

Robert Palmer (Bob)



Personal Information

Identity Number - 441107 5043 18 7
Date of Birth - 7th November 1944
Sex - Male
Marital Status - Married
Drivers License - Yes
Nationality - British
Health - Good

Professional Profile

- I am a qualified Chemist with over twenty years of management experience at both the Operations and Executive levels within the platinum mining environment and have also worked on contract in the projects field for over eight years.
- Prior to entering the Project environment I had experience in managing diverse operations at both Lonmin and SA Silver.
- My greatest successes were firstly in turning around Western Platinum Refinery which entailed highlighting the deficiencies, developing management practices and objectives and also the Company strategy for the future. In addition I redesigned the process routes for all of the PGM's and rebuilt the refinery without any loss in production. Secondly in rebuilding and re-commissioning the Crocodile River Mine concentrator and associated ancillaries.
- In addition I am a "Qualified Person" in terms of National Instrument 43-101 (NI43-101) and have signed off on various metallurgical documents.
- I have been consulting to Metallicon Process Consulting for the past 11 years on a project-by-project basis, primarily in a refinery design and auditing role.

Experience

July 2016 to present

Independent Consultant

- I have recently completed a consulting assignment for Metallicon Process Consulting, relating to the upgrade of a portion of a PGM refinery from Conceptual Design to Execution;
- I worked for six months in 2019 at Gauteng Refinery as Production Manager responsible for all aspects of the production operations. In addition I fulfilled the role of Technical Manager.
- From May 2018 to December 2018 I worked for eXess Africa as Senior Project Manager responsible for the construction of a number of solar farm projects in Zimbabwe.
- From February to April 2018 I worked on contract as a Technical consultant at Weir Minerals (Africa) comminution division restructuring, recruiting and developing the strategy going forward, in addition I resolved technical production problems.
- Consultant to various Companies in the metals industry, both base and precious, which have recently included a recycling and trading enterprise.

April 2015 to June 2016

Rappa Holdings

South Africa

Operations Manager

- I was responsible for the Production, Engineering Maintenance, Electrical Engineering and New Projects plus the R and D efforts of the Company which operates a gold reclamation plant. The economic situation prevailing in mid 2016 resulted in the majority of the plant operations being shut down and the feed stock blended and sold to a Chinese consortium.

January 2011 to March 2015

Palmer and Associates

South Africa

Independent Consultant

- Consultant to various Companies in the metals industry, both base and precious, which have included precious metals recovery organisations in South Africa and gold mines in Zimbabwe.
- I worked for two and a half years, ending September 2013, on contract to Eurasia Natural Resources Company (ENRC), via Metallicon, as part of their Owner's Team on their copper and cobalt projects in the DRC and Zambia. As a Project Manager I was responsible for two studies relating to copper refineries in the DRC plus the close out of a concentrator project and the implementation phase of a copper refinery in Kolwezi. I was responsible previously for the technical and project management aspects of a separate but associated refinery which is to produce approximately 70ktpa of grade A copper plus a copper pressure leach circuit in Zambia.
- I completed a concentrator plant audit for a South African platinum producer.
- I undertook a peer review for an international confidential client relating to platinum group metals refining.
- I was engaged in two projects for a zinc/gold producer in Kazakhstan, the first relating to modernisation of their zinc recovery processes and the second a comminution upgrade at their gold plant. In addition I have just completed the management of a pilot plant study for a phosphate project and a scoping study for a Russian company relating to a PGM smelter to be built in Zimbabwe.

February 2010 to November 2010 Colonial Metals Inc USA

Precious Metals Refining Manager

- My responsibilities were to design and set up a precious metals refining facility within the Colonial Metals organization and to operate this facility. In addition I was responsible for the rhenium refining operations within the Company including the development of an alternative treatment route.
- I was involved in the management of the Company with the emphasis on the restructuring of the business, the technical mentoring of the junior staff and development of technical controls.

