



COPPER

Independent Metallurgical Operations Pty Ltd (IMO) has extensive experience in the development of process flowsheets for a wide range of copper projects. Our team has significant expertise in the design and management of flotation and leaching testwork programs, project development and operation of copper plants.

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
Motheo Project: T3 & A4 Dome Project, Botswana	Sandfire Resources	T3 Project: Secondment of IMO director to MOD Resources board as Executive Technical Director for 3 years. Testwork management at Metallurgy Pty Ltd for the scoping study, PFS and DFS. A4 Dome Project: Feasibility study testwork program.
Boddington, Western Australia	Newmont Australia	Provision of commissioning personnel for the HPGR and flotation circuits.
Cadia, New South Wales	Newcrest Mining Ltd	PFS Study management investigating a molybdenum flotation circuit to separate and recover Mo from the copper concentrate.
Prominent Hill, Western Australia	Oz Minerals	Supply of fourteen (14) commissioning and ramp up personnel over 24 months; including metallurgists, metallurgical technicians and supervisor trainers.
Mt Isa, Queensland	Xstrata Copper	Technical support to Xstrata on strategic testwork programs. Project management and preparation of the metallurgical accounting program for the flotation circuit.
Telfer, Western Australia	Newcrest Mining Ltd	Commissioning support and process improvement projects.
Elizabeth Creek Project, South Australia	Coda Minerals	Study Manager for Coda Minerals Ltd.'s Elizabeth Creek Copper Project, responsible for the performance of project activities assuring that the project's ongoing feasibility study requirements and schedule are met in accordance with the project study's framework.
Hidden Valley, PNG	Newcrest Mining Ltd	Provision of commissioning and ramp-up personnel over 12 months.
Productora Project, Chile	Hot Chili Ltd	Preliminary copper heap leach testwork (bottle rolls and column leach tests).
Kou Sai Project, Cambodia	Geopacific Resources	Completion of PFS level metallurgical testwork, providing inputs into a capital and operating cost estimate at $\pm 35\%$, conducted by IMO.

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

www.indmetops.com.au

IMO Consulting & Operations

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COPPER continued (1)

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Doolgunna Copper Project, Western Australia	Sandfire Resources NL	Completion of the metallurgical component of the PFS and scoping studies. Delivered process flow diagrams and process design criteria. Study deliverables including capital and operating costs.
Golden Grove, Western Australia	Minerals and Metals Group	Technical project in assessing multiple reagent vendors for flotation consumables to reduce operating costs whilst increasing recovery and grade.
Storm Copper Project, Canada	American West Metals	Metallurgical study to assess the amenability of the project's ore to beneficiation processes, including the potential of both ore sorting and flotation processing options.
Antapaccay Copper Operation, Peru	Glencore	Evaluation of the laboratory flotation concentration via testwork program to optimise native copper and azurite recovery along with the identification of the best dispersant to depress clays, enabling overall optimum copper recoveries.
Schwabe Prospect/ Perrinvale Prospect, Western Australia	Cobre Ltd/Toucan Gold	Metallurgical testwork program to assess the characteristics of the Perrinvale Prospect's ore and its amenability to heap leach, ore sorting and flotation processing.
Ngami Project, Botswana	Cobre Ltd/Toucan Gold	Metallurgical testwork program to assess the potential for in-situ leaching of the copper ore.
Dikulushi Copper Project, DRC	Sedgman Metals Engineering Services	Conducted a high-level technical review of the Dikulushi Copper Project.
Oman Copper Project, Oman	Savannah Resources PLC	Metallurgical study, including testwork, to assess the potential for copper recovery from a historical tailings dam.
Batu Hijau Elang Project, Indonesia	Amman Minerals	Peer review of the Batu Hijau Process Expansion Study. Assessment of the level of engineering completed in the Study and advise if work is sufficient to proceed directly to detailed design and tender for construction.
Thursdays Gossan Project, New South Wales	Stavelly Minerals	Testwork program (comminution and flotation) and testwork management.
Pahtohavare, Sweden	Hannans Reward	Testwork management of oxide ore characterisation and flotation response.
Tennent Creek Project, Northern Territory	CuFe	Bench scale metallurgical test work on both oxide and transitional composites of diamond drill core to achieve a positive result with respect to the flotation of oxidised copper mineralisation through conventional oxide flotation, and to inform a more comprehensive metallurgical program.
Canbelego and CZ Copper Projects, New South Wales	Helix Resources	Copper ore characterisation: Testwork program to assess the amenability of the testwork composites from each weathering zone to flotation, heap leach or preconcentration.

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PROJECT	CLIENT	OUR WORK
Nifty Copper Project, Western Australia	Cyprium Metals	Assessment of potential gravity and flotation recovery options for the copper oxide resources, including subsequent recovery testwork.
Jericho Project, Queensland	AIC Mines Ltd	Management, interpretation and testwork supervision of the client's metallurgical Cu-Au testwork program.
Confidential project, Queensland	WSP Golder	Technical due diligence on restart of copper mine in QLD (heap leach).
Tshukudu Project, Botswana	Sandfire Resources Ltd	Conducting testwork from flowsheet development to DFS level inclusive of generating Geometallurgical models for hardness, grade, recovery and deleterious elements.
Asarco Ray Concentrator, USA	Andritz Pty Ltd	Provision of expert knowledge in the form of data analysis and metallurgical support to Andritz, who offer advanced process control to their clients.
Nifty Copper Project, Western Australia	WSP Golder	Technical due diligence review: Site visit and Phase 1 technical due diligence on proposed restart of the Nifty Copper Project

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