

Rössing's activities continued to focus on improving the quality of life for our employees and the communities that support every aspect of our business. This report reflects Rössing's ongoing



### 2000 PLAN

### 2000 PERFORMANCE

Reporting on statistics of Occupational Diseases was done on a regular basis.

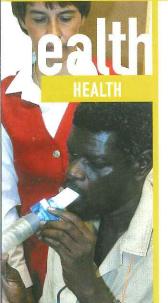
induced hearing loss case and two cases as a result of stress.

the course of 2000 also attended these workshops.

During 2000, three cases of occupational diseases were reported. One noise

A comprehensive HIV/AIDS awareness effort was undertaken in order to reduce the rate of HIV/AIDS infections at Rössing. Compulsory interactive workshops were held for all employees. Employees who left the company during

The peer educator programme was well supported by senior management, which made successful continuation possible. (Note: peer educators are persons within the workforce and various communities that are trained and in turn pass their knowledge to their peers). Positive recognition of the efforts was also received from the Chamber of Mines of Namibia, who co-ordinates this programme.



- To improve the health status of the workforce and actively report on health indicators.
- To be more active in community health.
- Radiation dose levels obtained by personal
- monitoring programme.
- Implementation of formal Risk Assessment Programme.
- To achieve a 50% reduction in Lost Time Incidents when compared to the number of incidents that occurred in 1999.
- Other initiatives that were not planned for but embarked upon during 2000.

### LOST TIME INJURY INCIDENCE RATE

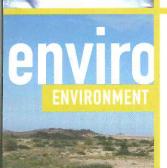
Rössing Uranium Limited



0.2

1996 1997 1998 1999 2000

- Three peer educators in the community and 16 school peer educators representing four schools in Swakopmund were trained during 2000 with support provided by Rössing.
- The average radiation exposure for personnel working in the uranium processing plant was 3.3 milli-Sieverts per year (mSv/y) with the maximum exposure being 7.8 mSv/y. All the radiation exposure levels of personnel monitored in 2000 were well below the international guideline of 100mSv over 5 years.
- This programme for the identification and evaluation of all task related hazards was successfully implemented and 364 employees were trained during the year.
- The 50% reduction was not achieved. A total of nine lost time incidents were experienced during 2000, compared to the nine in 1999. During October 2000, a fatal accident occurred at the Rössing mine, when a truck driver lost control of his vehicle down a ramp in the Open Pit and crashed.
- These initiatives include:
  - Rössing's safety standards were adjusted to include those of Rio Tinto. Subsequently auditors from Rio Tinto carried out an external safety audit. An action plan to address the findings was closely monitored and reported monthly. All items have been addressed and progress continues on schedule for mid 2001 completion.
  - To further improve safety, a system of Safety Management Audit Training (SMAT) was successfully implemented. All senior managers were trained externally and in turn trained other management staff. A total of 264 SMAT audits were carried out mine wide during the year.



- Obtain ISO 14001 certification of Rössing's Environmental Management System.
- Continue the programme of improving the efficiency of the bag type dust extractors at Fine Crushing.

To import bulk volumes of sulphuric acid thus

- Two ISO 14001 certification audits were carried out during 2000 and all findings have been cleared. ISO 14001 certification was obtained at the end of January 2001.
- Repair work and modifications to the dust extractors were completed during 2000. However, during April dust levels at the Fine Crushing operations increased to unacceptable levels. The number of personal dust samples above the standard of 0.5 mg/m³, applied at Rössing, almost doubled. (Note: All employees wear respiratory protection in the area and were thus adequately protected.) An action plan was developed and implemented which resulted in the levels being back to previous levels by June 2000. A new dust extraction system is to be installed at the Secondary Crushers in 2001, which will help to further reduce dust levels in the crushing area.
- The Acid Plant was shut down at the end of March 2000 and all acid is now

