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11th December, 2003

The Directors  
Fujian Zijin Mining Industry Co. Limited  
Zijin Building  
277 Beihuan Road  
Shanghang, Fujian Province 36 42 00  
P. R. China

Dear Sirs

This report summarises the findings of an independent technical and economic assessment of the mines and projects operated by the Fujian Zijin Mining Industry Company Limited (“Zijin” or “the Company”). The report has been prepared by Steffen, Robertson and Kirsten (Australasia) Pty Ltd, trading as SRK Consulting (“SRK”), located at 1064 Hay Street, West Perth, Western Australia 6005, Australia. The purpose of this Report is to provide an independent technical assessment of the Company’s mineral assets for inclusion in a prospectus to be issued by Zijin to support the proposed listing and fund raising on the Hong Kong Stock Exchange. This report has been prepared in accordance with the Rules Governing the Listing of Securities of The Stock Exchange of Hong Kong Limited (“HKSE Listing Rules”, in particular Chapter 18).

This report is a summary of a more detailed technical report provided by SRK to Zijin entitled “Fujian Zijin Mining Industry Co. Ltd, Independent Competent Person’s Report, November 2003”. The detailed technical report is available through China Everbright Capital Limited, 40th Floor, Far East Finance Center, 16 Harcourt Road, Admiralty, Hong Kong.

Zijin owns and operates the Zijinshan Gold Mine in Fujian Province, China, which has an adjacent copper resource presently the subject of feasibility studies. Zijin also has interests in three other operating mines: Shuiyindong gold mine in Guizhou Province; Hunchun Copper-Gold mine in Jilin Province and a small gold mine (Paodaoling) in Anhui Province, and interests in the Ashele Copper-Zinc Mine currently under construction in Xinjiang Uygur Autonomous Region (“Xinjiang”). In addition, Zijin has interests in four advanced exploration projects in Sichuan Province, Anhui Province and in Tibet Autonomous Region (“Tibet”), and interests in three early stage exploration projects in Guizhou Province and Xinjiang.

Our report, which follows, documents the review completed by SRK to 30th September, 2003.

Yours faithfully  
for and on behalf of

**Steffen, Robertson and Kirsten (Australasia) Pty Ltd**  
(Trading as SRK Consulting)

**Youzhi Wei**, *BSc (Mining Engineering), MSc, PhD, CPMin, FAusIMM.*  
*Principal Consultant and Project Coordinator*

## 1 INTRODUCTION AND SCOPE OF REPORT

SRK was commissioned by Zijin to complete an Independent Competent Person's report on the mineral assets of Zijin (the "Report").

### 1.1 Purpose of the Report

The purpose of this Report is to provide an Independent Competent Person's Report of the mineral assets of Zijin. This Report is to comply with the technical property information required under various securities laws and listing rules of the Stock Exchange of Hong Kong Limited and may be included in the Zijin information circular or prospectus to be prepared in connection with the application of the Company for listing on the Stock Exchange of Hong Kong Limited. This Report does not provide a valuation of the mineral assets or any comment on the fairness and reasonableness of any transactions related to the mineral assets.

This report is a summary of a more detailed technical report provided by SRK to Zijin entitled "Fujian Zijin Mining Industry Co. Ltd, Independent Competent Person's Report, November 2003". The detailed technical report is available through China Everbright Capital Limited, 16 Harcourt Road, 40th Floor, Far East Finance Center, Admiralty, Hong Kong.

### 1.2 Capability Statement

SRK is an independent consulting engineering organisation, wholly owned by its employees, that has been active in the mining and natural resources industries for over 25 years. The group operates globally and currently employs over 500 professionals in 28 offices world wide, with 4 of these offices located in Australia. The SRK Group has a demonstrated track record in undertaking independent assessments of resources and reserves, project evaluations and audits, Competent Persons Reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies and financial institutions world-wide. The SRK Group has also worked with a large number of major international mining operations and projects providing mining industry consultancy service inputs and has specific experience in transactions of this nature. The SRK Group has examined a number of gold/copper exploration and mining projects around the world.

### 1.3 SRK's Independence

SRK is completely independent of Zijin and will be paid a professional fee charged at normal commercial rates for the preparation of this report. SRK has no beneficial interest in the outcome of the technical assessment and the payment of that professional fee is not contingent upon the outcome of the report. The SRK Group's independence is ensured by the fact that it holds no equity in any project and that its ownership rests solely with its staff. This permits the SRK Group to provide its clients with conflict-free and objective recommendations on crucial judgement issues.

