



**ZincOx Resources plc**  
**Preliminary Results - Year Ended 31 December 2004**

ZincOx Resources plc, a world leader in the design of processes to treat unconventional zinc bearing material, today announced 12 month results for the year ended 31 December 2004.

ZincOx's objective is to become a major producer of zinc oxide, with operating costs among the lowest in the world.

Commenting on the results, Noël Masson, Chairman, said: "The past 12 months have been the most successful since the company was established with three major projects nearing a development decision."

**Operational Highlights**

- Proceeds from the sale of the Shaimerden deposit received
- Jabali deposit (Yemen) positive feasibility study completed
- Aliaga Recycling Project (Turkey) feasibility study commenced
- Mid West Recycling Project (USA) strategic alliance and feasibility study commenced
- Polykiln piloting commenced

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**ZincOx Resources plc**  
**Preliminary Results for the year ended 31 December 2004**

**Chairman's Statement**

The past 12 months have been the most successful since the company was established. There have been three important developments: the successful completion of a positive feasibility study for the development of a zinc mine at Jabali in Yemen, and the commencement of feasibility studies for the development of zinc recycling plants in Turkey and the USA.

While the basic strategy of the company to bring to account non-sulphide zinc resources has not changed, the development of the LTC technology puts us into the zinc chemical rather than simply the zinc metal business. Since a considerable proportion of zinc oxide is made from metal, the price of zinc oxide, for all but the lowest grades, sells at a premium to the value of the metal contained and therefore our zinc resources become more valuable to the company.

By completing the Jabali feasibility study, in March 2005, we fulfilled our earn-in requirements entitling us to a 60% interest in the Jabali deposit and were able to apply for a mining contract. The deposit contains a mineral resource of 12.6 million tonnes containing 8.9% zinc. The study envisages the mining of 800,000 tonnes per year of ore from a shallow open pit over a mine life of about 11 years. Ore will be treated using the LTC process for the production of about 70,000 tonnes per year of high quality zinc oxide suitable for sale direct to industrial consumers. The capital cost of the project development is expected to be about £40 million.

Operating costs have been estimated and a cash flow model has been drawn up based upon the latest fiscal conditions being negotiated with government. The model demonstrates that the project has a post tax, ungeared rate of return of 25% and a net present value of £31 million, using a conservative long term zinc price (US\$1,000 per tonne). The project is expected to have a cost of zinc oxide production among the lowest in the world and this should greatly facilitate the raising of project finance for development.

Project financing will commence as soon as the mining licence has been awarded. Assuming a debt equity ratio of 2:1, this would imply an equity component of £13 million of which our share would be only £7.8 million. Provided the granting of the mining licence is not delayed, construction could begin at the start of 2006, and first production in the second half of 2007.

Our strategy has evolved significantly over the past few years, and in order for shareholders to understand the reasons for this, a special section entitled Development of Technology and Strategy has been included in this annual report.

We have been working on the recovery of zinc from waste materials using low cost hydrometallurgical, leaching technology for some years. In particular, we have been investigating the best way to treat waste produced from the recycling of steel scrap, so called electric arc furnace dust or EAFD. Due to the galvanised nature of the majority of scrap and the volatility of zinc, EAFD typically contains between 15% and 25% zinc. It

is therefore considerably richer in zinc than most zinc mines and represents a very attractive resource.

During the course of the year our testwork showed that the LTC process, originally developed for the Jabali project, can produce very high purity zinc oxide from EAFD. While we can also produce zinc metal from EAFD using solvent extraction, we believe that the use of the LTC process is the best way to treat it. Furthermore, since the EAFD is obtained at little or no cost, the overall cost of producing zinc oxide is very much lower than conventional methods.

The Aliaga Recycling Project will be developed in a heavy industrial zone on Turkey's west coast, where five steel recycling plants are located. We have recently entered into an option agreement to purchase a large site that will be sufficient for both the process plant and a permanent residue disposal facility.

The feasibility study, which is scheduled for completion in the second half of 2005 envisages the development of the plant in two stages. Initially the feed will come almost entirely from Aliaga and the plant will produce 12,500 tonnes per annum of zinc oxide, but subsequently capacity will be expanded to 30,000 tonnes per annum by the treatment of EAFD from elsewhere in Turkey.

A preliminary estimate of capital and operating costs has been undertaken and the cash flow modelled. At a zinc price of US\$1,000 per tonne the pre tax net present value, using a discount rate of 10% is £30 million and the internal rate of return is 30%.

The United States is the world's third biggest steel producer, half of which comes from recycling scrap which produces about 850,000 tonnes of EAFD annually. While the majority of this EAFD undergoes energy intensive processing to produce a zinc concentrate, about 30% goes to landfill. In January, we announced a strategic alliance with Envirosafe Services of Ohio Inc (ESOI), which handles more EAFD than any other landfill facility in North America.