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### 2000 PLAN

- Introduce the Seepage Dam Elimination Project to reduce evaporation. This is achieved by collecting water from the toe of the tailings dam and thus preventing the water from seeping into the seepage dam.
- Implement a programme to achieve compliance with Rio Tinto water management principles. Emphasis will be placed on setting performance targets for water saving, upgrading the site water balance and more frequent inspections of storage and reticulation facilities.
- Implementation of a wellfield to control evaporation losses from surface water bodies north-west and north of the tailings facility.
- Installation of a water recycling system for the dust collectors at the pre-screening plant to reduce water loss in the crushing plant.
- Continue monitoring and upgrading of the existing seepage control systems will continue during 2000.

### 2000 PERFORMANCE

- Construction of the Seepage Dam Elimination Project was completed in 2000, but under-sized pumps prevented full implementation. The system will become fully operational early in 2001. Measurable water savings were achieved in 2000: 500 m<sup>3</sup>/day more scepage recovered than in 1999.
- A new Water Management section was created in 2000 to effectively manage, operate and maintain all water-related systems. The freshwater consumption was reduced by 17% by setting minewide performance targets. The water balance was updated.
- A wellfield north of the tailings dam was constructed in 2000 and is to be commissioned in January 2001. Evaporation losses will be further reduced by 250 m<sup>3</sup>/day.
- A system was installed to recycle water used in the fine crushing plant by adding this water to the rodmills where the ore is further reduced in size.
- Monitoring confirmed the effective operation of the seepage control systems. The new seepage interception system in Dome Gorge continued to perform well. There was no contamination of the environment including the Khan River after the heavy rainfall in March 2000.

### FRESH WATER

cubic metre per tonne ore processed 0.35



1998 1999 1996 1997 2000

Attention will be given to assess and upgrade

all hydrocarbon management systems on site

Clean up areas contaminated by hydrocarbon spillage around the fuel transfer systems.

during early 2000.





Clean up of soil in the area behind the Acid Plant,

0.30 0.25 0.20

which was contaminated by acid and diesel spills.

Establish an area (Land Farm) to biodegrade

oily sludge and oil contaminated soils.

Final decommissioning of exploration sites.

- An external consultant compiled a State of the Environment report with respect to the degree of hydrocarbon contamination surrounding all hydrocarbon storage and transfer points on site.
- About 30% of identified areas of hydrocarbon contamination have been cleaned up. A programme is in place to clean up the remaining 70% of areas, which are listed in the State of the Environment report. Shell (Namibia) will take over the management of all hydrocarbon storage and dispensing facilities on site with effect from January 2001. As part of the contract, any contamination subsequent to this date will be cleaned up by Shell. Rössing still holds the accountability for any such spillage.
- The land farm to biodegrade oily sludge has been established. The success of this treatment can only be evaluated at the end of 2001.
- Diesel and acid contaminated areas behind the acid plant have been cleaned up. Residual contamination will be removed at future mine closure
- A total of 83 ha have been cleaned up in the vicinity of the mine and returned to native land.
- Constantly seek opportunities to conserve energy.

### **ENERGY CONSUMPTION**

megajoules per tonne ore processed

1.20

Production of sulphuric acid ceased in March 2000 and the acid has since been imported. This resulted in a reduction of both electricity and diesel consumption. The Acid Plant shutdown meant that no diesel was required for the roasters and a reduction of 5% of the mine's electrical consumption was achieved.





# COMMUNITIES

### RÖSSING MINE

- Empower Namibians to improve their quality of life.
- Build lasting relationships, which are of mutual benefit to Rössing and its communities through ongoing communication and active participation.

- Provide assistance in areas of community needs, such as welfare, education and the environment.
- Invest resources into development programmes that will enhance the profile of Rössing through selected sponsorship activities.