#### 1.4 Work Program and Approach

SRK adopted the following methods for the auditing of Zijin's mineral assets:

- Review all data and information supplied by Zijin;
- Conduct site visits to inspect mineral deposits and/or operations;
- Interview site personnel and request questionnaires to be completed; and
- Analyse all data and information obtained.

The findings presented in this report are based on information gathered prior to and during site inspections made by SRK personnel from 19 August 2002 to 5 September 2002, from 18 November 2002 to 6 December 2002 and from 19 August 2003 to 1 September 2003, to the mines and deposits of the Company, and on information subsequently supplied to SRK via E-mail or Facsimile messages or various telephone conversations. SRK received very good co-operation from all Zijin staff, with information freely available. During site inspections, SRK personnel held detailed and open discussions with site personnel at each mine. Visits were made to selected examples of exploration areas, current production, completed mine areas, laboratories, blending areas, processing and loading plants and planning and administration offices.

Conclusions in the report are drawn, based on a combination of physical evidence and outcomes derived from field inspection, observations, scientific analysis of records and/or data of Zijin's mineral assets and operations and from judgment made by SRK.

In benchmarking Zijin's practice against international best practice, SRK has made comparisons in the report which are qualitative in nature. In the case of quantitative comparison, sources of data are provided.

#### 1.5 Reporting Standard

This report has been prepared to the standard of, and is considered by SRK to be, a Technical Assessment Report under the guidelines of the Valmin Code. The Valmin Code is the code adopted by the Australasian Institute of Mining and Metallurgy and the standard is binding upon all AusIMM members. The Valmin code incorporates the JORC Code for the reporting of Mineral Resources and Ore Reserves.

This report is not a Valuation Report and does not express an opinion as to the value of mineral assets. Aspects reviewed in this report do include product prices, socio-political issues and environmental considerations, however SRK does not express an opinion regarding the specific value of the assets and tenements involved.

## 1.6 Forward-Looking Statements

Estimates of mineral resources, ore reserves, and mine and processing plant production are inherently forward-looking statements, which being projections of future performance will necessarily differ from the actual performance. The errors in such projections result from the inherent uncertainties in the interpretation of geologic data, in variations in the execution of mining and processing plans, in the ability to meet construction and production schedules due to many factors including weather, availability of necessary equipment and supplies, fluctuating prices and changes in regulations. Achievement of projected production will depend on meeting construction and capital expenditure schedules and this will require greater management care and controls than existed in the past. Increased environmental compliance requirements in the future may also affect the mines.

The possible sources of error in the forward-looking statements are addressed in more detail in the appropriate sections of this report. Also provided in the report are comments on the risks inherent in the different segments of Zijin's operations.

## 1.7 Project Team

Each member of the SRK project team has in excess of 15 years of relevant professional experience in the mining industry. The SRK project team consisted of:

**Dr. Youzhi Wei** — *Principal Geotechnical Engineer, BSc (Mining Engineering) MSc (Rock Mechanics), PhD (Geomechanics), FAusIMM*: Principal Consultant in Geotechnical Engineering and Mining Geomechanics, Project Coordinator and Chief translator. Dr. Wei is a qualified Mining Engineer with over 16 years experience in the mining industry and is a Fellow and Chartered Professional Engineer (Mining) of the AusIMM. Dr. Wei is fluent in English and Chinese language.

**Mr. Mike Warren** — *Principal Mining Engineer, BSc (Mining Engineering), MBA, MAusIMM, FAICD*: Principal Consultant in Mining Assessment and Financial Assessment. Mr. Warren is a qualified Mining Engineer with over 25 years experience in the mining industry and is a corporate member of the AusIMM.

**Mr. Andrew Vigar** — *Principal Resource Geologist, BSc (Applied Geology), FAusIMM*: Geology, Resource and Reserves, Grade Control and Ore Quality Assessment. Mr. Vigar is a qualified Geologist with over twenty years experience in gold deposits, 24 years experience in the minerals industry and is a corporate member of the AusIMM. Mr. Vigar is considered to be a Competent Person for the estimation of resources and reserves for gold and copper deposits under the JORC Code.

