

# **PETER H. STITT & ASSOCIATES PTY. LTD.**

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MINING & GEOLOGICAL CONSULTANTS

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## **RESUME**

### **PETER HENRY STITT**

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# **PETER HENRY STITT RESUME AND WORK EXPERIENCE**

## **PERSONAL DATA**

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Nationality: Australian

Health: Excellent

### **Current Licences:**

- N.S.W. Class 1AR Licence for Motor Bikes and Cars
- Private Pilot's Licence, ≈2,850 hours, instrument rated

## **QUALIFICATIONS**

B.E. (Applied Geology) University of N.S.W., 1963.  
Grad. Dip. (Mineral Processing) University of N.S.W., 1965.

## **PROFESSIONAL AFFILIATIONS**

Fellow, The Australasian Institute on Mining and Metallurgy.  
Chartered Professional  
Fellow, Institute of Quarrying  
Member, Mineral Industry Consultants Association.  
Member, Australian Institute of Geoscientists.  
Member, Australasian Ceramic Society.  
Member, Society of Glass Technology.

## EXPERIENCE

Peter Stitt worked for Australian Consolidated Industries Ltd for a period of twelve years. Early appointments were in production leading to three years as batch and furnace superintendent in a large complex glass plant, making a range of glass products, compositions and colours.

He subsequently spent seven years with A.C.I. Technical Centre Pty Ltd, the Company's engineering and R & D facility.

During the 1960's ACI Technical Centre was one of the largest engineering/industrial research and development facilities in Australia and at its peak employed a staff of approximately 240.

Peter Stitt had responsibility for, and/or was involved in R & D projects in the areas of furnace technology, glass, ceramics and the raw materials for their manufacture.

Responsibilities in the resources area included glass and ceramic raw materials exploration, development of mineral beneficiation processes, cost estimation, plant construction, commissioning and trouble shooting.

Two specific projects were process development for the first froth flotation glass sand beneficiation plant in Australia (1961-62), and development of a combined cationic/anionic froth flotation process for glass sand beneficiation (1963).

In 1968 he was appointed Chief Scientist (Research Manager), reporting to the Director of Research and Development, A.C.I. Technical Centre Pty Ltd.

He left ACI in late 1970 and in late 1971 established Peter H. Stitt & Associates Pty Ltd, a mining and geological consulting firm, which has specialised in the field of industrial minerals and non-metallic minerals, from exploration concepts through to operating mines and plants and in project audit work for a range of commodities. A selection of projects is set out below:

**1972:** Investigation of an alluvial tin prospect for two investors. A prima facie case was established that the documentation upon which the investment decision had been based (and which also covered a copper project) was fraudulent.

**1972-'73:** Project co-ordination for Rutile & Zircon Mines Ltd., Tomago Sand beds heavy mineral sand mining project. Scope of work involved expediting the construction and commissioning of a major plant on a high grade ore body situated in an environmentally sensitive location. It also involved the negotiation of conditions with the relevant State and Local Government Authorities.

During the course of this project promoted the initial trial of what later became the Industry Standard approach to mineral sands rehabilitation in native forests.

- 1973-'74** Responsible for resource assessment, process development test work and flowsheet design, together with detailed capital and operating cost estimates for a 15tph glass plant to process sandstone at Clarence, NSW. The process technology involved grinding and combined cationic/anionic froth flotation. Although the terms of reference were met (a flint grade specification and delivered price) economic conditions precluded the plant from being built.
- 1974-'75:** Responsible for resource assessment, process development, detail design and capital/operating cost estimates for a 25tph glass sand project. Subsequently jointly responsible for construction and commissioning.
- 1977:** Geological assessment of a proposed hard rock quarry near Albury. Drilling, with testing of cores for suitability as an aggregate.
- 1977-'03:** Investigations into a leuco-granite stock near Oberon, N.S.W., as a source of glass and ceramic raw materials. Scope of work has included resource assessment, process development, capital and operating cost estimates and financial analysis. The project was taken from "grass roots" exploration to an advanced stage of development and was a major asset in the float of Minerals Corporation Ltd in 1996.
- 1980:** Carried out an assessment of reserves in a hard rock aggregate quarry at Exeter, N.S.W., for take over negotiations.
- 1981:** Undertook a programme to assess alluvial and hard rock gold mineralisation within a group of exploration licences in eastern Victoria.
- 1981:** Investigation of a tungsten-copper deposit in NSW, in respect to an option agreement. Scope of work included mapping, rock chip sampling and a drilling programme including both rotary percussion and diamond coring techniques.
- 1981-'86:** Re-evaluation of mineral sand tenements at Tea Gardens NSW, for Northern Rivers Rutile Pty Ltd.
- The work included assessment of previously unsuccessful investigations, one of which was the subject of a NSW Supreme Court hearing. Prepared an expert witness report and gave evidence in a successful action on behalf of Northern Rivers Rutile.
- Devised, implemented, and supervised an appropriate exploration drilling and testing programme, to determine the contained reserves of rutile and

