



# GOLD

Independent Metallurgical Operations Pty Ltd (IMO) has highly relevant experience in the development of process flowsheets for alluvial, oxide and sulphide gold projects. Our team have proven capabilities in the design and management of gold testwork programs, project development, commissioning and operations throughout Australia and worldwide.

Our scope of services ranges from sample selection, ore characterisation and mineralogy, through to management of metallurgical testwork, process aspects of scoping and feasibility studies and client representation onto plant commissioning, ramp up and process plant optimisation.



PROJECT	CLIENT	OUR WORK
Various sites, Western Australia	Anglogold Ashanti Ltd	Metallurgical optimization testwork and consulting for multiple sites. Sunrise Dam: gravity sulphide recovery study including testwork management, technical evaluation, capital and operating cost estimation.
KCGM, Western Australia	Northern Star	Metallurgical testwork investigating process options for a problematic low recovery ore. Results demonstrated a significant improvement in recovery relative to conventional processing increasing recoveries from <20% to >80%.
KOTH, Darlot, Western Australia	Red 5	Metallurgical testwork and management for both projects through ROM sample testing to PFS and FS testwork.
Namdini Project, Ghana	Cardinal Resources	NI43-101 Feasibility Study sign-off, including study and testwork management of a flotation, ultrafine grind and Cyanide leach flowsheet.
Old Highway, DeGrussa Project, Western Australia	Sandfire Resources	Old Highway: Scoping and PFS testwork. DeGrussa: Tailings testwork and process options study.
Bendigo-Ophir Gold Project, New Zealand	Santana Minerals Ltd	Metallurgical study assessing the amenability of the RAS and Shrek deposits to gravity concentration and cyanide leach processes. This study also included detailed characterisation and comminution testing.
Menzies Gold Project, Cork Tree Well Project, Western Australia	Brightstar Resources	Pre-Feasibility Study testwork program including sample preparation and comminution characterization testwork, gravity and cyanide leach optimisation testwork as well as variability testwork.
Leonora Gold Project, Western Australia	Kin Mining Ltd	Management of Scoping, PFS and DFS level metallurgical testing from flowsheet development to final reporting.
Gwalia Gold Mine, Western Australia	St Barbara Ltd	Metallurgical accounting review.
Side Well Gold Project, Western Australia	Great Boulder Resources	Metallurgical testwork to assess the ore's amenability to gravity recovery and leaching as well as testwork management and comprehensive interpretation of results.  Metallurgical testwork to assess the amenability of copper-containing and copper-free ores to gold leaching via cyanide.

► Please contact us for more details on how we can provide you with assistance and support to your project.

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

## IMO Consulting & Operations

Independent Metallurgical Operations Pty Ltd  
 88 Thomas Street, West Perth, Western Australia, 6005  
 Phone: +61 8 9254 6900 Fax: +61 8 9322 1808  
 Email: [imo@indmetops.com.au](mailto:imo@indmetops.com.au)