**Mr. Phillip Uttley** — *Principal Geologist, BSc Hons (Geology), FAusIMM*: Geological Assessment, Exploration Potential. Mr. Uttley is a qualified Geologist with over ten years experience in gold deposit styles, 29 years experience in the minerals industry and is a Fellow of The AusIMM. Mr. Uttley is considered to be a Competent Person for the evaluation and resource estimation of gold and copper deposits under the JORC Code.

**Dr. Cam McCuaig** — *Principal Geologist, BSc (Hons) (Geology), PhD, MAIG, MAusIMM*: Geological Assessment, Exploration Potential of the Caodi and Jiaochong projects. Dr McCuaig is a qualified Geologist with over 15 years experience in evaluating gold deposit styles.

**Dr. Wolf Martinick** — *Principal Associate Environmental Scientist, BSc (Agric), PhD, CPEnv, FAusIMM*: Environmental Assessment. Dr. Martinick, is a qualified Environmental Scientist with over 30 years of experience in environmental issues pertaining to mining projects. He is a Fellow and Chartered Professional Engineer (Environment) of the AusIMM.

**Mr. Peter Munro** — *Principal Associate Metallurgist, BApplSc, B Comm, B Econ., MAusIMM*: Processing and Metallurgical Assessment. Mr. Munro is a Senior Associate Metallurgist who has over 30 years of experience with Mt Isa Mines Limited (MIM). Peter's later roles with MIM included Principal Engineer in the Head Office of MIM and Concentrator Manager at the Alumbra project in Argentina.

The above SRK staff, except for Dr McCuaig, visited the Zijinshan gold mine. Mr Warren visited the Paodaoling mine with Dr Wei and Mr Uttley, who both visited the Shuiyindong, Ashele and Hunchun projects. Dr McCuaig and Dr Wei both visited the Caodi exploration project and the Jiaochong exploration project. The SRK project team was accompanied by senior staff and translators from the Company. The Mayoumu exploration project in Tibet and the Daheba Platinum project in Sichuan were not visited by SRK, but were assessed as being much less significant assets than the operating mines visited.

## 1.8 Warranties

Zijin has represented in writing to SRK that full disclosure has been made of all material information and that, to the best of its knowledge and understanding, such information is complete, accurate and true.

## 1.9 Disclaimer

The opinions expressed in this report have been based on the information supplied to SRK by Zijin, its subsidiaries and their staff, as well as staff from various institutes and government bureaus. SRK has exercised all due care in reviewing the supplied information. Although SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are reliant on the accuracy of the supplied data. SRK has relied on this information and has no reason to believe that any material facts have been withheld, or that a more detailed analysis may reveal additional material information. SRK does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them.

## 1.10 Consents

SRK consents to this Report being included, in full, in the Zijin prospectus, in the form and context in which the technical assessment is provided, and not for any other purpose.

SRK provides this consent on the basis that the technical assessments expressed in the Summary and in the individual sections of this Report are considered with, and not independently of, the information set out in the complete Report and the Cover Letter.

## 2 THE COMPANY'S MINERAL ASSETS

The Company's mining operations, mines under construction and exploration projects include:

### 2.1 Operating Mines

- *Zijinshan Gold Mine* (100% owned by Zijin) in Shanghang County, Fujian Province — The Company's principal asset, which is an open pit gold mine operating with heap leach, CIL and gravity processing. The Company's headquarters, research laboratory and gold refinery are also located in Shanghang county.
- *Shuiyindong Gold Mine* (65% owned by Zijin) in Zhenfeng County, Guizhou Province — An underground gold mine with processing facilities and gold refinery.
- *Hunchun Copper-Gold Mine* (72.2% owned by Zijin) near Hunchun City, Jilin Province — A copper-gold mine with processing facilities currently being upgraded by Zijin.
- *Paodaoling Gold Mine* (75% owned by Zijin) in Guichi County, Anhui Province — A small gold mine operating with heap leaching processing.

### 2.2 Mines Under Construction

- *Zijinshan Copper Project* (100% owned by Zijin) in Shanghang County, Fujian Province — A copper deposit below the gold mine, currently subject to development and testing.
- *Ashele Copper-Zinc Project* (51% owned by Zijin) in Habahe County, Xinjiang — An underground Copper-Zinc mine currently under construction.