zircon within this deposit. This programme demonstrated that a viable resource existed on the tenements.

Assisted with preparation of an E.I.S. and the feasibility studies leading to the granting of mining leases. This deposit was acquired by Mineral Deposits Limited, then a BHP subsidiary, and successfully mined at rates of up to 2,200 tonnes/hour for almost ten years.

- 1982:** Organised a study into factors to be taken into account in setting up a glass industry in Dubai (United Arab Emirates) and co-authored the final report.
- 1983:** Carried out a complete audit on an underground hard rock gold mining operation in northern Victoria, together with a valuation of the project assets.
- 1983:** Complete audit of an alluvial/eluvial gold mining operation in the Northern Territory together with a valuation of the project assets.
- 1985:** Prepared capital and operating costs for a project aimed at producing high grade glass sand from sandstone at Clarence, NSW.
- 1986-'90:** Selection of a portfolio of mineral sand tenements in NSW for Australmin Holdings Ltd. Carried out negotiations with government authorities leading to the granting of titles. Planned exploration programmes and implemented these as the tenements became available for exploration.
- Assisted in the preparation of the Environmental Impact Statements for the project.
- Involved in the metallurgical test work and flowsheet design for the Dry Plant at Woodburn NSW.
- Prepared expert reports for a Land and Environment Court case held to review the project and gave evidence before the Court.
- 1987-'90:** Provided technical advice and assistance to Australmin Holdings Ltd in respect to resource assessment and beneficiation for an alluvial chromite project based on a resource in the Noumea Lagoon, New Caledonia. Participated in the preparation of a preliminary feasibility study for a 500 tph dredging and processing operation.
- 1988-'89:** Flowsheet development for a 160tph advanced sand plant producing construction sand from sandstone. Client's representative during detail design, construction and commissioning.

- 1989-'90:** Expert witness for Warman International Ltd in respect to a dispute over a silica flour plant built by Warman in Tasmania.
- 1989-'91:** Selected tenements and implemented initial exploration programmes on potential mineral sand areas in the Murray Basin, Victoria and South Australia for a joint venture funded by Denison Australia Pty Ltd. Acted as consultant through the remaining investigations and prepared a final evaluation report on the findings.
- 1990:** As part of a conceptual study, devised a dry mining method for a 4,000 tph mineral sands project in a remote area of Cape York, Far North Queensland. Prepared preliminary capital and operating cost estimates.
- 1990-'91:** Undertook a review of the Queensland mineral sand industry and carried out reconnaissance work along the coast with the aim of locating potential new targets.
- 1991:** Review and assessment of the operations of Nepal Orind Magnesite Ltd for The United Nations Development Programme (UNDP). The project involved an open cut mining operation in the Himalayan foothills, and a nearby dead burned magnesite plant.
- 1991-'92:** Prepared an expert witness report, which examined the reasons for a Broken Hill feldspar project failing to meet its business objectives.
- 1991-'92:** Investigation of both alluvial and hard rock gold mineralisation contained within a number of exploration titles in Vietnam.
- 1992:** Arbitrator/adjudicator between the Project Operator and the Plant Constructor in respect to a dispute involving a 100m<sup>3</sup>/h alluvial gold mining project.
- 1992:** Responsible for the preparation of the Independent Geological Report and Valuation for the successful stock exchange float of Redfire Resources N.L., an opal explorer and producer.
- 1993:** Preparation of an Independent Consulting Geologists Report and an Independent Valuation Report for the re-listing of Australian Gold Development N.L.; based on the investigation of a range of alluvial and hard rock gold prospects in Vietnam.

