

DAVID WELLS, CEng **Senior Metallurgist**

BACKGROUND

David Wells is a Senior Metallurgist in the Norwich office of Micon International Co Limited. He has thirty-five years of managerial, operations, technical and project experience in the metalliferous and industrial minerals industries. He has been employed by international mining and resource companies in Australia, Papua New Guinea, Canada, UK and Western Europe, and has worked as an independent consultant.

David has expertise in: test programme planning and implementation; process design and engineering; feasibility studies; plant construction, contract management and commissioning; operations, training and health and safety management; process auditing and troubleshooting; quality system management; liaison with financial institutions, contractors, equipment manufacturers, government agencies and research organisations.

PROFESSIONAL ASSIGNMENTS

Senior Metallurgist, Micon International

Management of a technical due diligence review of a gold tailings project in Krasnoyarsk Region, Russia on behalf of a potential investor.

Processing and economic aspects of a conceptual study for a molybdenum project in the Republic of Karelia, Russia on behalf of the owner.

Processing and economic aspects of a competent person's report for a listing and initial public offering of the shares of a major Russian gold producer.

Management of a conceptual study for a nickel/copper project in the Republic of Karelia, Russia on behalf of the owner.

Process test work review of a molybdenum project in the Chita Region of Russia on behalf of the owner.

Process aspects of a technical due diligence of a gold project in Kazakhstan on behalf of a prospective investor.

Supervision of metallurgical test work and preparation of the process section of a scoping study for a base metals project in the United Kingdom on behalf of the owner.

Management of a metal balance audit of the concentrator and smelter operations of a major Russian base and platinum group metals producer.

Construction contract reviews of a nickel project in Turkey on behalf of the lenders.

Metallurgical and construction contract reviews as part of the due diligence of a chrome project in Kazakhstan on behalf of the lenders.

Process, economic and market reviews of chromite and ilmenite projects in the Kola Region of Russia on behalf of the owner.

Metallurgical and economic reviews of a ferromanganese project in Irkutsk Region of Russia on behalf of a potential investor.

Contributor and principal author of an independent expert's report in support of the listing of the major Russian mining company Polyus Gold on the London Stock Exchange.

Management of a technical review and preparation of a competent person's report on a silver/base metal project in Magadan region of Russia in support of a potential acquisition.

Preparation of a status review and development for a bankable feasibility study of an ilmenite project in Finland on behalf of the project sponsor.

Management of an update of a technical due diligence review of a placer platinum operation, an underground gold project and various gold exploration projects in Kamchatka Region of Russia, in support of financing arrangements and a listing on the London Alternative Investment Market.

Expert witness for a product sales contract arbitration case heard at the London Court of International Arbitration.

Management of a feasibility study for the expansion of an open pit, refractory gold operation in Armenia.

Preliminary technical due diligence of the metallurgical aspects of a major Russian gold producer's assets, in support of a potential merger.

Management of a technical due diligence review of a placer platinum operation and an underground gold project in Kamchatka Region of Russia, in support of loan financing.

Metallurgical review of the base metal operations of a major Russian producer with divisions in Krasnoyarsk and Murmansk Regions, as the basis for possible stock exchange listing.

Management of the technical review and valuation of placer and hard rock gold mining and processing operations in Magadan Region of Russia, in support of a joint venture arrangement.

Monitoring of a heap leach and milling/resin-in-leach gold project in the Amur Region of Russia, undertaken on a quarterly basis on behalf of the owner.

Technical due diligence of the processing and environmental aspects of a gold mine in Australia and a copper/gold mine in Argentina for a qualified person's report, on behalf of a purchaser of part of the assets.

Review and valuation of an underground, refractory gold project in the Chukotka Region of Russia, on behalf of the owner.

Technical due diligence of the processing and infrastructure aspects of a heap leach and milling/resin-in-leach gold project in the Amur Region of Russia, in support of a listing on the Alternative Investment Market.

Fatal flaw review of a German potash/magnesium chloride solution mine, on behalf of a potential investor.

Management of the monitoring of a new zinc/lead mine in Ireland, undertaken on a quarterly basis, and technical support for loan renegotiations, on behalf of the syndicate of lenders.

Coordination of the submission of a qualified person's report on a zinc/lead mine in Ireland, prepared in support of an application for listing on the Toronto Stock Exchange.

Evaluation of processing aspects in the development of a zinc/lead mine in Ireland and a lead project in Australia, as part of a qualified person's report produced to support an application for listing on the Toronto Stock Exchange.

Review of metallurgical testwork, process design and capital and operating cost estimation considerations of a zinc/lead project in Ireland, as part of a technical and valuation report of a zinc/lead project in Ireland.

Coordination of the preparation of a pre-feasibility study of the development of a zinc/copper project in Sweden, on behalf of the project sponsor.