August 2009 to February 2010 Senet South Africa

Senior Project Manager

- I was employed to be responsible for two major projects, the first was the second phase of a project in Eritrea involving the design, construction and commissioning of two flotation plants, one copper the other zinc, coupled with the port infrastructure. The latter involved the refurbishment of the existing civil facilities together with the design of the concentrate loading and road fleet maintenance systems.
- The second project was a copper/cobalt project in the DRC which involved leaching, solvent extraction, electro-winning and precipitation circuits; this was at the test work, planning/design stage when I left Senet.

May 2009 – August 2009 Palmer and Associates South Africa

Independent Consultant

- Consultant to companies in the precious metal environment including Tembop Recoveries, Recomet and Colonial Metals. My work for Colonial Metals related to the process and plant design plus commissioning of a ruthenium recovery facility. The design included drawings, parts lists and operating instructions.

October 2007 to April 2009 K'Enyuka South Africa

Project Director

- Responsible for the output of a number of Project Managers controlling projects ranging from audits on multi-billion rand projects (Norilsk Nickel) to assessing projects in terms of the Toronto Stock exchange (NI43-101 rules) as the "Qualified Person".
- The major project that I ran was the implementation phase of a PGM concentrator on the Eastern Limb of the BiC; for this I had three Project Engineers, sundry discipline engineers, drawing office and the construction team under the control of the Site Construction manager. I had, in addition to the technical/engineering staff, a full time estimator, cost controller, health and safety officer and procurement officer as part of the team.
- I was responsible for a Bankable Feasibility Study relating to a 1.5million t.p.a. ferro-chrome smelter and also a study relating to a large PGM prospect, on the Eastern Limb, both of these projects involved mining, environmental issues, metallurgical test work, tailings facility, social and labour

plan, concentrator design, etc.

- I was also involved in the management of the Company with the emphasis on the implementation of management control systems and the technical mentoring of the junior staff.

August 2006 to the September 2007 Barrick Platinum(Africa) Pty Ltd South Africa

Project Manager – Metallurgy

- Responsible for the preparation of the metallurgical aspects of the Sedibelo Project Pre-feasibility, Bankable feasibility and implementation phases; this included the design, purchasing, construction, commissioning and ultimate operation of the Concentrator, Smelter and Base Metals Refinery.
- Had two permanent members of staff plus contract engineering companies, DRA and Hatch, together with the main technical consultant, Mintek, under my control.
- Worked closely with the mining team which involved daily inter-action with the mine designers, open cast and underground, the Arena modellers and the geologists.

May 2006 – July 2006 Palmer, Phillips and Associates South Africa

Independent Consultant

- Consultant to companies in the precious metal environment including Tembop Recoveries, Recomet and Colonial Metals.

April 2004 – April 2006 Barplats Mines Ltd South Africa

Divisional Director - Metallurgy

- Directed the refurbishment, staffing and re-commissioning of the moth-balled Crocodile River Mine Concentrator, Heavy Media Separation Plant, Laboratory, Water Treatment and Sewage Plants. For this I had a Project Manager plus the associated team.
- The project exceeded predictions regarding timing, recoveries and costs on both mixed milling and UG2 (oxidised and fresh ore) scenarios.
- Responsible for a study relating to the re-building and restarting of the Smelter Plant.
- I was a member of the Company Executive Committee.

July 2002 – March 2004 Lonmin Platinum South Africa

Chief Consulting Metallurgist

- Technical problem solving at the Smelter, Base Metals Refinery and Precious Metals Refinery.
- Involved in the evaluation of potential new business opportunities i.e. Mergers and Acquisitions.
- I was also involved in customer liaison which entailed customer problem solving and ensuring timeous product deliveries.