- 1993:** Leader of an United Nations Industrial Development Organisation (UNIDO) mission to Sierra Leone. The Mission was originally charged with providing advisory assistance to the Government of Sierra Leone in respect to the mining of rutile. This was subsequently amended to:
- "A review of the current mining industry in Sierra Leone and of the future potential for the mining industry with a view to maximising the benefits of mining and associated development to the people of Sierra Leone".*
- 1994:** Carried out a technical audit and review of the operations of Nepal Orind Magnesite (Pvt.) Ltd. (NOMPL) with a view to both providing immediate advice and assistance to the Company and to identifying problem areas where further Australian advice and assistance might most effectively be provided.
- NOMPL has been implementing a Staged Rescue Plan recommended by Peter H Stitt & Associates in 1991. This Mission was funded by the Australian International Development Assistance Bureau (AIDAB, now AusAID) and basically reviewed progress in implementing the Plan and made recommendations in respect to perceived problem areas.
- 1994:** Advised EFG Australia Ltd. on buy-out terms for the Bungku Chromite Project, Central Sulawesi, Indonesia.
- 1994-'95:** Provided advice to Vietbar Pty Ltd in respect to a number of barite, barite/fluorite and barite/fluorite/rare earth projects in the Socialist Republic of Vietnam.
- Scope of work has included field investigations, prioritisation of targets, advice in respect to an appropriate test programme and preliminary conceptual feasibility studies.
- 1995:** Audit of three producing industrial minerals projects for Macquarie Bank Ltd, as part of the Bank's due diligence prior to grant of finance to the holding company.
- 1995-'96:** Expert witness for the Australian Customs Service in a case before the Administrative Appeals Tribunal involving diesel fuel rebates to the quarrying industry, estimated to be in the range \$100,000,000 to \$150,000,000.
- 1995-'96:** Audit of a Far North Queensland alluvial tin mining operation for Macquarie Bank Ltd. The project, financed by the Bank, had failed to meet its business objectives. As part of a rationalisation process, commissioned by the Bank to dispose of a major asset of the operation.

**1996-'98:** Initially commissioned by a major U.S. corporation to carry out a base line audit of a tantalite-mining project in south central China. Subsequently involved in advising on resource assessment, the execution of metallurgical test work and in the preparation of feasibility studies. A study of the market potential of the feldspar co-product in the domestic container and flat glass industries formed part of the commission.

The ultimate aim of this work was to triple mine throughput, increase the recovery of tantalite values and improve the economics of the operation through the sale of co-products.

**1998:** Expert witness for the ex-owner in a dispute between a major corporation and the ex-owner of an operating gold mine in New South Wales. The case was settled out of court and in favour of the ex-owner.

**1998:** Carried out a Due Diligence audit of the feasibility study for a Queensland based ilmenite project for a financial institution looking to invest in the project. Identified a number of fatal flaws in the feasibility study, that were nonetheless considered to be resolvable.

**1999:** Carried out two valuations of an operating mineral sands company; one for bank finance purposes and the other for company restructuring purposes.

**1999:** Expert witness in a dispute involving a major underground gold project in Victoria. The case was settled in favour of the company.

**1999:** Under subcontract to Behre Dolbear Australia Pty. Ltd., involved in a Due Diligence audit of the operations of a major kaolin mine on Cape York for the bank financing the project. Identified a number of fatal flaws in the project.

**2000:** Expert witness in the case before the Land and Environment Court over the proposed expansion of a major glass sand operation in New South Wales.

**2001:** Consultant on a project which aimed to supply glass sand to a new glass plant being erected in South Australia. Devised a process technology, which met all customer specifications, current and future, took out capital and operating cost estimates and constructed a financial model for the project.

**2001:** Prepared a report on the industrial minerals and construction material potential of the Newnes Plateau, NSW; in support of an EIS.



- 2001-'06:** Advised a company working on an innovative scheme for supplying construction materials to the Sydney metropolitan market.
- 2001-'04:** Advised on raw materials for a major ceramic tile plant constructed in the Hunter Valley.
- 2002:** Prepared a valuation of an industrial minerals operation on a going concern basis, for company restructuring purposes.
- 2003:** Provided an opinion on an internal revaluation of assets of a small, multi-commodity mining company
- 2001-'04:** Reviewed company data being generated for a small mineral sands project (currently under construction) in Tasmania and prepared a feasibility study based on that data.
- 2003-'04:** Prepared a number of reviews of potential mineral sands exploration targets for a major company.
- 2003-'04:** Consulted on the design and construction of a kaolin pilot plant being constructed in WA to produce bulk samples from a high-grade primary kaolin.
- 2005:** Carried out an independent review of company producing a range of absorbance products for bank finance purposes.
- 2005-'06:** Acted as an expert witness for Consolidated Holding Pty Ltd in Proceedings 30073 of 2005 in the Land and Environment Court of NSW. This issue was whether the compensation offered to the Company by the State Government for the resumption of a large construction sand deposit; was adequate.
- 2006:** Part of a team carrying out a Due Diligence study of a calcium carbonate filler project in the Peoples Republic of China.
- 2006-'08:** Consulting on a titanomagnetite ironsands project in the South Pacific. Involvement has included, review of literature, assisting in the organisation of a field trip to a remote site, organising drilling on the site, metallurgical test work and the planning of future field work.

