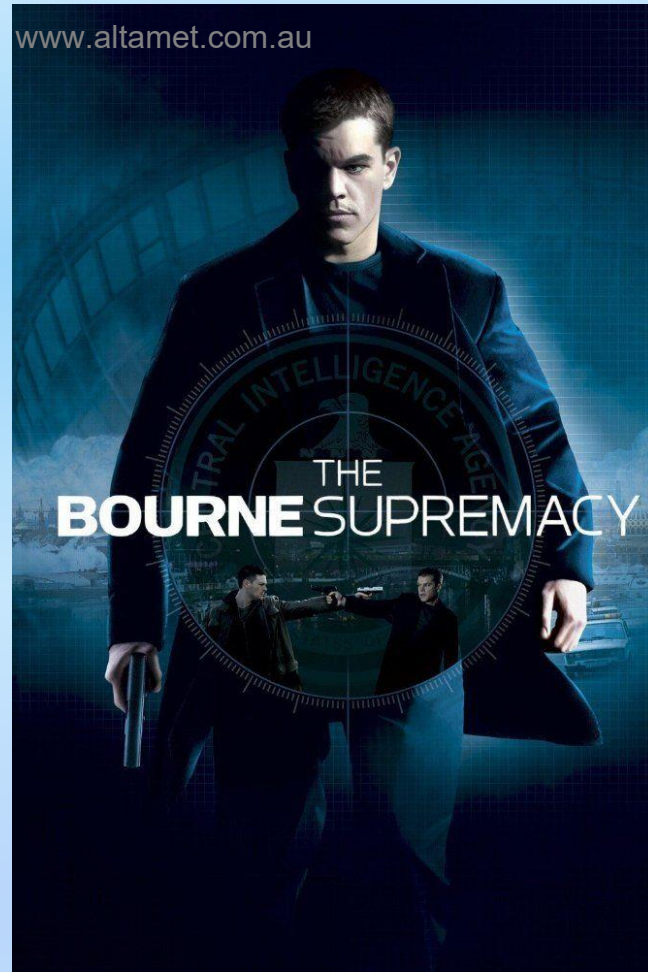
**Many were still saying that PAL, like
Bourne, was.....**

dead in the water



However, despite the challenges, in 2013, PAL, like Bourne, still had the

supremacy



At the ALTA 2017 dinner I noted that 2013-2017 had been a period of struggle between PAL and AL, which I likened to yet another movie series

STAR WARS

so I called my 2017 presentation

LATERITE WARS

This year I'm following the Star War's Series and presenting a spin-off story.

It focusses on Nickel Pig Iron's (NPI) challenge to replace PAL as the dominant process for low grade laterites.

For a time, it appeared to be all conquering, and yet again PAL was said by many pundits to be doomed.

**However, NPI has a crucial weakness,
it is a**

solo producer



**producing only nickel, and therefore
can be regarded as a.....**

rogue process

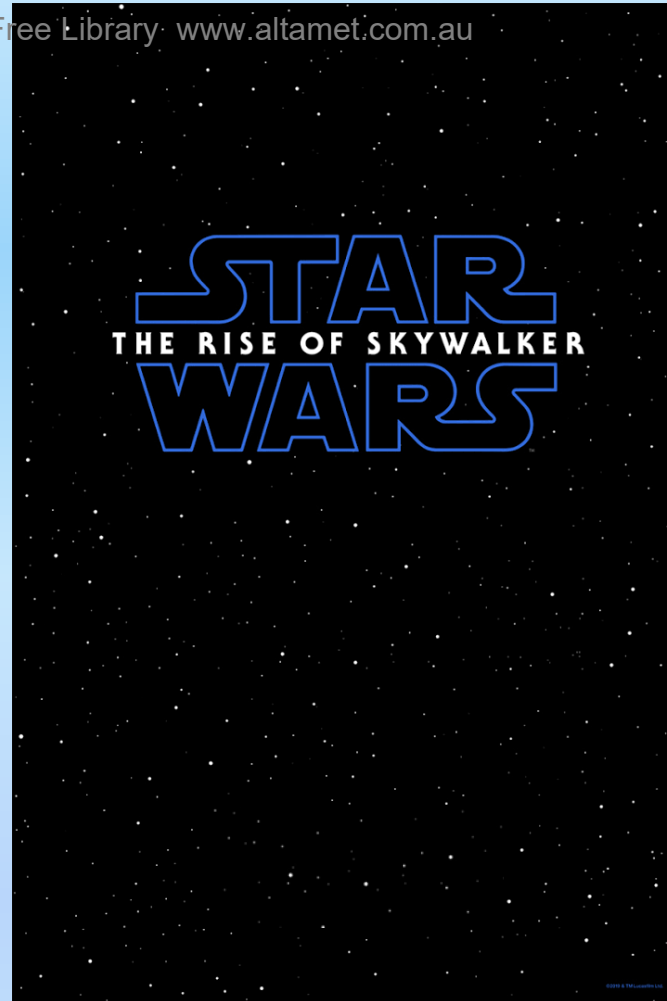


by not recovering critical and valuable by-products such as cobalt and scandium, especially with the growing focus on sustainability and battery metals.

Since 2017, this issue has become increasingly critical with.....

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for the battery market, driven by the projected widespread adoption of EVs, even allowing for reductions in the battery cobalt level.



This has re-established PAL as the front-runner for treating low grade laterites, especially limonites, which is reflected in the 10+ proposed new PAL projects and expansions, including some with scandium as a major product.

For the moment, the current rush to get into production to gain a market share tends to favour PAL, despite cost issues and problems with previous projects.

However, the Laterite Wars are likely to continue as PAL still faces potential cost based competition from AL, including HL and leaching with hydrochloric and nitric acid instead of sulphuric.

And, of course, there is always the possibility of a total disruption due to the development of new battery chemistries.

But for the moment the

BIG NEWS is.....

the rise of COBALT

