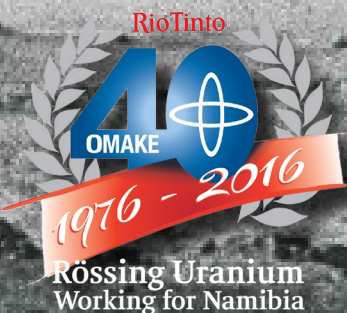
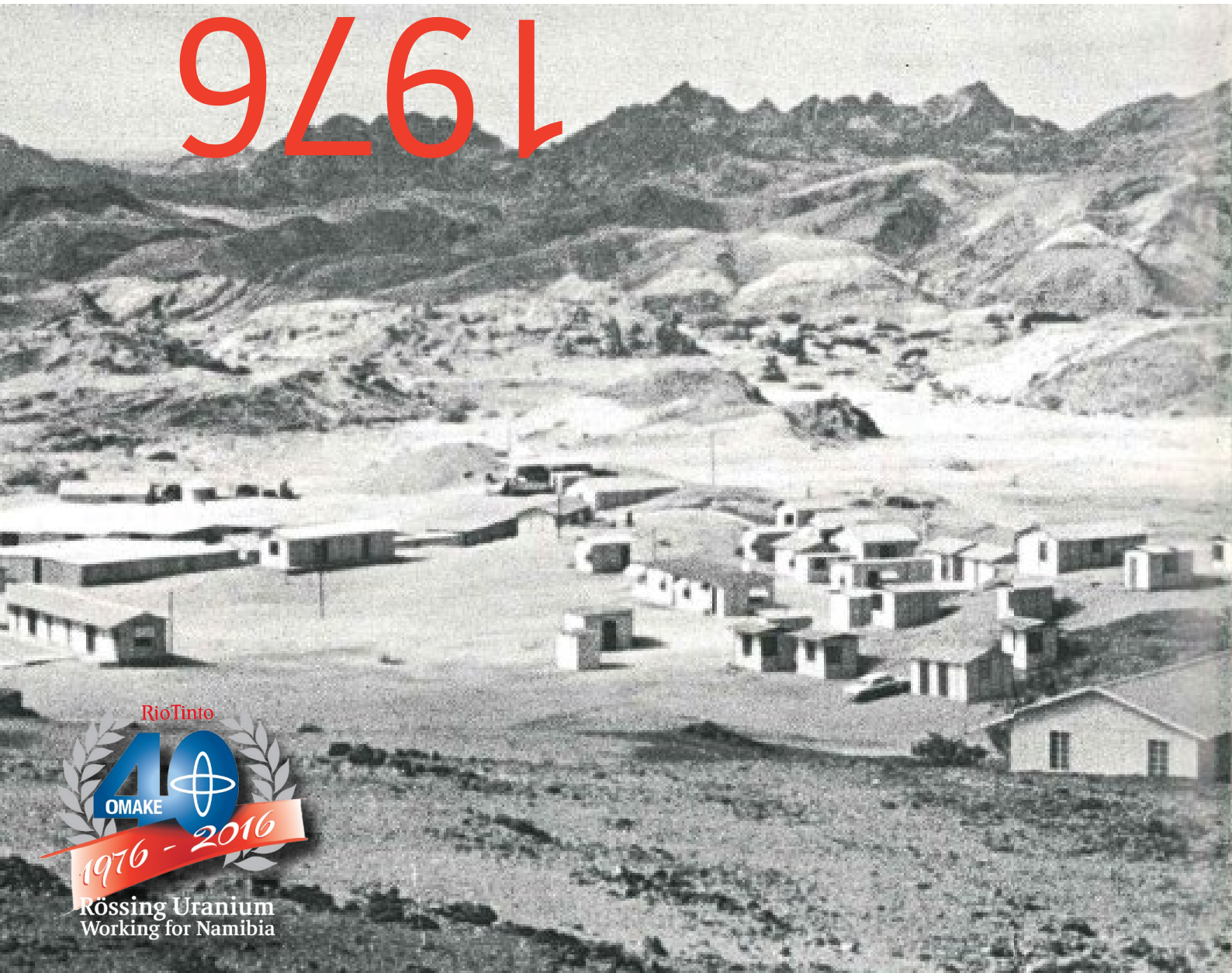


Reflecting on 40 years of Working for Namibia

The first 10 years 1976 - 1986

2016

1976



In the beginning

1928 - 1965

The pioneering stage: When the original prospectors found signs of mineralisation.