### 2.3 Advanced Exploration Projects

- *Caodi Gold Project* (60% owned by Zijin) in Jiuzhaigou County, Sichuan Province — An advanced exploration project being investigated by Zijin.
- *Jiaochong Gold — Base-Metals Project* (51% owned by Zijin) in Tongling City, Anhui Province — An advanced exploration project being investigated by Zijin.
- *Mayoumu Gold Project* (56% owned by Zijin) in Tibet — An advanced exploration project being investigated by Zijin.
- *Daheba Platinum Project* (51% owned by Zijin) in Shimian County, Sichuan Province — An advanced exploration project being investigated by Zijin.

SRK did not visit the Mayoumu Gold the Daheba Platinum Project.

## 2.4 Early Stage Exploration Projects

- *Dongtienshan Copper Project* (100% owned by Zijin) in Dahongshan, Xinjiang — An exploration project being investigated by Zijin.
- *Huajiang Anticline Gold Project* (100% owned by Zijin) in Guanling, Guizhou Province — An exploration project being investigated by Zijin.
- *Lanmochang Gold Project* (100% owned by Zijin) in Xinren, Guizhou Province — An exploration project being investigated by Zijin.

SRK did not visit any of the early stage exploration projects.

The location of Zijin's operating mines, mines under construction and exploration projects is shown in Figure 2.1.

Zijin's principal mineral asset is the Zijinshan gold operation, an open pit mine and heap leach operation, located near the city of Shanghang in Fujian Province. Zijinshan is 100% owned by Zijin, is well established and since 1997 has produced 28,112kg of gold. Zijinshan is currently the single largest gold mine by production in China and has highly competitive cash production costs, being the lowest in China and placing itself in the lowest quartile of gold producers in the world. Zijin currently trades its gold product through the Shanghai Gold Exchange. Pricing is determined by the demand and supply of the market.

The new underground development project at Ashele is at a very advanced stage of construction with progress being made within budget and schedule. Shuiyindong has been commissioned and production commenced in July 2003, with 150kg of gold produced to the end of August 2003. These new mines are expected to progress to full production in 2004 and 2005 respectively. Following advanced feasibility studies and testing, the Zijinshan copper project is in development with 2km of production tunnels completed. The three exploration projects are the subject of scoping studies, with additional exploration in progress. All of the above projects have varying degrees of technical and financial uncertainty and risk.

## 2.5 Mining Tenements

During the course of this Technical Assessment, SRK has viewed material agreements, tenement documentation, status, and maps covering the principal mineral assets in the four main areas that are the subject of this Report as kept in the various Zijin offices and mine sites. However, SRK did not independently verify the current validity of any tenements or applications for tenements; nor did SRK review documentation related to any of the related transactions.



SRK has received and viewed copies of the mining and exploration permits held by Zijin that were current in September 2003, but those permits were not independently verified by SRK. Each of the Zijin mining operations inspected by SRK was being conducted on tenements covered by valid permit documents.

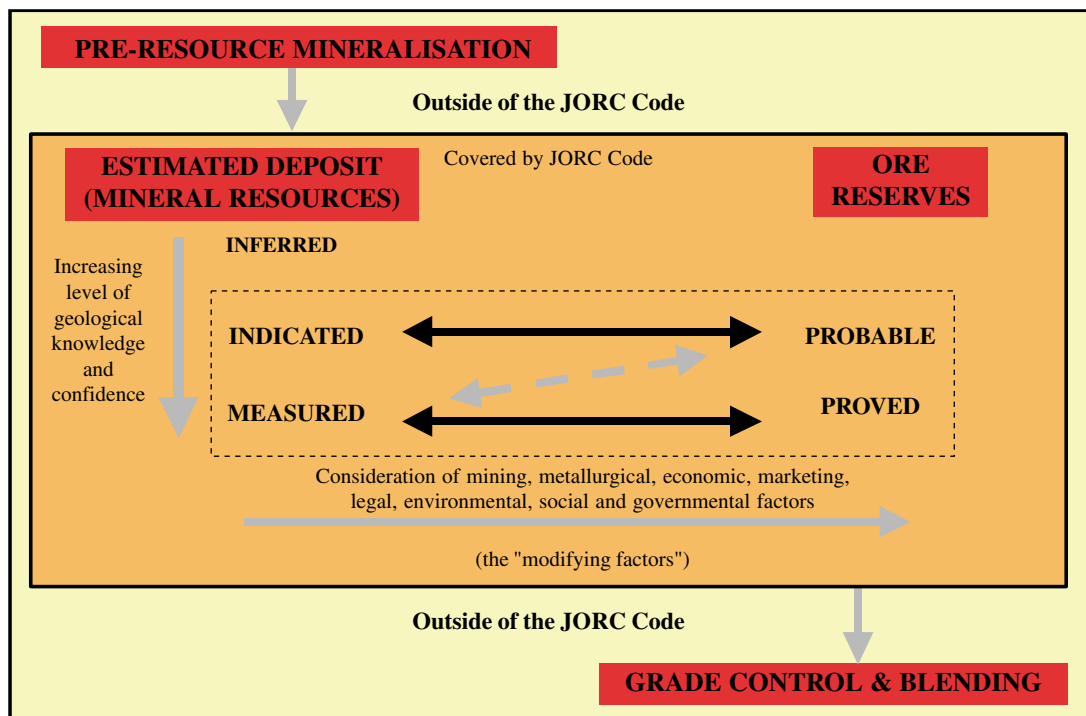
## 2.6 Categorisation of Mineral Resources and Ore Reserves