Under our alliance, ESOI will provide EAFD to our plant and will take our process residue at no cost or benefit. Zinc feedstock is therefore free.

A preliminary estimate of capital and operating costs has been undertaken for a plant initially producing 20,000 tonnes per annum of zinc oxide, rising to 30,000 tonnes per annum in year four, together with a cash flow model. At a zinc price of US\$1,000 per tonne the pre tax net present value using a discount rate of 10% is about £22 million and the internal rate of return is 25%.

Zinc oxide may be characterised by chemical purity, grain size and shape, and internal surface area. Different industries are interested in different characteristics and this can have a significant bearing on price. Our testwork to date, has shown that the LTC process can be modified to produce different grades of material which will facilitate our entry into a broad spectrum of the market place.

Today the worldwide production and consumption of zinc oxide is in the order of 1,000,000 tonnes. About half of this is consumed by the rubber industry, mainly in tyres.

Other important consumers include the ceramics, oil additives, paints, animal feeds and pharmaceutical industries.

With the exception of a few special situations most zinc oxide is produced from metallic zinc, either from new ingots or from scrap produced by the galvanising industry. The cost of the zinc feedstock is therefore either the LME price plus a premium for ingots, or in the case of zinc scrap 85% - 90% of the LME value. So while conventional zinc oxide production has modest capital and operating costs, since zinc oxide typically sells for only a 10%-20% premium to the value of the metal contained, the margins are rather small. The margins for our zinc oxide projects, on the other hand, are completely different as we obtain zinc feedstock cheaply in the case of the Jabali deposit and at no cost in the case of our EAFD recycling projects.

The size of conventional zinc oxide production plants is relatively small, typically producing between 10,000 and 20,000 tonnes per annum. The market is split between several players spread around the world. ZincOx therefore has two significant advantages. Firstly, having plants producing between 30,000 and 72,000 tonnes per annum the company will enjoy significant benefits of the economies of scale. Secondly, in the development of these three projects ZincOx will be the world's largest producer of zinc oxide which given its very low cost of production will enable the company to exert considerable influence on the market.

In addition to our plans for EAFD, we have made considerable progress with the development of fuming equipment particularly designed for materials where the zinc cannot be recovered by leaching. Lead smelters, for example, produce slag that contains between 8% and 14% zinc. Such slag has no value and generally accumulates in dumps at the smelter. The zinc found in these slags is not recoverable by leaching but can be concentrated by the well known fuming process. Conventional fuming equipment, however, is too energy intensive to justify slag treatment. A new type of fuming equipment, Polykiln, has been developed and is being tested by a company formed by ZincOx and the metallurgists who developed the Polykiln concept. This company modified and refurbished a pilot plant in the early part of the year and discontinuous tests have been carried out since August. Various design modifications have been made and we recently commenced running longer tests that will allow us to determine the zinc recovery, the energy consumption and therefore the economical viability of the equipment.

Zinc has been the last of the metals to rise from the depressed prices experienced over the past few years. Continuing over supply and high inventories of metal have caused zinc to lag behind the other base metals. However, the huge and sustained appetite for metals from China has finally caught up with zinc and LME stocks have fallen. Consequently, although stocks are still high, the price has reacted as expected and at present we are experiencing stronger zinc prices. All commentators seem to be predicting continuing price growth through the remainder of this year at least.

While our three main projects, outlined above, are some way from production, current prices are relevant to the value of our Shaimerden project deferred receipts, which at the current zinc price (US\$1,250 per tonne) would be worth US\$21 million to ZincOx. Overburden removal at Shaimerden commenced at the beginning of 2005 and we can expect our first payment no later than February 2007.

As a result of the development of the LTC process for the treatment of the Jabali deposit, we will not be pursuing the concept of a new zinc smelter at Yanbu, in Saudi Arabia.

As I look to the year ahead, we are hopeful that the cost savings we expect from Polykilm will be confirmed, and in anticipation of this, we have already started to negotiate the acquisition of various slag dumps around the world. We are confident that the feasibility studies for our Turkish and US recycling projects will be completed by the end of the year, and we plan that they will be the first of a network of plants we will establish around the world. Together with our Jabali project, we now have the projects required to make us into a large low cost zinc company.

The great achievements of 2004 would not have been possible without the strenuous effort of our staff and my fellow directors and I would like to thank them all for their hard work.

N.J.J.Masson  
Chairman

4 May 2005

## **Review of Operations**

### **PRIMARY DEPOSITS**

#### **Jabali, Yemen**

The Jabali zinc deposit is located 110 km northeast of Sana'a, the capital city of Yemen. It contains a geological resource, calculated in accordance with the JORC code, of 12.6 million tonnes of oxide ore, grading 8.9% zinc and 68g/t silver.