1966 - 1971

The exploration stage: When basic prospecting was done and the feasibility of establishing a mine was recognised.

1972 - 1976

Development stage: The construction stage.



John Berning, first GM of Rössing.

In 1928 the present Rössing Mine site was an inhospitable rift in the contorted rock formations bordering the dry bed of the Khan River. One day in that year Captain Peter Louw, a Swakopmunder who liked exploring the desert, picked up a rock which his radiographer wife, Margery, said could contain radium. To test her theory the rock was placed on an X-ray plate on which the outline of the rock was seen to develop; radioactivity was thus proved, but there was no talk of uranium.

The next episode in the Rössing story took place in 1954 with the visit of two amateur prospectors from Cape Town, Major MacLaren and Mr Beecroft. Captain Louw, renowned as a good storyteller, told them the X-ray plate tale and took them out into the desert to locate the spot where he had found that rock. At first their search proved fruitless but the Louw's son, Graham, eventually found the rock with the aid of a geiger counter. The four formed a syndicate and approached Hymer Anderson who had been digging for beryl in the Erongo Mountains, to pool his labour resources and a compressor, to blast trenches across the finds.

Further exploration work was done by two government geologists, Messrs Kuschke and Schweltnus, who found many signs of radioactivity, including the original Louw find. Uranium was found, but it was locked in davidite, a

refractory mineral from which it cannot be extracted. Beecroft sold his share in the syndicate to a lawyer, Eric Kinsman, who said: 'Let's do this properly!' A company, GP Louw Ltd. was formed in 1955 with shares held by the parties concerned.

An option agreement was subsequently concluded with Anglo American, which sent a team to explore the site. One day geologist Dave Smith was testing a gully with a scintillometer when he detected strong radioactivity. He mapped the find as the SJ anomaly for the sake of reference. Smith had found uranium - this time in uraninite, from which the metal could be extracted by a sulphuric acid process. On this site the Open Pit lies today.

Gradually Rössing took shape - a colossal effort in establishing a major, self-sufficient mine where previously there had been only barren hills.

Anglo swung into action, drilling 11 bore holes and sample tunnels, but on the basis of results it was thought that the deposit was too small and of too low a grade, so the search was abandoned.

A brief period of despondency of the GP Louw company followed. Major MacLaren approached John Berning, then chief geologist for

Rio Tinto Management Services (RTMS), in 1958, but at the time Rio Tinto was not interested. Its exploration budget was small and even the Major's plea in 1962 - 'We really think we have a world-class deposit' - failed to convince.

But in 1965 things began to change. The Palabora Mine of Rio Tinto Zinc (RTZ) had come into successful production and simultaneously there was a fortuitous change in the RTZ hierarchy. Ed Hunt, a Canadian, was appointed managing director. He received a query from Roy Wright, then deputy chairman of RTZ in London, who indicated an interest in the Rössing prospect, sensing that the uranium market would change. Ed Hunt gave John Berning the go ahead to pursue the Rössing prospect and said: 'Go make an agreement (with MacLaren), but just come and explain it to me.'

In 1966 John Berning negotiated an option of six years' duration on the 1 000 sq km concession held by GP Louw (Pty) Limited, when Rössing was just a pin on the map. Berning told Eric Kinsman that RTZ was interested and on 23 July that year, Hunt signed a contract with the Louw company. Rössing Uranium Ltd was formed in 1970 with Siegfried Kuschke as the first chairman and Ed Hunt as MD.

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FRONT PAGE PHOTO: *The Rössing exploration camp eventually grew into a full village.*

It was a very small team which then came to the Namib Desert to carry out initial reconnaissance and survey work.