September 1999 – July 2002 Lonmin Platinum South Africa

Divisional Director - Smelting and Refining and Alternate Director

- Responsible for the non-mining production aspects of the business financially, manpower wise and technically. During this period a new 32Mw electric furnace, converter section and gas cleaning plant were constructed and commissioned.
- Involved in the strategic development of the Company.
- All the plants under my control achieved ISO 14000 accreditation.
- Improved the metal recoveries and reduced the overall operating costs of the units under my control.
- Developed and improved relationships with all stakeholders including employees, the community, suppliers, customers and government agencies particularly those involved in environmental matters. There were no instances or threats of industrial action during my period of tenure.
- Was responsible for reducing the incidence of staff theft, a problem prevalent in the Precious Metals business, by the incorporation of appropriate monitoring and security techniques.

October 1994 – September 1999 Lonmin Platinum South Africa

General Manager - Western Platinum Refinery

- Responsible for all aspects of the business, including Security, Health and Safety, Finance, Budgeting, Engineering, R&D, etc.
- Increased production levels and reduced costs over the period of tenure, this was achieved by improved training, motivation and technical innovation.
- Was responsible for the development and implementation of the first integrated resource management system to be installed within the Lonmin group. This was a purposely programmed in-house system.

March 1988 – September 1994 Lonmin Platinum South Africa

Deputy General Manager - Western Platinum Refinery

- Responsible for the operation of the Refineries, Engineering and Human Resources functions.
- The original plant and process were inappropriate so redesigned the process, plant, equipment and buildings to accommodate the new systems which I project managed.
- Involved in Union negotiations, the implementation of Health, Safety, and Environmental and Security systems.
- Developed many of the Human Resources procedures.

October 1987 – February 1988 Silver Corporation South Africa

General Manager - S.A. Silver

- Responsible for the overall management and operation of three silver reclaim plants in Benoni, Cape Town and Mauritius.

June 1983 – September 1987 Matthey Rustenburg Refiners South Africa

Production Superintendent - MRR(W)

- Responsible for the development and operation of the various refining sections.
- Was heavily involved in the project to rebuild the Refinery which was achieved without any loss of production.
- Involved in security matters and union negotiations.
- Was a member of the Refinery Exco.

August 1978 – May 1983 Matthey Rustenburg Refiners South Africa

R & D Manager - MRR(W)

- Responsible for the management and implementation of new refining processes.
- Equipment evaluation was also part of my brief.

October 1972 – July 1978 J.C.I. Mineral Processing Research Laboratory South Africa

Assistant Project Engineer

- Involved in the process development for the recovery of base metals, e.g. titanium, copper, chromium, and cobalt products.
- The projects entailed process design, laboratory and pilot plant testing, followed by plant designs, costing exercises and presentation of technical and economic evaluations to the Board.

May 1969 – September 1972 National Institute for Metallurgy (Mintek) South Africa

Senior Technical Officer

- Engaged in research into analytical methods concerning the platinum group metals.
- Radiochemical and wet chemical techniques were used in the course of the investigations.
- Approximately twelve months of my time at N.I.M. were spent in the Process Development Division where I was engaged upon research into platinum metal refining techniques and plant designs.

November 1968 – April 1969 Union Corporation (Pty) Ltd (Impala Platinum) South Africa

Research Chemist

- Involved in the new Impala Platinum project.

March 1964 – October 1968 International Nickel North Acton, London

Laboratory Analyst

- Analysis of platinum – group metal products, plant control and process development.

Education

1964 – 1968 Harrow College of Advanced Technical Education London (UK)

- Ordinary National and Higher National Certificates in Chemistry

Professional

Qualifications

- Licentiate of the Royal Society of Chemistry – (LRSC)
- Member of the Royal Society of Chemistry – (CChem. MRSC)
- Chartered Scientist – (CSci). Registration number RSC/101/002698
- Fellow of the South African Institute of Mining and Metallurgy – (FSAIMM)
- ECSA registration number 243489

Interests

- Clay target shooting, hunting, dog breeding and training.