The mineral rights to the deposit are currently held through an Exploration Licence which is owned by a joint venture comprising ZincOx, Anglo American plc and Ansan Wikfs (Hadramaut) Ltd, a Yemeni company. Under the terms of the joint venture agreement, ZincOx is entitled to a 60% interest by completing the feasibility study and Anglo and Ansan will hold 20% each. ZincOx is manager of the joint venture.

On 15 March 2005, ZincOx completed a feasibility study for the development of the Jabali deposit at the rate of 800,000 tonnes per annum of ore, with a mined grade of 9.2% zinc, over a mine life of 11 years. There is the potential to increase the mine life by exploration success, as the deposit is open on two sides. A small amount of lead is recovered and sold but generally the lead is not of an economic grade. The silver, however, passes to the tailings and a separate study has commenced to assess the viability of its commercial recovery.

MDM Ferroman, a mineral engineering firm from South Africa, carried out the feasibility study. Certain components of the study were contracted to other parties. SRK Consulting (UK) Ltd carried out the geology and mining sections; Tye Minerals Ltd selected and costed the mining equipment; Scott Wilson Mining undertook the environmental and tailings (waste) disposal sections. ZincOx, together with staff from the Yemen National Water Resources Authority, carried out water supply studies. The metallurgy and processing sections were produced by ZincOx in collaboration with consultants from the United States, and MDM.

Mining will be from an open pit, with a 2:1 ratio of waste to ore. The ore will be treated by means of the LTC process, test work on which has indicated a 77% zinc recovery. The process flow sheet was designed by ZincOx and tested in a pilot plant operated by CTP, an independent Belgian metallurgical laboratory. The plant is designed to produce approximately 70,000 tonnes per year of high quality zinc oxide (99.9% ZnO), containing 80% zinc. Marketing studies and test work carried out by ZincOx indicate that the final product will be of a quality suitable for direct marketing to zinc oxide consumers in Europe, the Far East and America. This material will command a substantially higher price for the contained zinc than that offered by zinc smelters, which typically only pay about 55%-65% of the value of the metal contained.

Capital costs are estimated at US\$75.4 including working capital.

Scott Wilson Mining carried out an Environmental Impact Assessment as part of the feasibility study, in accordance with World Bank guidelines and input from the Yemen Environmental Protection Authority. The study states that overall the project is considered to provide a net beneficial impact. The effect of the project with respect to employment

and infrastructure development will have a long term positive impact beyond the life of the project and the area of the mine.

The Government of Yemen has stated its intention to diversify the economy of the country away from its dependence on oil and gas and is actively encouraging investment in the mining industry. The revenue generated from Jabali in terms of taxes and industrial development in Yemen will bring significant long term benefits to the country.

ZincOx is currently finalising the terms of an Exploitation Agreement with the Government of Yemen, which is intended to confirm the tax and other fiscal conditions assumed in the feasibility study.

Discussions have commenced with certain financial institutions with respect to the provision of debt finance for development of the project. Assuming the Exploitation Agreement is finalised by the end of the second quarter, then financing should be completed by the end of this year. Construction will then commence in 2006 with production scheduled for the second half of 2007.

### **Shaimerden, Kazakhstan**

The Shaimerden zinc oxide deposit is situated in northern Kazakhstan, some 300 km south west of the city of Kostanai. ZincOx sold its 95% interest in the deposit in December 2003 to Kazzinc, Kazakhstan's largest producer of zinc. The consideration for the sale was \$7.5 million in cash and a deferred receipt to ZincOx, details of which are set out below.

The deferred receipt is receivable on the first 200,000 tonnes of zinc contained in ore mined from the deposit, at a rate equivalent to \$0.2375 per tonne for every dollar that the LME zinc price is above \$800 per tonne. Provided the zinc price is above \$800 per tonne and certain other conditions are met (see below), the deferred receipt is receivable, regardless of whether Kazzinc commence mining or not. The payment schedule is based on Kazzinc guaranteeing minimum and maximum production rates of 40,000 and 60,000 tonnes per annum of zinc contained in ore, respectively, commencing at the start up of production or September 2006, whichever is the earlier.

Under certain conditions, the deferred receipt may be suspended by Kazzinc. Firstly, if the in-situ resource at a 5% cut-off is more than 25% below that reported to Kazzinc of 4.55 million tonnes at 21.14% zinc; and secondly, if there are certain events, largely of a *force majeure* nature, that prevent Kazzinc from mining the deposit.

Assuming that the zinc price stays at the current level of approximately \$1,250 per tonne during the mining of the first 200,000 tonnes of zinc, the deferred receipt would be worth US\$21 million to ZincOx, payable between 2007 and 2011.

Kazzinc commenced the removal of overburden at Shaimerden in January 2005.