Airborne and ground radiometric surveys and geological mapping narrowed the area of search. Gradually, over the next four years, the tempo of exploration work quickened. Diamond drills arrived to probe the rock at depth in predetermined locations, so that a 'picture' of the ore body could be built up. A shaft was excavated to recover material in bulk so that the metallurgists could determine how the ore could best be treated. A pilot plant was built to establish whether the proposed extraction process could indeed produce uranium oxide from the ore at a marketable price.

As general manager, John Berning (also a board member) was in the thick of things - apart from his involvement in technical matters he was active in negotiations with the authorities for the provision of facilities ranging from water, to schools, and he discussed contracts with the Atomic Energy Board.

In London, Roy Wright was obtaining finance. Moves were afoot to arrange capital finance for the establishment of a mine, which, it was realised, would be a very large undertaking even by the standards of the 1970s. As part of this process contracts were negotiated for supplies of uranium from Rössing, to generate electricity in industrialised countries.

A comprehensive feasibility study, completed by May 1973, embraced the preliminary mining plan, plant design and infrastructural requirements, providing estimates of all capital and operating costs. The decision to go ahead with the project was made in August 1973. Detailed engineering of the plant was to be undertaken by a partnership of Western Knapp (USA) and Davy Power Gas (UK) who had been jointly appointed as principal design and construction managers

in 1971. Skilled labour, materials and equipment came mainly from the United States and South Africa.

Other contracts were awarded for mine service facilities, initial site preparation, the building of construction camps, road, rail and air links and power supply. Fortunately an existing main road and a railway line passed within 12 kilometres of the new mine.

Development stage

Construction and development of the mine was well under way in the early seventies: initial pit development was done, the pilot plant was constructed; temporary and permanent water supplies were laid on and the power line destined for Walvis Bay was diverted and strengthened to link up with the mine.

Arandis took root and in Swakopmund houses were grafted onto the Vineta and Tamariskia suburbs. Gradually Rössing took shape - a colossal effort in establishing a major, self-sufficient mine where previously there had been only barren hills.

In July 1974, construction started with the pouring of concrete for the large mine workshops. During the next two years, construction teams poured 30 000 cubic metres of concrete, erected 2 200 tonnes of steel plate and installed 15 000 tonnes of mechanical equipment in an isolated spot in the desert, bringing Rössing Uranium Mine into existence.

The mine and plant - designed to produce 4 500 tonnes of uranium oxide per year - began operating in March 1976, but serious setbacks arose from the nature of the ore. Rössing's metallurgists and engineers were confronted with many operating difficulties caused by the

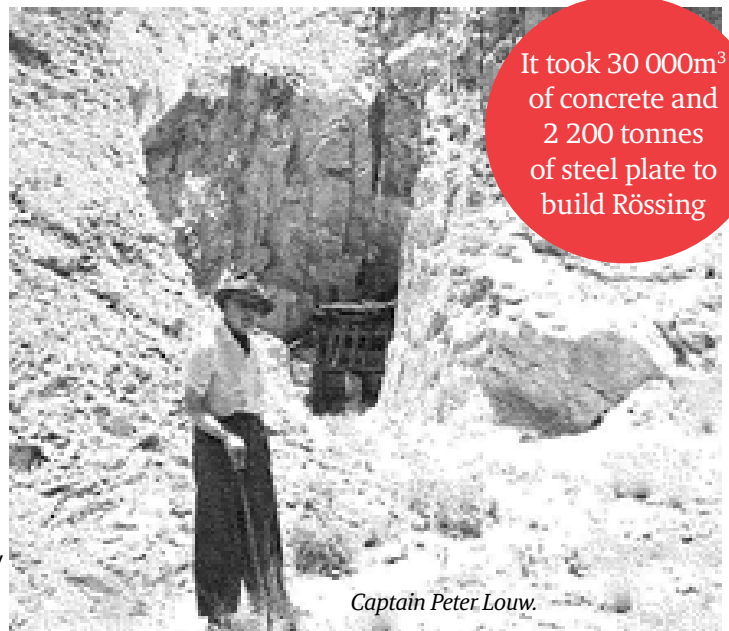
abrasive properties of the granite rock containing the uranium minerals. Tremendous wear and tear in pipelines and machinery were the main manifestations. Moreover, a number of design and engineering faults impaired the overall extraction efficiency of the plant.