The system for categorisation of mineral resources and ore reserves in China is currently in a period of transition. The traditional system, which is derived from the former Russian system, uses five categories based on decreasing levels of geological confidence — Categories A, B, C (sometimes divided into C1 & C2), D and E. A new system promulgated by the Ministry of Land & Resources (MLR) in 1999 (Rule 66) uses three-dimensional matrices, based on economic, feasibility/mine design and geological degrees of confidence, categorised by a three number code of the form “123”. This new system is in accordance with the UN Framework Classification proposed for international use. All new projects must comply with the new system but estimates and feasibility studies carried out before 1999 will have used the old system. The new system is not used in this Report to avoid any potential confusion.

The methods used to estimate the resources/reserves of a particular deposit are generally prescribed by the relevant Government authority in China, and is based on the level of knowledge for that particular geological style of deposit. The exploration parameters and computational methods are prescribed, including the cut-off grades, minimum thickness of mineralisation, maximum thickness of internal waste, and average minimum ‘industrial’ or ‘economic’ grades required for a particular type of deposit.

An identified mineral resource is the in-situ geological resource outlined by the assigned parameters. The ore reserve refers to that portion of the in-situ mineral resource that is expected to be mineable, i.e. is potentially economically viable to extract. The categories are defined largely on the basis on assigned spacing of sampling, trenching, underground tunnels and drill holes.

**Figure 2.2 The JORC Code Mineral Resource and Ore Reserve Conversion System.**



The traditional Categories B, C & D are broadly equivalent to the 'Measured', 'Indicated', and 'Inferred' categories that are provided by the JORC Code and USBM/USGS systems used widely elsewhere in the world. In the JORC system, as shown in Figure 1.4 below, the 'Measured Resource' category has the most confidence and the 'Inferred' category has the least confidence, as based on the increasing levels of geological knowledge and continuity of mineralisation. The 'Measured' and 'Indicated Resources' are used as the basis for the ore reserve estimates to follow, but the 'Inferred' category is considered too uncertain to be transferable to reserves.

Category A generally includes the most detail such as grade control information. However, the content of each category B, C & D may vary from deposit to deposit in China, and therefore must be carefully reviewed before assigning to an equivalent “JORC —type” category, e.g. ‘Inferred’ may include Categories C2, D and E. Ore reserves are generally classified as ‘Proved’ and ‘Probable’, converted from ‘Measured’ (Category B) and ‘Indicated’ (Category C) Resources respectively, on the basis of a feasibility study or other mining economic factors. ‘Probable Reserves’ may include some Category D. The table below shows the general conversion from the traditional Chinese system to “JORC type” categories, as assigned by SRK.

**Table 2.1 Categorisation of Mineral Resources and Ore Reserves as used in this Report.**

<b>CHINESE CATEGORY</b>	<b>IDENTIFIED MINERAL RESOURCES*</b>	<b>MINEABLE ORE RESERVES</b>
B	Measured	Proved
C (includes C1)	Indicated	Probable
D (may include C2)	Indicated and Inferred	(Category D may include some Probable)
E	Inferred	—

*Note:* \* as assigned by SRK.

For each deposit or mine, the resources and reserves are approved by relevant State Committee, MLR or equivalent authority prior to use by the developer in definitive feasibility studies. At each of Zijin’s deposits, the resources and reserves estimates were reviewed by SRK.