### **RECYCLING**

## **EAFD**

### **Background**

By 2010, about half the world's steel is expected to come from recycling. Recycling involves the remelting of steel scrap in Electric Arc Furnaces. There are, however, various impurities in the scrap and these need to be removed in order to obtain steel of saleable quality. Certain reagents (fluxes) are added to the melt in the recycling process that attract the less volatile impurities which then form a slag that floats on the liquid steel. Volatile impurities including toxic elements such as cadmium are boiled off. These cannot be vented to the atmosphere, so air is injected into the chimneys, or flues, forming oxide compounds which precipitate as a fine dust ("EAFD") that is caught on filters and bagged.

The toxic elements in EAFD can, to varying extents, be dissolved by rain water and may, therefore, be potentially threatening to the environment. For this reason EAFD is regarded as a hazardous waste that needs special disposal. In most parts of the world steel mills will pay for its removal.

Steel is increasingly protected from corrosion by coating with zinc, or galvanising as it is generally known. Since steel scrap contains galvanised material, zinc, as a volatile metal, is an important constituent of EAFD, commonly amounting to 15%-25% by weight.

Traditionally, zinc in EAFD has been recovered by energy intensive methods that produce an intermediate zinc bearing product which is sold to smelters at about half of the value of the contained metal.

For some years, ZincOx has been working on metallurgical methods for the recovery of zinc from EAFD by dissolving the zinc to produce an end product which gives the full value of the contained metal. Such an approach is very much more cost effective than traditional zinc recovery methods.

ZincOx has investigated in detail dissolution methods using three different reagents, two of which produce zinc metal and the third, LTC, which produces zinc oxide. The zinc oxide is of sufficient purity that it can be sold to industrial consumers who generally pay a premium to the value of the contained metal. The LTC approach is ZincOx's preferred treatment method.

### **Aliaga Recycling Project, Turkey**

The feasibility study for the Aliaga Recycling Project ("ARP") commenced in November 2004. The study is investigating the development of a plant to extract zinc from Turkish EAFD.

The ARP is located in the Aliaga Heavy Industrial Zone ("AHIZ") located about 60 km north of Izmir, Turkey's third largest city, on the western coast of the country. The AHIZ covers an area of about 12km<sup>2</sup>, is adjacent to the coast and well served by electricity, gas, rail, road and port.

ZincOx has entered into an option agreement to purchase 25.2 hectares of land in the north east of the industrial zone. This area will be sufficient for the construction of a process plant and permanent residue disposal facility.

There are five steel recycling plants located in the industrial zone and within four km of the ARP plant site. The ARP will be developed in two phases. Initially, almost all the feed will come from the steel mills in the AHIZ, for the production of about 12,000-15,000 tonnes of zinc oxide per annum. Soon after the project starts, however, production is expected to double as a result of an expansion to take the remainder of Turkish EAFD. The ARP is expected to employ about 100 people and be developed at a capital cost of about US\$23 million.

The EAFD will be treated using the LTC process to produce high quality zinc oxide. The oxide will be sold to industrial customers in Turkey and overseas.

Residue from the processing will be disposed of in a secure fully engineered double lined landfill facility. This facility is being designed by SRK, an international firm of mineral resource consultants. SRK are also responsible for all the environmental protection aspects of the feasibility study.

A preliminary economic study, using a zinc price of US\$1,000 per tonne, has indicated that the project should have a net present value of about £30 million (at a discount rate of 10%) and an internal rate of return of 30%.

The feasibility study is due for completion in the second half of the year so that construction of the project could commence at the beginning of 2006 and production in mid 2007.

### **Mid West Recycling Project, USA**

The feasibility study for the Mid West Recycling Project (“MWRP”) commenced in January 2005. The study is investigating the development of a plant to extract zinc from American EAFD.

ZincOx has formed a strategic alliance with Envirosafe Services of Ohio Inc (“ESOI”), one of North America’s largest hazardous waste disposal companies. ESOI has patented technology that chemically and physically stabilises hazardous waste so that it can be disposed of in non-hazardous landfill sites. This technology has been approved by the US Environmental Protection Agency (“EPA”).

ESOI has a stabilisation plant in North West Ohio together with a hazardous waste landfill facility permitted for 240,000 short tons per annum. ESOI handles EAFD from all over the mainland USA and has excellent working relations with both steel producers and the EPA. In addition to disposal, ESOI has considerable EAFD collection and transportation experience.

Under the terms of the alliance, ESOI will be responsible for the delivery of EAFD to the MWRP and will collect the residue and be responsible for its stabilisation and disposal. Consequently the zinc feedstock for the MWRP will be obtained effectively at no cost.

EAFD will be treated using the LTC process to produce about 20,000 tonnes of zinc oxide per annum for sale direct to industrial consumers in North America. Output will rise to 30,000 tonnes per annum in the fourth year of production.

ESOI has carried out tests on the residue produced by the LTC process and has confirmed the amenability of their technology to stabilise the material.