By mid-1976, the Rössing team, with the help of consultants, had identified the major problem areas and formulated solutions. A series of major alterations and additions to the plant, costing N\$100 million, was put in hand. This entailed an ambitious construction and modification programme which was carried out while the plant remained in production.

In 1978, when the modifications were nearing completion, a major fire in one of the two solvent extraction units resulted in considerable damage and caused a further production bottleneck. Nonetheless, the entire modification programme was completed on schedule and within budget, and the section of the plant destroyed by fire was rebuilt with design improvements.

Prior to full commercial production in 1978 some rescheduling of product deliveries was necessary. This was achieved with the co-operation and understanding of the company's customers.

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It took 30 000m³ of concrete and 2 200 tonnes of steel plate to build Rössing

Captain Peter Louw.

Top of the league

For Rössing Uranium to rise from modest beginnings in the world's oldest desert - the Namib - to become the world's longest running uranium mine, took a dedication to excellence rivalled by few in the industry.

In 1976, supported by competent, committed employees, the mine's visionary leadership forerunners laid a powerful foundation for a nascent mine that would make it its proud business to Work for Namibia long into the future.



Craig Gibson (second from left) congratulates Dr Zed Ngavirue on his appointment as chairman of Rössing in 1986. Dr Ngavirue succeeded Mr RS Walker (left) who retired in August the previous year. Colin Macaulay (second from right) succeeded Mr Gibson as head of Rössing in 1982.

Rössing's influential early leaders

Chairmen:

- 1970 - Dr Siegfried Kuschke
- 1972 - Dr PE Rousseau
- 1977 - Ronnie Walker
- 1986 - Dr Zed Ngavirue

Managing directors:

- 1970 - Ed Hunt
- 1976 - Al Leroy
- 1978 - Craig Gibson
- 1982 - Colin Macaulay

General managers:

- 1970 - John Berning
- 1976 - Rich Hughes
- 1977 - Gordon Freeman
- 1986 - Dr Mike Bates



A shovel loads a haultruck in the days before Rössing 'went blue'.



Famous Rössing visitors

Over the years Rössing's visitors programme attracted some pretty interesting people and big names to come see our operations.

The insert on the right is from our Visitors Book of 1989. Do you recognise the first entry? Of course! It's none other than Namibia's Founding Father and first president, Sam Nujoma! What's more - he left us a flattering message after the visit! Well done to the crew of '89 for impressing our first president!

Now, is it my imagination or does the second signature on the page say Geingob . . .

VISITORS BOOK - BESOEKERSBOEK				
DATE DATUM	NAAM NAME	RESIDENCE HUIS ADRES	VOORGESTEL DEUR (VOLLE NAAM) INTRODUCED BY (FULL NAME)	DATUM DATE
21/11/89	Sam Nujoma	Windhoek	The delegation of the S.A.A.D of Namibia is highly impressed by progress and progress of work done and especial working relations between the management and the employees and above all health care for all the workers	17/11/89 24/11/89 29/11/89 29/11/89 29/11/89 20/11/89
	Geingob			1/12/89 1/12/89 30/11/89 5/12/89 11/12/89 2/12/89

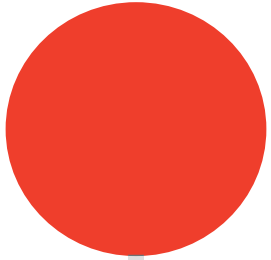
Our history in photos
1976 - 1986



Preproduction days . . . Rössing exploration camp.

Exploration camp days

Initially thirty men lived in small bungalows and after a day's work entertained themselves with impromptu sport, exploring the desert, snooker and bridge. To them, life was simple, if austere (women and other personnel lived in Swakopmund and travelled daily to and from the desert site).



The open pit in September 1977.



Half of the SX plant had to be rebuilt after a fire broke out at midnight on 24 May, 1978.