- 2007:** Consulted to the Australian Tax Office in regard to the effective life of assets in both the container glass and the flat glass industries.
- 2007:** Consulted on the alluvial tin potential of the Bom Futuro tin deposit, Rondonia Province, Western Brazil.
- 2007-'09:** Under subcontract to Behre Dolbear Australia Pty. Ltd., involved in a Due Diligence review and subsequently, the auditing of the operations of a mineral sands project, for the bank financing the project.
- 2008:** As part of a team, involved in a Due Diligence review of a proposal for a major upgrade for an ironsands project in the South Pacific.
- 2009:** Carried out an independent Due Diligence review of an iron sands project on the east coast of South America. Identified a number of fatal flaws in the project as it then stood.
- 2009:** Engaged in a study for alternative sources of glass making raw materials for a major company.
- 2009-'10** Expert witness for the ex-owner, in a Land & Environment Court case involving a claim for additional compensation in respect to a quarry resumed by a council.
- 2010:** Carried out a Review of Environmental Factors (REF) for a drilling programme for a proposed quarry WSW of Port Macquarie, NSW.
- 2010:** Carried out a pre-feasibility study for a glass and ceramic feldspar sand project in South Australia.
- 2010:** For the tenement holder, carried out an independent review of a major heavy mineral sands project in the Murray Basin. Made recommendations for taking the project forward.
- 2010:** Carried out an independent review of a silica project and a heavy mineral sands project in the Republic of Korea for a Korean investment group. Both projects were found to not be as presented, but nonetheless having potential; the former for a range of quarry products and the latter as a source of glass and ceramic feldspar sand plus construction sand.

- 2011:** Under sub-contract, carried out an independent due diligence review of the lithium brine resources of the Salar de Pozuelos (a salt lake) in the Argentinian High Andes. Demonstrated that resources were considerably in excess of previous estimates, as a result of the porosity of the halite having been under estimated.
- 2011:** For Forests NSW, carried out a resource data review of a potential construction sand quarry.
- 2011:** Involved in investigations aimed at exploiting tailings dumps left over from previous HM mineral sands operations and re-establishing the HM industry on the NSW north coast.

### **Additional Work**

Over the years Peter Stitt has been involved in preparing expert reports for court hearings, relating both to the mining and the glass-making industries.

Peter Stitt has also prepared and presented short courses on technical aspects of the heavy mineral sand industry. During 1984 he lectured in Mineral Processing at the University of New South Wales following the retirement of Associate Professor R. Burdon.. He has published a number of technical papers including one on the Australian Mineral Sand Industry and another on the development of spiral separators.

He was Chairman of the Sydney Branch of The Australasian Institute of Mining and Metallurgy (The AusIMM) in 1988, served on the Branch Committee between 1975 and 1992 and was a Councillor of The Institute in 1988.

Peter Stitt was a member of the organising committee for The AusIMM's Minval '89 Conference and was co-editor of the conference volume "Mining and Petroleum Valuation 1989". He was Convener of the organising committee for Valmin '94, again an AusIMM conference which focussed on methodologies for valuing mineral assets.

He was, until 1997, Convener of the Mineral Valuation Committee, of The Australasian Institute of Mining & Metallurgy and was closely involved with the setting up of the Committee. This Committee, along with representatives of the Australian Securities Commission, and the Australian Stock Exchange, has developed a code (the VALMIN Code) and guide-lines for the preparation of Independent Expert Reports and reports concerning the valuation of mineral assets. The VALMIN Code is achieving wide acceptance, both by the resources industry and regulatory authorities.

He is currently:

- a member of the Board of Management of MICA the Consultants Society of The AusIMM and is the Secretary of that organisation.
- MICA's representative on the AusIMM's Emerging and Strategic Issues Committee.

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