The nature and quality of the resources and reserves contained within the Shuiyindong gold (Table 5.5 and 5.6), Ashele copper-zinc (Tables 5.11 and 5.12) and Hunchun gold-copper projects (Table 5.7) have all been estimated by conventional methods according to prescribed criteria in accordance with the Chinese system. These conventional methods have generally been applied conservatively and to a high standard. However, as a general comment, these resource estimates are based on lower than desirable levels of supporting information and often lack tight geological control.

*Wherever possible, the Chinese Resource and Reserve estimates have been reassigned by SRK to categories similar to those used by USGS or by JORC, ie ‘Measured’, ‘Indicated’, or ‘Inferred’ for mineral resources and ‘Proved’ or ‘Probable’ for ore reserves as shown above in Table 2.1 to standardize categorization. However, this is not meant to imply that any of Zijin’s resource and reserve estimates are necessarily JORC compliant. SRK checked but did not re-estimate any of Zijin’s resources or reserves estimates.*

- Unless otherwise stated, all units of measure in this report are metric.
- A table of the main abbreviations and units used in this report is provided, as is a glossary of technical terms.

### 3 ENVIRONMENT

In SRK's opinion, the principal mining operation at Zijinshan has been designed with careful attention to environmental and social impacts. Similarly, site inspections confirm that detailed environmental planning has been undertaken and implemented and that the operations are being undertaken in an environmentally very responsible manner, with the possible exception of the small Paodaoling heap leach gold mine where environmental performance can be improved. At the other new development projects, environmental studies are either underway or environmental plans have yet to be implemented upon commencement of production.

In many instances environmental solutions have been developed that readily meet the concept of environmental best practice. This applies particularly to the Zijinshan gold mine where environmental management is of an exceptionally high standard, especially with regard to water management. Many of the solutions implemented at this mine could easily become benchmarks for future mining operations with potential water and erosion concerns (Figure 3.1).

### 4 GEOLOGICAL SETTING AND MINERALISATION

#### 4.1 Zijinshan Gold Mine

The Zijinshan gold deposit is situated in the upper acid leached portions of an epithermal gold/copper system associated with a large intrusive-volcanic complex. These mineralised intrusions are closely spaced and controlled by a series of sub-parallel structures that emanate from the NW periphery of the volcanic — intrusive complex.

The Zijinshan gold orebody is largely oxidised. The gold is contained within a swarm of sub-parallel, NW striking and NE dipping veins, breccias and stock-works on the upper western flanks of the main intrusive complex that hosts the copper mineralisation at depth (Figures 4.1 and 4.2). Gold mineralisation mainly occurs disseminated within the upper 350m of intense altered, highly siliceous, leached dacitic hydrothermal breccia and porphyry. Gold also occurs within the brecciated ('cataclastic') country rock (quartz diorite) in fractures, veins and stockworks adjacent to the dacite intrusions. Gold occurs as very fine grains principally with quartz, disseminated hematite, with goethite and limonite (after oxidised sulphides) and with minor clay. Minor remobilisation and concentration of the gold into fracture zones has occurred during weathering subsequent to the original intense oxidation within the acid leach zone. Fresh sulphides begin to appear in trace amounts from 100m depth, where gold is associated with very fine grained, disseminated enargite, covellite, digenite and pyrite. From 200-300m depth, the presence of fresh sulphides becomes more common (<2-3% sulphides).

The brecciated, fractured and oxidised nature of the gold mineralisation at Zijinshan makes it favourable for heap leaching. Inspection of selected drill holes and the open pit by SRK did not reveal any major changes in mineralogy and geology with depth, except for increasing amounts of minor pyrite and copper sulphides, and clay alteration with depth, which may have an impact on metallurgical recovery.

The change from gold mineralisation to copper mineralisation occurs at depth and laterally, mainly coinciding with a change from intense silica to quartz alunite alteration in the dacites, and also more or less coinciding with the base of oxidation and the current water table (although it is possible that some copper mineralisation has been leached from the gold zone).

The geometry of the copper mineralisation reflects the shape of the intrusive dacite porphyry dykes and bodies, as controlled by the NW trending structures. The mineralised bodies generally extend ~50 to 500m along strike, ~400m deep and ~1 to 50m thick. Continuity appears to be high both along strike and down dip within the dacite porphyry and breccia. The bulk of copper mineralisation is situated below the gold orebody, between 600m and 200-300m RL, plunging gently to the east and tapering off by 100m RL.