The old CIX control - before CPC. CPC was only commissioned in 1983.

Once committed to the Central Process Control (CPC) project, planning and implementation followed.

The Honeywell TDC 2000 system was chosen and installation began. But the human side was just as critical and the future operators were selected for the project team on the basis of their familiarity with the plant, analytical ability, high stress tolerance, good communication skills and leadership.

All operators visited similar functioning systems so that they could see the equipment, talk to their counterparts in other companies and assure themselves that they could help design a working project.



Rössing's acid plant in 1986. The plant was finally taken apart and removed in later years



Dr Mike Bates, GM in 1986, addressing employees during our 10-year anniversary

Rössing Uranium- the safest mine in southern Africa (1982)



The fifth star on the board — 1982.

Safety at Rössing is synonymous with one man: The militant but genial Chief of Loss Control, Alf Butcher. He brought Rössing

from a mine which he said was 'indescribable' in 1976 to the safest mine in southern Africa. Alf joined Rössing as a fire

officer, but he also happened to be a registered nurse and paramedic, had served in the Canadian army and S.A. Police

Reserve, and was familiar with NOSA standards. In August '77 he was asked by Gordon Freeman to form and run a Loss Control department. He took to the challenge and, with the help of long-serving colleagues, Asser Kapere, Paul Rooi, Winston Groenewald and Willem van Rooyen, he built up the department. He even had a female loss control officer, Charmaine Wewege, who would make many a manager cringe during her routine house-keeping inspections!

Loss Control was just the nucleus: all employees contributed towards making Rössing a safe and well-regarded workplace. The quarterly Safety and Good Housekeeping inspections have culminated in Rössing's own NOSCARS system — the ROSCARS, which are awarded on merit, after stringent re-examinations, to the top section and departments. Employees and the mine benefit from the NOSA courses presented at Rössing. These include the SST, MBO and month-long, intensive SAMTRAC course. Brendan Hammond and Mike O'Brien have respectively been named top students in the latter. Rössing became associated with NOSA in 1978 and progressed from a three-star rating in 1979 to five stars in 1982; the next goal employees look forward to is winning the coveted NOSCARS.

If you can correctly guess the identity of this (current) Rössing employee, a brand new Rössing sport shirt and cap is yours!

Email your guess to: rul.communications@riotinto.com

Winners will be drawn on Thursday, 23 June 2016.



GUESS WHO?

John Berning, Rössing's first general manager, in 1976:

“Yes, I’m happy to say, most of our long-term assessments and calculations are now turning out to be spot on . . .

our initial geological surveys and assessments are now being confirmed by results. We are finding ore where we expected to find it, but from now on it will involve more intensive day-to-day planning.”

Ironically, in the traditionally male world of mining, it was a woman, exploration geologist, Shirley Krsic, who was involved in the years before 1976 in determining the ore reserves, using computer technology.



Current open pit dimensions:
3km long
1.5km wide
390m deep

Check it out!

Julius Khunuchab using a computer in Geology.



Imagine how many kilometres Rössing buses have travelled since 1976!

1986... In the early days few employees knew or cared much about computers, with many reluctant to become involved. Today Rössing uses 11 makes of computers, including fourth-generation mainframe technology. Over 200 terminals or devices are located across the site and in Arandis, Swakopmund and Windhoek.



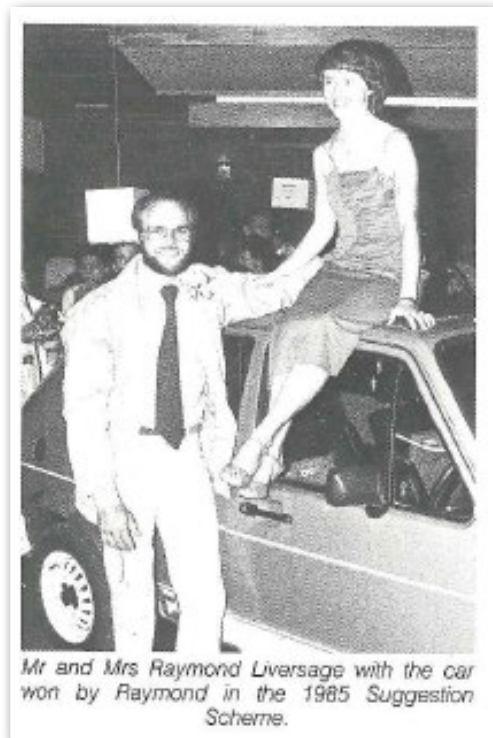
Our haul truck cabins were air-conditioned even back then.