Several potential sites for the MWRP have been identified and are being reviewed in light of local taxes, infrastructure, and proximity to steel mills and residue disposal facilities.

A preliminary economic study, using a zinc price of US\$1,000 per tonne, has indicated that the project should have a net present value of about £22 million (at a discount rate of 10%) and an internal rate of return of 25%.

The feasibility study is due for completion in the second half of the year so that construction of the project could commence at the beginning of 2006 and production in mid 2007.

## **LEAD SLAGS**

### **Background**

Generally speaking, at base metal mines the mineralised rock is crushed and the metal bearing mineral is separated from the other constituents. The metal bearing mineral, the so called concentrate, is then shipped to smelters where the metal is recovered.

Lead and zinc generally occur together in nature, and mines generally produce concentrates of each metal. The separation of the metal bearing minerals is not perfect and there is always some cross contamination.

At the lead smelter, the zinc and other impurities, such as iron, end up in the slag. The zinc typically amounts to between 8% and 14% of the slag by weight. Slag is a waste material, which due to its content of base metals has restricted uses. In most smelters the slag is stored in dumps. The slag is a vitreous material in which the base metals are strongly bound. In the natural environment the metals are not leachable and so slag does not present an environmental threat, and by the same token the metals cannot be recovered by simple dissolution, as is the case for EAFD.

At certain lead smelters, zinc has been recovered from the slags by the fuming process, in which slag is remelted and the zinc is volatilised and burnt, to produce a zinc oxide concentrate suitable for sale to zinc smelters. This process is very energy intensive and not generally attractive with prevailing energy prices.

ZincOx has been working on a new type of fuming equipment, Polykiln, which is expected to have very much lower capital and operating costs than traditional equipment. ZincOx has identified a number of lead smelter slags around the world where there would be the potential to produce a zinc concentrate profitably, using the Polykiln process. Negotiations to obtain the most prospective slag dumps have commenced.

## **Polykiln**

Considerable testwork and development was undertaken on Polykiln in the former Soviet Union in the 1980's. The funding for this work ended with the break up of the Soviet Union.

The Polykiln equipment effects the fuming process very much more quickly than traditional methods. The rapid reaction time leads to less energy use and smaller plant, hence the reduction in operating and capital costs.

ZincOx has formed a new company with the inventors of the Polykiln process to develop the technology. During the first half of 2004 an old pilot plant with a capacity of two tonnes per hour was modified and refurbished. Pilot operations commenced in August 2004 and various plant modifications have been made to optimise the process. The pilot operation has confirmed the recovery of both zinc and lead, and a zinc fume of saleable quality has been produced from the treatment of lead slag.

Continuous tests have recently commenced, and these will confirm reagent, and particularly energy, consumption. Since lead slags do not differ significantly around the world, this will enable operating costs to be estimated for different operating environments, which in turn will allow the company to focus on the most economically attractive slag dumps.

## **Development of Technology and Strategy**

### **Primary Deposits**

ZincOx was originally formed to bring to account zinc resources that are not amenable to traditional zinc processing technology and which were, therefore, considered to be of little value and could be obtained at little or no cost. The company was established by the former management team of Reunion Mining plc which had been responsible for financing and completing the feasibility study for the Skorpion zinc oxide deposit in Namibia. The management team designed a new flowsheet for Skorpion that put together existing technologies, used in the production of metals other than zinc, so as to recover zinc from ore previously considered to be uneconomic, in spite of its high grade and amenability to open pit (low cost) mining. The flowsheet involved the dissolution of zinc in dilute sulphuric acid, the physical purification of the liquor by filtration followed by chemical purification using solvent extraction prior to the recovery of metal by electrowinning.

The Skorpion deposit has subsequently been successfully developed by Anglo American, and currently produces about 140,000 tpa zinc. It is one of the largest zinc mines in the world and probably has the lowest operating cost.

Initially ZincOx carried out a global literature review to identify zinc oxide deposits with the intention of applying the technology developed for Skorpion. During the course of this study it became apparent that there were few deposits that would have sufficient size to warrant the large capital expenditure required for the development of an integrated mine and refinery, as developed at Skorpion. As a consequence the company began to investigate the development of alternative lower cost equipment. The success of this programme has allowed us to consider development of deposits of a smaller size.

Furthermore, during the course of sampling and testing various primary zinc oxide deposits from around the world, ZincOx discovered that no two deposits have exactly the same mineralogy and that even in a single deposit there could be very significant variations. In order to bring deposits to account it was necessary to develop the technology further and examine different processing methods and equipment.

The first major zinc oxide resource we obtained was Jabali, in Yemen. While our geological work has almost doubled the size of the reserve, the ore presented a problem commonly encountered in zinc oxide deposits. Zinc is generally found in limestones which are rich in carbonate and therefore neutralise the acid used to dissolve zinc. The cost of acid consumed by the Jabali ore precluded economic development of the deposit using Skorpion technology. The high acid consumption could be reduced by concentrating the zinc bearing minerals, thereby reducing the acid consuming carbonate minerals.