# GOLD continued (1)



PROJECT	CLIENT	OUR WORK
<b>Raub Gold Mine, Malaysia</b>	Raub Australia Gold Mines	Testwork, process design, equipment selection, procurement, construction management and commissioning.
<b>Sepon, Laos</b>	Oz Minerals	Metallurgical Testwork to support process optimisation, cyanide code audit for a gold/copper project.
<b>Wiluna Gold Project, Western Australia</b>	Wiluna Mining (former: Blackham Resources)	Management of FS level study through flotation and refractory gold tertiary processing from batch testing to piloting.
<b>Matilda Gold Project, Western Australia</b>	Wiluna Mining (former: Blackham Resources)	Management of PFS and DFS level studies for the restart of the Matilda Processing Plant. On-site commissioning support during start up and ramp up.
<b>Grosvenor Gold Project, Western Australia</b>	RNI	Combined CIL and Heap Leach options study and completion of supporting testwork and Project Management for the planned re-start of the Grosvenor CIL plant.
<b>Mount Kare, PNG</b>	Indochine	Complete metallurgical development of PFS including full testwork management and execution.
<b>Obotan Gold Project, Ghana</b>	PMI Gold / Adansi Gold Company	Development of gold flotation option for the current process flowsheet and designing and managing flotation programs.
<b>Chatree, Thailand</b>	Kingsgate	Cyanide code audit training.
<b>Toms Gully, Northern Territory, Australia</b>	Primary Gold	Completion of a Feasibility Study to optimise conditions on an existing plant.
<b>Oyu Tolgoi, Mongolia</b>	Ivanhoe Ltd	Set up, operated, managed and training of local staff for a metallurgical testwork laboratory in Ulaanbaatar for bacterial oxidation and heap leaching studies.
<b>Boroo, Mongolia</b>	Centerra	Performance testing of the process plant.
<b>Okvau, Cambodia</b>	Emerald Resources (formerly Renaissance Minerals)	Testwork management and process flowsheet development for a complex gold ore. Requiring flotation and tertiary gold processing.
<b>Various Projects</b>	Gekko Systems	Gravity gold recovery and cyanidation for numerous gold projects globally.
<b>Woodlark Project, PNG</b>	Geopacific Resources	Metallurgical testwork due diligence. Process plant design criteria and flowsheet review. OPEX cost model generation for various scenarios. Provision of power supply options.
<b>Dargues Reef, New South Wales</b>	Cortona Resources / Unity	Complete metallurgical development from initial sampling through to process plant DFS engineering. Client representation for engineer selection and stakeholder management.
<b>Doropo Gold Project, Cote D'Ivoire</b>	Centamin Egypt Ltd	Development and Management of the Feasibility study's metallurgical testwork program. Provision of services to act as a Qualified Person and to sign-off on the Metallurgical section of the Doropo FS.

► Please contact us for more details on how we can provide you with assistance and support to your project.

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

## IMO Consulting & Operations

Independent Metallurgical Operations Pty Ltd  
 88 Thomas Street, West Perth, Western Australia, 6005  
 Phone: +61 8 9254 6900 Fax: +61 8 9322 1808  
 Email: [imo@indmetops.com.au](mailto:imo@indmetops.com.au)

## GOLD continued (2)



PROJECT	CLIENT	OUR WORK
<b>Sandstone Project, Western Australia</b>	Alto Metals Ltd	Sighter leach testwork and recommendations based on results.
<b>Bankan Gold Project, Guinea</b>	Predictive Discovery	Metallurgical testwork program as part of the client's scoping and Pre-feasibility study including, comminution testwork, leach testwork and tailings testwork.
<b>Plutonic Gold Mine, Trident Deposit, Western Australia</b>	Catalyst Metals Ltd	Testwork program to assess the amenability to gravity and cyanide leaching as part of the client's feasibility study.
<b>Barto Gold Project, Western Australia</b>	Barto Gold Mining Pty Ltd	Metallurgical testwork programs to assess the amenability of the ores of various gold projects to gravity concentration and leaching.
<b>Garden Gully Gold Project, Western Australia</b>	Ora Gold Ltd	Sighter level testwork program to assess the amenability to gravity and cyanide leaching.
<b>Kat Gap Gold Project, Western Australia</b>	Classic Minerals Ltd	Flowsheet development and metallurgical testwork (gravity), to determine the optimum process design criteria for the commissioning of a gravity gold processing plant.
<b>Boorara Gold Project, Western Australia</b>	Horizon Minerals	Metallurgical testwork including sizing analysis and gold department for pre-beneficiation options.
<b>Mt York Gold Project, Western Australia</b>	Kairos Minerals	Metallurgical sighter testwork to assess the amenability of the project's ore to cyanide leaching as well as testwork management and comprehensive interpretation of results.
<b>Paulsens Gold Operation, Western Australia</b>	Black Cat Syndicate Ltd	Metallurgical and OPEX assessment for incorporation into gold operation restart study.
<b>Paris Project, Western Australia</b>	Torque Metals	Conduct and manage metallurgical testwork program including review of previous testwork completed on projects.
<b>Douta Gold Project, Senegal</b>	Thor Exploration	PFS-level metallurgical program, including detailed mineralogical studies, beneficiation testwork through to the assessment of various tertiary processing options.
<b>Dalgaranga Gold Mine, Western Australia</b>	Spartan Resources (formerly: Gascoyne Resources)	Metallurgical testwork assessing the amenability of the project's ore to gravity gold and cyanide leaching.
<b>Confidential Project</b>	WSP Golder	Technical due diligence of project's financials (Cashflow, OPEX, Capex) as well as Metallurgy, Processing plant and tailings dam for projects in Coolgardie and Fiji.
<b>Murchison Gold Project, Western Australia</b>	Odyssey Gold Ltd	Metallurgical testwork to assess the ore's amenability to gravity recovery and leaching as well as testwork management and comprehensive interpretation of results.
<b>Mt Henry Project, Western Australia</b>	Karora Resources Pty Ltd	Heap leach amenability study in the form of column leach testwork at Metallurgy Pty Ltd as well as testwork management and comprehensive interpretation of results.
<b>Lady Julie Project, Western Australia</b>	Magnetic Resources NL	The Lady Julie Feasibility Study involved an extensive testwork program, assessing the amenability of the LJV4 ore to gravity concentration, cyanide leaching and froth flotation processes. The program also involved detailed ore characterisation, comminution and tailings testwork.