A Rössing Caterpillar water cart in the open pit; state-of-the-art equipment at the time.



Some of the young Namibians selected by Rössing to attend British universities before filling professional posts in the company. They are seen in London at the commencement of their studies.



Mr and Mrs Raymond Liversage with the car won by Raymond in the 1985 Suggestion Scheme.



Nail-biting moment at the start of the 1979 Mine-to-Arandis relay race.

The origins of Arandis and the Rössing Foundation

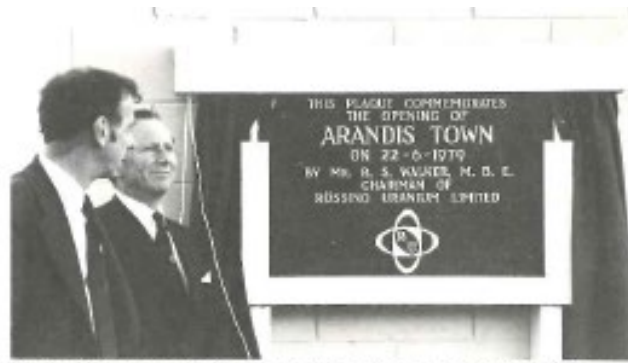
While Rössing mine was being developed, an urgent need was the construction of houses for workers. Single employees initially lived in camps previously used by the contractors who had built the plant. To accommodate married employees, John Berning (first GM of the mine), negotiated the building of 615 houses at Arandis.

The original town layout was similar to housing schemes built elsewhere in southern Africa with individual houses built roughly in the centre of small sites.

In 1977, under Ronnie Walker, Arandis was recreated to the tune of N\$14 million to include amenities like a town hall, an interdenominational church, a shopping centre and renovated houses. The town was officially opened by Ronnie Walker in 1979.



Aerial view of Arandis.



Craig Gibson, past Managing Director, and Ronnie Walker, past Chairman of Rössing, at the opening of Arandis town in 1979.



Aerial view of the Rössing Foundation Adult Education Centre.

Rössing Foundation

The Rössing Foundation is one of the broader horizons of Rössing Uranium and was launched in August 1978. It was funded with contributions by the company.

Three objectives motivated the creation of the Foundation:

- to further the practical education of young people towards greater national productivity, thus promoting greater understanding between races
- to create opportunities for Namibians and their children
- to promote the living standards of all inhabitants of Namibia.

Based in Windhoek the

Foundation has a wide influence. The Adult Education Centre in the Capital is supplemented by rural training centres in northern towns where self-help education is emphasised. Health education through a mobile unit, scholarships, aid and guidance to schools — and, more recently, agricultural training centres — are some of the Foundation's concerns.

The first pupil to enrol at the Adult Education Centre was an ice-cream vendor who had become curious about the activity on the site where the centre was being built as he cycled past on his daily rounds. He learnt that English courses would be taught and imme-

diately signed up, becoming an enthusiastic canvasser by getting all his friends to enrol too!

Dr Beatrice Sandelowsky is the principal of the Foundation Education Centre. Rössing's first General Manager, John Berning, subsequently became the Foundation's first director; on his retirement he was succeeded by David Godfrey.



Aerial shot of Vineta before the first gardens.

Tell us your story

Do you have a Rössing story to tell? Whether you're a current or former employee, we would love to hear from you!

If you have photos or memories to share, please get in touch: rul.communications@riotinto.com / botha.ellis@riotinto.com / alwyn.lubbe@riotinto.com / Tel: 064 - 520 2426 / 2436 / Fax: 064 - 520 1506