Three ore concentration methods were investigated to reduce acid consumption as part of our studies for producing metal at Jabali: heavy media separation, floatation and fuming. The heavy media and floatation were technically feasible, but suffered from poor separation and low recovery. The fuming of zinc proved to be too costly. The lack of infrastructure and high cost of power precluded economic development. The concentration would have allowed the economic transportation of the mineral to Yanbu,

an industrial park on the Red Sea coast of Saudi Arabia where concessionary loan finance and cheap gas would dramatically reduce the cost of zinc electrowinning. Unfortunately due to escalating political problems in this region, the company was unable to attract the requisite equity finance.

The potential to produce a saleable zinc concentrate through a combination of floatation and fuming was examined, and this produced a viable project, albeit with rather low zinc recoveries. During the course of 2004, however, we began examining another hydrometallurgical process that did not use acid and in which reagents could be recycled so that reagent consumption ceased to be a significant cost. This technology produces high purity zinc oxide rather than zinc metal and is referred to as LTC, an acronym for Leach To Chemical as opposed to the leach to metal approach used at Skorpion. The LTC technology has been used in the production of other metals for several years and ZincOx has entered into an exclusive technology agreement with one of the leading firms involved in this technology, in respect of zinc applications.

The processing of Jabali ore using the LTC approach was been confirmed in a pilot plant. A feasibility study for Jabali employing LTC technology was completed in March 2005.

The zinc oxide product from LTC is of sufficient quality for sale to industrial consumers and generally commands a premium to the value of the metal content of between 5% and 15%. So that compared to metal, revenue generated is greater and operating costs are lower since there is not the energy consumption required by electrowinning.

### **Waste Materials**

The process development work necessitated by the examination of various primary deposits led us to consider the amenability of other materials to our technology. In particular zinc bearing waste products that would represent cheap or even subsidised sources of zinc. In many cases zinc bearing waste products are individually small and diffuse so that their collection, rather than zinc recovery, becomes the issue and is a significant cost.

There are, however, two zinc bearing wastes that amount to significant tonnages: lead smelter slags and the dust produced by the recycling of steel scrap in electric arc furnaces, so called EAFD. The company has been actively seeking to develop projects based on these materials.

### **Lead Slags**

Zinc and lead commonly occur together in mineral deposits. Mines generally produce separate zinc and lead mineral concentrates, however their separation is not completely efficient and zinc inevitably ends up in the lead concentrate. During smelting of the lead concentrate the zinc is rejected into the lead waste slag where it typically amounts to 8%-14% by weight.

A global literature review has revealed slag dumps amounting to 21,000,000 tonnes and current slag production from major smelters amounts to about 500,000 tonnes per annum.

In parts of the world where energy is cheap, the lead smelters may use energy intensive fuming to recover the zinc as a zinc oxide concentrate that can be used as a feedstock for zinc smelters. Since the zinc in the lead slag is not amenable to a dissolution approach (e.g. Skorpion or LTC processing methods) the company has investigated new fuming methods which had the possibility of significantly reducing energy consumption.

Considerable testwork was undertaken and we believe Polykiln represents the most exciting new technology. Polykiln is a highly efficient and rapid system that should use significantly less energy and have lower capital costs than traditional fuming equipment. Piloting of the Polykiln equipment commenced in August 2004 and results to date have been encouraging.

#### Electric Arc Furnace Dust, EAFD

About 35% of steel is produced from recycling scrap iron in electric arc furnaces or mini-mills as they are known in the USA. This process concentrates volatile elements such as zinc and lead and finer iron oxide particles in a dust (EAFD) that is caught in filters and bagged.

There are about 3,000,000 tonnes of EAFD produced annually around the world, and due to the galvanised nature of the recycled scrap it contains between 15% and 25% zinc. This zinc is not directly recoverable using conventional technology mainly due to the presence of various impurities. The zinc may be recovered using a modified version of the Skorpion flowsheet, and this has been confirmed by ZincOx in pilot tests.

EAFD also contains significant quantities of lead (3%-6%) and the company confirmed by piloting its recovery using a different leaching approach, namely the proprietary "MT Leach". However the economics of the MT Leach were not sufficiently attractive to warrant lead recovery, especially given the low metal prices experienced over most of the past four years. Patents over the MT Leach have been applied for by ZincOx, but no development is foreseen in the immediate future.

The amenability of EAFD to the LTC process to produce zinc oxide has been demonstrated by testwork on various EAFD samples from around the world. In addition, the residue produced after zinc removal can be disposed of in a safe and cost effective manner without long-term environmental impacts. Currently, zinc is being recovered from EAFD by energy intensive fuming to produce an inferior quality concentrate, the economics of such an operation are such that new developments of this type are very unlikely to be economic. We believe that the LTC technology represents a breakthrough in the recycling of zinc in EAFD and that it could therefore form the basis of a global EAFD treatment business.