► Please contact us for more details on how we can provide you with assistance and support to your project.

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

## IMO Consulting & Operations

Independent Metallurgical Operations Pty Ltd  
 88 Thomas Street, West Perth, Western Australia, 6005  
 Phone: +61 8 9254 6900 Fax: +61 8 9322 1808  
 Email: [imo@indmetops.com.au](mailto:imo@indmetops.com.au)

## GOLD continued (3)



PROJECT	CLIENT	OUR WORK
<b>Moline Project, Northern Territory</b>	Cazaly Resources	High-level due diligence of the Moline Gold Project to assess whether refractory ore can be treated to generate revenue.
<b>Credo Station Gold Project, Western Australia</b>	Gold Tiger Resources	Review of the metallurgical testwork completed to date on the laterite ore from the Credo Station Gold Project, to assess the potential for the ore to be upgraded via simple beneficiation processes prior to toll treatment. Subsequently, conduction of gold laterite beneficiation testwork.
<b>McTavish East Project, Western Australia</b>	Carnavale Resources	Metallurgical study, including sighter testwork, to assess amenability of ore to processing.
<b>Golden Range Project, Western Australia</b>	Warriedar Resources	Metallurgical test work to evaluate gold leaching and gold flotation performance and other metallurgical properties of the project's Ricciardo prospect.
<b>Chatree Gold Mine, Thailand</b>	WSP Golder	Technical due diligence review: Site visit and DD report on a 100koz/annum Au producer in SE Asia.
<b>Tuvatu Gold Mine, Fiji</b>	WSP Golder	Technical due diligence review:  Phase 1 - Site visit and DD report on a high grade UG Au producer in Fiji.  Phase 2 - Site visit and follow up metallurgical support for onsite operations in Fiji.
<b>Hidden Valley, PNG</b>	WSP Golder	Technical Due Diligence Report: Desktop IE report on LOM Extension FS.
<b>Buccaneer Project, Northern Territory</b>	Prodigy Gold NL	Metallurgical testwork to assess the ore's amenability to heap leaching compared with to gravity recovery and leaching, including testwork management and interpretation of results.
<b>Hillgrove Gold-Antimony Project, Western Australia</b>	Larvotto Resources	Beneficiation amenability testwork on Tails Storage Facility (TSF) composites and flowsheet confirmation testwork on Resource Sample composites from Larvotto's antimony gold project. Metallurgical testwork to determine if gold dore, plus separate gold and antimony concentrates can be generated using a combination of gravity, flotation, and leaching processes. Furthermore, assessment of suitability of existing processing facilities on site (which include a comminution circuit, fixed plant for the concentrator, and two TSF facilities).

► Please contact us for more details on how we can provide you with assistance and support to your project.

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

## IMO Consulting & Operations

Independent Metallurgical Operations Pty Ltd  
88 Thomas Street, West Perth, Western Australia, 6005  
Phone: +61 8 9254 6900 Fax: +61 8 9322 1808  
Email: [imo@indmetops.com.au](mailto:imo@indmetops.com.au)