### This was done by:

- Literacy classes were presented on site and in Arandis.
- Twenty-two schools in Arandis, Walvis Bay and Swakopmund received donations for book prizes in the environment/science fields for their annual prize giving ceremonics. Rössing employees were invited to present these prizes.
- Supported the training and development of small-scale enterprises in the communities.
- This was done by
  - Company shared expertise and knowledge through employee representation on various communities and other organisations such as Chamber of Commerce, NamWater, Association for Resource Management against Alcohol and Drug Abuse (ARMADA), Namibia Institute of Mining and Technology (NIMT) and the Erongo Development Foundation (EDF).
  - Development of dialogue with representative groups and opinion leaders in the communities, such as the Arandis Town Council, increased the Company's understanding of community needs.
  - Visitors to the mine totalled more than 1 600, including Government ministers and representatives, members of the diplomatic corps. Proceeds from the general public tours were to the benefit of the Swakopmund Museum.
  - Business briefings were held with Government, businesses, community leaders, employees' spouses and the media.
- Cash and in-kind donations to institutions and organisations, for educational, environmental and cultural activities, mostly in the Erongo Region but also nationally.
- This was done by:
  - Sponsoring the annual Rössing Namibia Marathon Championship in Swakopmund.
  - Sponsorship of the African Regional Co-operative Agreement's (AFRA) technology working group for the research, development and training related to nuclear science and technology.
  - Upkeep of the permanent exhibitions at the Swakopmund Museum and the Geological Museum in Windhoek.

### RÖSSING FOUNDATION

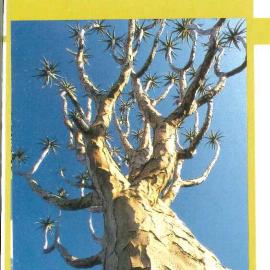
- Three year plan provides for the continuation of existing activities and expansion into carefully selected areas where funding can be sourced.
- Emphasis is being placed on building mutually beneficial partnerships and maintaining the profile of the Foundation at national level.
- Numbers of participants attending skills training programmes increased by 10% in 2000 when compared to 1999.
- Received UNESCO grant to implement a training needs assessment for Osire Refugee camp. The planning and design of survey instruments were completed in 2000 but the project is to be completed in 2001.
- Received an N\$20 million grant from the Department for International Development (DFID), the UK development aid programme for a period of four years. The grant is to implement programmes on craft development; community based tourism and natural resource management in the four north central regions of Namibia.
- Increased number of partner institutions making use of Rössing Foundation facilities on a lease basis for 2000. This reduced the operating cost by 4%.
- Installed a computer-based mathematics-training programme at the Khomasdal Centre in partnership with the Ministry of Higher Education.
- Rössing Foundation, through its trading mechanism, Mud Hut Trading, became a member of the International Federation of Alternate Trade (IFAT). Mud Hut Trading achieved a turnover of N\$850 000.
- In partnership with two consulting engineering companies the Rössing Foundation completed a regional rural water supply plan for the Caprivi Region, and was awarded a second tender to do a similar plan for the Kunene Region.
- Instituted a grant award mechanism to award grants to local communities to implement school improvement plans to the value of USS500 000 over a three-year period.
- Awarded study assistance grants to 75 Namibians to study at local tertiary institutions to the value of N\$210,000.



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Rössing, a large open pit uranium mine, is situated in Namibia, south western Africa. It lies 65 kilometres inland from the coastal town of Swakopmund in the Namib Desert. The region is characterised by sparse vegetation, rocky outcrops and gravel plains with an average rainfall of approximately 30 mm per year. Today Rössing mine is the fifth largest uranium producer in the world and accounts for 9% of total world production. Rio Tinto currently holds 68,4% of Rössing's equity.



### MINING AND PROCESSING OPERATIONS

The ore body is mined by blasting and loading the rock onto 180 tonne haultrucks with electric shovels. The uranium-bearing ore is then delivered to the primary crushers and waste rock taken to dumping sites outside the pit area.