**ZincOx Resources plc**  
**Consolidated Profit and Loss Account**  
**for the year ended 31st December 2004**

	<b>31<sup>st</sup> December 2004</b>	31 <sup>st</sup> December 2003
	£	£
Turnover	-	-
Cost of Sales	<u>-</u>	<u>-</u>
<b>Gross Profit</b>	-	-
Exploration Costs	(463,187)	(231,458)
Other Administrative Expenses	<u>(1,148,053)</u>	<u>(650,876)</u>
<b>Total Administrative Expenses and Operating Loss</b>	(1,611,240)	(882,334)
Share losses of Associate	(2,623)	-
Profit on disposal of subsidiary & other fixed assets	<u>84,053</u>	<u>2,975,522</u>
<b>(Loss)/Profit on Ordinary Activities before Interest</b>	(1,529,810)	2,093,188
Net Interest receivable and similar income	92,416	9,741
Amounts written off investments	<u>(136,943)</u>	<u>(280,000)</u>
<b>(Loss)/Profit on Ordinary Activities before Tax</b>	(1,574,337)	1,822,929
Taxation	<u>(3,844)</u>	<u>(4,142)</u>
<b>(Loss)/Profit for the year taken to Reserves</b>	<u>(1,578,181)</u>	<u>1,818,787</u>
(Loss)/Earnings per ordinary share Basic	£ (0.07).	£ 0.08.
(Loss)/Earnings per ordinary share Diluted		£0.08.

All operations are continuing.

**ZincOx Resources plc**  
**Consolidated Balance Sheet**  
**as at 31st December 2004**

	<b>31<sup>st</sup> December 2004</b>	<b>31<sup>st</sup> December 2003</b>
	£	£
<b><u>FIXED ASSETS</u></b>		
Intangible Assets	3,957,997	3,002,179
Tangible Assets	12,031	16,465
Investments	<u>426,605</u>	<u>1,423,104</u>
	<u>4,396,633</u>	<u>4,441,748</u>
<b><u>CURRENT ASSETS</u></b>		
Debtors due within one year	83,057	4,210,585
Debtors due after one year	116,098	-
Cash at Bank and in Hand	<u>2,524,398</u>	<u>105,172</u>
	2,723,553	4,315,757
Creditors – amounts falling due within one year	<u>(294,262)</u>	<u>(353,876)</u>
<b><u>NET CURRENT ASSETS</u></b>	<u>2,429,291</u>	<u>3,961,881</u>
<b><u>TOTAL ASSETS LESS CURRENT LIABILITIES</u></b>	<u>6,825,924</u>	<u>8,403,629</u>
<b><u>CAPITAL AND RESERVES</u></b>		
Called up Share Capital	5,906,943	5,906,943
Share Premium	5,188,848	5,188,848
Other Reserves	(1,004,106)	(1,004,582)
Profit and Loss Account	<u>(3,265,761)</u>	<u>(1,687,580)</u>
<b><u>EQUITY</u></b>	<u>6,825,924</u>	<u>8,403,629</u>

**ZincOx Resources plc**  
**Consolidated Cash Flow Statement**  
**for the year ended 31st December 2004**

	31 <sup>st</sup> December 2004	31 <sup>st</sup> December 2003
	£	£
<b><u>NET CASH OUTFLOW FROM OPERATING ACTIVITIES</u></b>	<u>(1,306,805)</u>	<u>(523,257)</u>
<b><u>RETURNS ON INVESTMENTS AND SERVICING ON FINANCE</u></b>		
Interest received	<u>92,416</u>	<u>9,741</u>
Net Cash Inflow from Returns on Investments and Servicing of Finance	<u>92,416</u>	<u>9,741</u>
<b><u>CAPITAL EXPENDITURE AND FINANCIAL INVESTMENT</u></b>		
Purchase of Intangible Fixed Assets	(1,454,429)	(1,401,716)
Sale of investments	845,330	-
Purchase of Tangible Fixed Assets	(5,579)	(3,140)
Investment in Associate	<u>(220)</u>	<u>-</u>
Net cash outflow from Capital Expenditure	<u>(614,898)</u>	<u>(1,404,856)</u>
<b><u>DISPOSALS</u></b>		
Sale proceeds on disposal of subsidiary	<u>4,249,075</u>	<u>-</u>
<b><u>MANAGEMENT OF LIQUID RESOURCES</u></b>		
(Purchase)/Sale of Short Term Deposits	<u>(2,258,063)</u>	<u>200,000</u>
Net Cash (Outflow)/Inflow from management of Liquid Resources	<u>(2,258,063)</u>	<u>200,000</u>
<b><u>FINANCING</u></b>		
Issue of Shares for cash	-	1,742,500
Expenses paid in connection with share issue	<u>-</u>	<u>(24,625)</u>
Net cash inflow from financing	<u>-</u>	<u>1,717,875</u>
<b><u>INCREASE/(DECREASE ) IN CASH</u></b>	<u>161,725</u>	<u>(497)</u>