The principal copper minerals vary with depth, from very finely disseminated enargite (containing arsenic) at depth to minor covellite and digenite-chalcocite and bornite in fractures, breccias and veins at shallow levels. Sulphide grain size is generally <1mm, finely peppered throughout the dacite porphyry and hydrothermal breccia. Copper sulphides are associated with minor disseminated pyrite, totalling ~1 to 2.5 wt.% sulphides. Gold and silver values are uniformly low in the copper deposit.

The principal metallurgical issues in the Zijinshan copper deposit are likely to be the very fine grain size, the presence of arsenic and clay content and possible changes in mineralisation style with depth.

#### 4.2 Shuiyindong Gold Mine

The Shuiyindong gold deposit is a distal-replacement type, wherein gold-pyrite mineralisation replaces favourable limestone units. Shuiyindong is a 'blind' deposit and was discovered by the No.105 Geological Team using geochemistry in comparison to other known gold deposits in the Huijiabao goldfield (Figures 4.3 and 4.4).

The deposit is situated near the E-W axis of a major regional anticline. Numerous E-W low-angle and bedding parallel faults are parallel to the anticline axis, associated with the major thrusting episode, and appear to form important controls on mineralising fluids.

Gold mineralisation occurs within a sandy to silty limestone sequence of Permian age. The mineralisation forms lensoidal bodies that are situated generally 150m-250m below the present day surface. Approximately, the eight main mineralised lenses range from 1m to 5m thick; they are generally flat or dip gently north and south at 10°-20°; they are stacked from 10m to 50m vertically, ranging from 50m to 350m wide N-S and are elongate E-W from 100m to 500m long, reflecting the main structural controls (Figures 4.5 and 4.6).

Gold mineralisation occurs within a favourable, dolomitised silty to fine sandy fossiliferous limestone. The mineralisation occurs in association with dolomitisation, making the host rock characteristically porous, and with minor silicification. At least 90% of the gold occurs as extremely fine grains (< 0.01mm) contained within disseminated pyrite, and also within minor arsenopyrite. Pyrite grains are very fine grained (<0.05mm) and constitute 2-5% sulphide with ~0.5-1% arsenopyrite (<0.05mm).

Within the dolomitised limestone units, gold values generally range from 1-48g/t Au. Minor elements include arsenic (~0.2-0.3%), silver (1-2g/t Ag), mercury (1-3 ppm Hg), antimony and cadmium, which may indicate possible metallurgical and environmental issues. The principal metallurgical issues will be the predominant occurrence of gold within pyrite and the very fine grain size.

The RQD in mineralisation ranges from 50-75%; core recovery is close to 100%. The flat-lying hanging wall generally comprises dark gray silty limestone with shaly bands; similarly the footwall comprises bedded shaly siltstone to very fine-grained limey sandstone. The combination of shaly beds and low angle structures in the roof indicate potential underground mining issues. Waste rock may contain up to 5% primary disseminated pyrite.

#### 4.3 Hunchun Copper-Gold Mine

The Hunchun copper-gold deposit is related to and hosted by a N-S trending diorite intrusion and dykes of Jurassic to Cretaceous age. Lesser mineralisation occurs with the country rock of granodiorite and hornfels, mainly of Permian age. Essentially there are two styles of copper-gold mineralisation at Hunchun (Figure 4.7):

- Gold with copper sulphides occurring in a set of higher-grade (>1g/t Au) quartz-carbonate veins with associated chalcopyrite, pyrite, pyrrhotite, and trace molybdenite; veins are strongly structurally controlled, generally trending NNW; they range from 0.1cm to 30cm thick, generally less than 10cm thick, and spaced approximately 1-2m apart in vein sets, and can contain high grade gold locally, and lower-grade disseminated copper sulphide and minor fine stockwork gold mineralisation within the diorite intrusions of the 'porphyry stockwork' type.
- The Beishan ore body (which is now acquired by Zijin) is arbitrarily divided into two zones, separated by a late porphyry dyke: (i) Zone I, or Western zone, and (ii) Zone II, or Eastern zone. The Beishan deposit is approximately 1000m N-S and 600m E-W, extending 150-200m below surface as based on current work. Since May 1977, the Nanshan deposit produced 820,000 tonnes of ore (@ 5.43g/t Au and 1.8% Cu), 4.457 tonnes of gold and 14,767 tonnes of copper.