The primary crushers initially reduce the uranium-bearing rock to an average size of 16 cm. It is further reduced to sand grain size in three additional crushing stages and milling. Sulphuric acid is added as a leaching agent to extract the uranium from the rock. The solution is separated from the ground rock and the solid material is pumped to the tailings dam for disposal.

In the first stage of recovery, resin beads absorb uranium from the solution, which is then stripped from the beads to form a more concentrated solution. This is pumped to a solvent extraction plant where it is further concentrated and the remaining impurities removed. In the next step, gaseous ammonia is added to the solution, causing a precipitate of ammonium diuranate, or yellow cake. This is dried and roasted at temperatures in excess of  $600^{\circ}$ C to produce Rössing's final product, uranium oxide  $(U_3O_8)$ , in a powder form. The uranium oxide is safely and securely packed into steel drums ready for delivery to the company's customers.

### OTHER FACTS

Rössing is committed to a workforce that is representative of the local population. Of the 800 employees at the end of 2000, 94% are Namibian citizens. The Company offers attractive conditions of employment including housing, transportation to the workplace, membership of a pension and medical scheme together with free 24-hour life and accident insurance. More than half of the workforce has in excess of 15 years service.

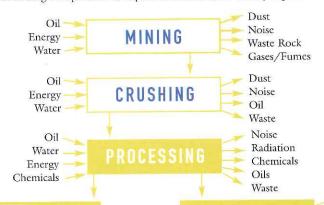
In 1987 the Company signed a recognition agreement with the Mineworkers Union of Namibia of which over 80% of employees are members. Union officials and mine management meet on a regular basis to discuss matters of mutual interest.

Rössing's stated and practised policy is to develop all employees by providing extensive training in mining and related skills and helping to develop a proper understanding of the responsibilities and opportunities each job offers. Rössing is also committed to training Namibians progressively to assume positions of greater responsibility within the Company. Promotions and new appointments are made in line with the Company's equity policy and the Namibian legislation.

The Company plays an important role in the development of Namibia by its contribution to the economy and the generation of approximately 10% of total Namibian exports. In 2000 employee salaries and benefits, taxes paid and local goods and services purchased totalled just over N\$500 million.

### KEY ENVIRONMENTAL IMPACTS

The various processes at Rössing have potential to impact the environment. The key impacts are indicated below.



Seepage

### objectives for 7

### HEALTH

- To actively analyse medical data and identify issues that requires more detailed research and study.
- Review of Alcohol & Drug Policy and implementation of Zero Tolerance approach during Random Testing with educational sessions to support the implementation.
- Improve on the Health Awareness levels amongst employees and dependants.

### WATER MANAGEMENT

- Construct a wellfield on the tailings dam to recover stored water and reduce the freshwater demand by 2000 m³/day. Improve the use of industrial water by supplying water of better quality to the processing plant and using more saline water for dust suppression in the open pit.
- Improvement of the water recycling system for the dust collectors at the pre-screening plant to reduce water loss in the crushing plant.

### **ENVIRONMENT**

- Maintain ISO 14001 certification.
- At the Fine Crushing Plant have no personal dust sample that exceeds the dust concentration standard (long term objective to be achieved in three years). This will result in a reduction of dust from the crushers into the environment.

### ENERGY

 Continue to seek opportunities for the reduction of energy consumption through a comprehensive power consumption demand study.

### SAFETY

- Full implementation of formal Risk Assessment Programme.
- 50% Reduction in Lost Time incidents against 2000.
- Investigate and adopt another database for accident, incident-tracking purposes.
- All employees in all the management levels to be trained in the SMAT auditing techniques.
- Comply with non-conformances pointed out during the 2000 external safety reviews.

### **WASTE MANAGEMENT**

- Ensure a reduction in the total number of waste management related environmental nonconformances reported every quarter.
- Identify and implement best practice waste disposal method for the disposal of used oil filters.
- Clean up temporary hazardous waste storage area on site once the Walvis Bay hazardous waste disposal facility becomes fully operational.
- Investigate the possibility of replacing 210 litre oil drums with re-usable one cubic meter containers and thus reducing the number of waste drums that require disposal.