## ZincOx Resources plc

### Consolidated Statement of Total Recognised Gains And Losses for the year ended 31st December 2004

	<b>31<sup>st</sup> December 2004</b>	31 <sup>st</sup> December 2003
	£	£
(Loss)/Profit for the period taken to reserves	(1,578,181)	1,818,787
Currency translation differences	<u>476</u>	<u>930</u>
Total Recognised (Losses) and Gains for the Year	<u>(1,577,705)</u>	<u>1,819,717</u>

### Reconciliation of Movements in Consolidated Shareholders' Funds for the year ended 31st December 2004

	<b>31<sup>st</sup> December 2004</b>	31 <sup>st</sup> December 2003
	£	£
(Loss)/Profit for the Period	(1,578,181)	1,818,787
Other Recognised Gains and losses	476	930
New Share Capital and Related Share Premium	<u>-</u>	<u>1,807,721</u>
Net Movement in Shareholders' Funds	(1,577,705)	3,627,438
Opening Shareholders' Funds	<u>8,403,629</u>	<u>4,776,191</u>
Closing Shareholders' Funds	<u>6,825,924</u>	<u>8,403,629</u>

**Notes:****1. Preparation of non-statutory accounts**

The financial information set out in this preliminary announcement does not constitute statutory accounts as defined in section 240 of the Companies Act 1985.

The balance sheet at 31<sup>st</sup> December 2004 and the profit and loss account, cash flow statement, statement of total recognised gains and losses, reconciliation of movement in shareholders' funds and associated notes for the year then ended have been extracted from the Group's 2004 statutory financial statements upon which the auditors' opinion is unqualified.

**2. (Loss)/Earnings per Share**

	31 <sup>st</sup> December 2004			31 <sup>st</sup> December 2003		
	Loss	Weighted average number of shares	Per share amount pence	Earnings	Weighted average number of shares	Per share amount pence
	£			£		
<b>Basic earnings (Loss)/Earnings per share</b>						
(Loss)/Earnings attributable to ordinary shareholders	(1,578,181)	23,627,772	<u>(6.68)</u>	1,818,787	22,084,753	<u>8.24</u>
<b>Dilutive effect of securities</b>						
Options					<u>512,053</u>	
<b>Diluted Earnings (Loss)/Earnings per share</b>				<u>1,818,787</u>	<u>22,596,806</u>	<u>8.05</u>

**3. Net Cash Outflow From Operating Activities**

	31 <sup>st</sup> December 2004	31 <sup>st</sup> December 2003
	£	£
Operating (Loss)	(1,611,240)	(882,334)
Depreciation less costs of disposal of fixed assets	10,013	11,680
Deferred Exploration costs written-off	463,187	231,458
Gains/(Losses) on foreign exchange translations	476	(2,746)
(Increase)/Decrease in Debtors	(106,085)	45,613
(Decrease)/Increase in Creditors	<u>(63,156)</u>	<u>73,072</u>
Net Cash outflow from operating activities	<u>(1,306,805)</u>	<u>(523,257)</u>

### **Reconciliation of Net Cash Flow to Movement in Funds**

	<b>31<sup>st</sup> December 2004</b>	31 <sup>st</sup> December 2003
	£	£
Increase/(Decrease) in cash in the year	161,725	(497)
Deconsolidation of RIF Zinc	(562)	-
Cash inflow/(outflow) from reduction in liquid resources	<u>2,258,063</u>	<u>(200,000)</u>
Movement in net funds in the period	2,419,226	(200,497)
Opening net funds	<u>105,172</u>	<u>305,669</u>
Closing Net Funds	<u>2,524,398</u>	<u>105,172</u>

### **Analysis of changes in net Funds**

	At 1 <sup>st</sup> January 2004	Cashflow	Purchase of short term deposits	RIF Zinc Deconsolidated	At 31 <sup>st</sup> December 2004
	£	£	£	£	£
Cash in hand & at bank	105,172	161,725	-	(562)	266,335
Short term deposits	<u>-</u>	<u>-</u>	<u>2,258,063</u>	<u>-</u>	<u>2,258,063</u>
	<u>105,172</u>	<u>161,725</u>	<u>2,258,063</u>	<u>(562)</u>	<u>2,524,398</u>

#### **4. Preliminary statement**

Copies of this preliminary statement will be sent to shareholders in due course and will be available from the company at 7 Tanners Yard, London Road, Bagshot, Surrey GU19 5HD and Numis Securities Limited at Cheapside House, London, EC2V 6LH for a period of 14 days from the date of this announcement.