Supervision of the metallurgical testwork, process design and capital and operating cost estimation for a pre-feasibility study of the development of a zinc/copper project in Sweden, on behalf of the project sponsor.

Advisor for the operating and metallurgical aspects of the sulphide copper concentrators, molybdenum separation plant and copper dump leach operation, as part of a multi-disciplinary programme of technical assistance to an integrated Chinese copper producer.

Technical review of the process operations and capital and operating cost aspects of a zinc oxide mine, zinc sulphide concentrate roaster and a leach/electrowinning zinc recovery plant in Thailand, on behalf of a potential investor.

Process design, and capital and operating cost estimation for a pre-feasibility study of the development of a zinc project in China.

Independent engineer review of the first phase completion test and second phase construction of a heap leach gold mine in Ghana, on behalf of the syndicate of lenders.

Preparation of the process and infrastructure sections of a feasibility study report for a gravity/flotation gold project in Tanzania.

Management of the technical review of the feasibility study of an aluminium smelter project in India, for the preparation of an information memorandum for corporate equity financing, on behalf of the project sponsor.

Management of the technical review of an existing copper smelter and refinery in India, for the preparation of an information memorandum for corporate equity financing of an aluminium smelter, on behalf of the project sponsor.

Full technical due diligence of process and infrastructure aspects of heap leach gold project in Ghana, on behalf of the syndicate of lenders.

Process plant commissioning services for a zinc/copper mine reopening in Canada, on behalf of the project sponsor.

Review of the capital cost estimation for a feasibility study of a CIL gold project in Russia, on behalf of the project sponsor.

Independent Mineral Process Engineer

Management of a detailed design study of a gravity/flotation gold plant in Scotland, on behalf of a UK engineering company.

Commissioning services for a heap leach gold expansion project in Spain, on behalf of a UK engineering company.

Process audit and operational improvements for a UK gravity/flotation tin recovery plant, on behalf of the owner.

Process audit and engineering for upgrading of a UK glass sand processing plant, on behalf of the owner.

Process audit and feasibility study for modification and expansion of a UK aggregate plant, on behalf of the owner.

Consultant and applications engineer to manufacturers of mineral process on stream analysis equipment, with assignments in Germany and South Africa.

Technical Manager, Anglo Pacific Resources plc, Scotland

Technical evaluation, process engineering and feasibility studies for silica sand, marble, ground carbonate, feldspar, garnet, perlite, andalusite and talc projects in Western Europe.

Management of capital construction projects and process plant commissioning for Fife Silica Sands Ltd.

Management of a technical services and control laboratory for Fife Silica Sands Ltd.

Implementation of an ISO 9000 Quality System for Fife Silica Sands Ltd.

Management of a co-operative, EU funded minerals research project for Fife Silica Sands Ltd, involving partners in France, Italy, Germany and Greece.

Mill Superintendent, South Crofty Ltd, Cornwall, UK

Operations, engineering and technical management of a 1,100 tonne per day tin concentrator using heavy medium, gravity and flotation processes. Introduced new operating and engineering manning structures and a planned maintenance programme.

Management of capital projects including rationalisation of old equipment and buildings, construction of expanded process plant, construction of an engineering workshop, environmental and site improvements.

Management of test work and process engineering for capital projects, including concentrate dewatering, dynamic heavy media separation, tin flotation and a new two stage grinding and coarse gravity recovery circuit.

Section Leader, British Industrial Sands Ltd

Management of a technical service to the group glass sand and other industrial minerals operations.

Management of a mineral processing consulting service, based on the group's expertise with industrial mineral flotation, acid leaching and glass sand processing. Conducted laboratory and pilot plant studies for a Turkish glass sand producer and a South African producer.

Assistant Mill Superintendent, Fox Lake Mine, Sherritt Gordon Mines Ltd, Manitoba, Canada

Operating and technical control, and project management for a 3,000 tonnes per day copper/zinc concentrator during construction, commissioning and subsequent operation.

Senior Metallurgist, Bougainville Copper Ltd, Papua New Guinea

Laboratory and pilot plant investigations, operating and technical control, and project management for a 90,000 tonnes per day copper concentrator during initial investigations, construction, commissioning and subsequent operation.

Research Metallurgist, Broken Hill Mines, Conzinc RioTinto of Australia plc, New South Wales, Australia

Operating and technical control, and technical investigations for the group's lead/zinc concentrators.

EDUCATION

Associateship of Camborne School of Mines, First Class Honours, 1966.

PUBLICATIONS

Mill modifications at South Crofty Improve Throughput and Recovery, XIV International Mineral Processing Congress, Toronto, 1982 (co-author).

PROFESSIONAL AFFILIATIONS

Chartered Engineer (United Kingdom)

Member Institute of Materials, Minerals and Mining (United Kingdom)

Member American Institute of Mining Engineers

Fellow Minerals Engineering Society (United Kingdom)