### PLANNING FOR FUTURE CLOSURE

- Investigate effective measures to reduce the impacts of future mine closure.
- Consult with stakeholders to develop an appropriate plan for future closure.

### COMMUNITIES

### RÖSSING MINE

The communities plan will deliver results in these areas:

- Empower Namibians to improve their quality of life mainly by supporting the development of entrepreneurial skills through organisations practising in this area such as the Rössing Foundation.
- Build lasting relationships of mutual benefit to Rössing and its communities through ongoing communication and active support of community initiatives. Results will be achieved through site visits, standing exhibitions, briefing and consultation forums with the communities, with focus on the Company's business scenario.
- Continue to provide support in community needs such as welfare, education and the environment.
- Invest resources into development programmes that will enhance the profile of Rössing through selected sponsorship activities.

### RÖSSING FOUNDATION

2001 will be a year of consolidating changes introduced in 2000, and implementing some of the new programmes and partnerships developed in the past year. It will be a very challenging period, and key priority areas identified for the Foundation include:

- Significantly strengthening the activities of the Foundation in the Erongo Region.
- Managing the change processes within the Rössing Foundation and seeking new areas of improvement.
- Implementing the targets the Foundation has set in the monitoring and evaluation programme, with particular focus on the risk control mechanisms that have been developed.
- Consolidating and further developing the finance and administration functions into the programme reporting mechanisms.

DATA TABLE	1996	1997	1998	1999	2000	Target for 2000	Target for 2001
Number of employees	1189	1249	1182	1006	800	890	770
Production Data							20.20.00
Ore Processed (000 tonnes)	8330	10 668	10 958	10 463	11 039	11 448	9 203
Waste Rock Removed (000 tonnes)	10 656	16 137	14 637	15 607	9 787	12 725	11 811
Ratio Ore Processed: Waste Rock Removed	0.83	0.66	0.75	0.67	1.13	0.90	0.80
U <sub>3</sub> O <sub>8</sub> Produced (tonnes)	2 891	3 425	3 260	3 171	3 201	3 503	2 800
Fresh Water Consumption (000 m³)	2 474	2 820	3 542	2 779	2 312	2 700	2 100
Fresh Waster per tonne Ore Processed (m³/t)	0.30	0.26	0.32	0.27	0.21	0.24	0.21
Ratio of Fresh Water: Total Water	0.38	0.29	0.35	0.27	0.22	0.26	0.21
Seepage Water Collected (000 m³)	1 935	2 009	1 821	2 102	2 709	2 160	2 920
Emissions to Air							NO BODEN
$SO_2(t)$	1 926	3 006	3 090	2 347	313	no target set	No emissions
$CO_2$ (Kt $CO_2$ equivalent)	111.3	143.6	155.6	148.6	139.1	141.2	109.4
SO <sub>2</sub> per tonne Acid Produced (kg/t)	13.0	15.0	15.8	17.1	17.6	no target set	No emissions
CO <sub>2</sub> per Unit of Production (t/t U)	38.5	41.9	47.7	47.2	43.4	40.0	39.1
Energy Usc on Site (Gj x 1000)	893	1 180	1 339	1 248	1 133	1 186	908
Energy Use per tonne Ore Processed (Mj/t)	107	111	122	119	103	104	99
Source Dust Levels at Fine Crushing Plant (mg/m³)	1.01	0.73	0.88	1.32	2.80	1.00	1.00
No. of personal annual radiation exposure above 20 mSv	0	0	0	0	0	0	0
Loss Time Injury Incident Rate (LTIIR)	0.84	0.63	0.93	0.49	0.85	0.25	0.38
No. of Lost Time Injuries	14	12	18	9	9	4	50% of previous year
NOSA Audit	>95%	>95%	>95%	>95%	*Not audited	>95%	>95%