The principal mineralised zones comprise sets of closely spaced veins comprised of approximately 8-10 sets forming Zone I, and 4-5 sets forming Zone II, that strike NNW and dip 70°-90° east. Zone I vein sets are up to 600m long, from 10m to 40m wide and 50m to 150m deep, and Zone II vein sets are 5-35m thick, up to 450m long and 40-250m deep. Zone I and Zone II comprise 60% and 40% of the total resource respectively.

Based on our inspection, continuity of gold veins appears to be good both vertically and along strike; although a more detailed examination might be required of this critical factor, it appears to be an issue of low risk at Hunchun. High-grade veins are separated by low-grade or unmineralised rock. The grade distribution of the intervening rock will be an important to evaluate for bulk mining studies.

Gold occurs as inclusions in both chalcopyrite and pyrrhotite, within the lattice of sulphide crystals, rarely as free gold in microfractures (Au grain-sizes 0.01-0.10mm, rarely 0.5mm). Silver content is low, and other minor elements include molybdenum, bismuth, lead and zinc. Gold recovery (~70-80% previously by conventional flotation of chalcopyrite) can be possibly improved upon by additional recovery of pyrrhotite.

#### 4.4 Paodaoling Gold Mine

Gold mineralisation at Paodaoling is related to a dacite porphyry intrusion. Gold mineralisation is controlled by NE trending quartz veins and fractures both within the dacite intrusion and to a lesser degree within the surrounding country rock. The mineralised dacite is altered predominantly by quartz-sericite-clay and calcite, and the country rock is also altered and contact metamorphosed by the dacite (Figures 4.8 and 4.9).

Gold occurs predominantly as very fine grains in pyrite, marcasite and arsenopyrite (which explains the refractory nature), in association with sphalerite and minor galena-chalcopyrite and trace petzite. The mineralised fractures and veins appear to be extremely irregular, ranging from 0.1-1.0cm thick and constituting broad zones 1-5m wide that generally dip steeply NW. The overall dimension of the mineralised zone is approximately 100m wide, 250m long, and extending to 250m maximum depth.

Total sulphide content ranges from 2 to 5% (average sulphur content 3.5% S). The average arsenic content of ore is ~0.6% As, which also causes some environmental issues. Silver content has not been estimated as part of the resource estimate below, but is stated to average 3.4g/t Ag.

Oxidised material is of prime importance to the present heap leaching operation at Paodaoling. However, the depth of oxidation only extends from 10m to 20m depth, where gold is associated with limonite-goethite in open fractures and weathered veins. The water table is 20-30m below surface.

#### 4.5 Ashele Copper-Zinc Project

The Ashele copper deposit is a volcanic-hosted massive sulphide deposit, and the one of the largest of this style found in China. It occurs within a rift zone of sub-marine bimodal volcanics (Devonian age), that is bound by major N-S faults. Exhalative massive sulphides formed at the contact ('sea floor') of basalts ('footwall spilites') and overlying volcanoclastics ('hanging wall tuffs, tuffites and agglomerates'), and located at the margin of dacite flow dome complexes. The massive sulphide mound comprises a series of pyrite lenses that display metal zonation typical of other volcanic-related exhalative deposits elsewhere in the world (Figures 4.10 and 4.11).

At Ashele the massive sulphide mound has subsequently been folded into a tight 'U-shape' by a major compressive deformation event. The limbs of the fold are steep and appear to be highly sheared, particularly at the extremities of the sulphide body and along the western limb where sulphide mineralisation is generally not present.

The bulk of sulphide mineralisation is located within the keel and lower eastern limb of the 'U-shape' body, with the centre of the deposit some 500m below the surface. The limbs are up to 150m apart, with the massive sulphide reaching up to 20-30m thickness on the eastern limb and 80m thickness on the western limb. The 'U-shape' massive sulphide body plunges to the north at 45°-65° over N-S strike extent of ~700m (from 'Line 16' to 'Line 9' approximately).

Copper and zinc mineralisation occurs as banded, lensoidal zones within the upper parts of the massive pyrite ( $\text{FeS}_2$ ) body. Generally the zinc-rich zones occur towards the central and upper part of the copper-rich zone, which is underlain by the massive pyrite-only zone. The pyrite content of the both copper and zinc mineralised zones is generally >75%. Mineralisation outside of the main sulphide body comprises pyrite veins and pyrite-chalcopyrite stockworks below the main body.

The copper mineralisation consists of very fine chalcopyrite ( $\text{CuFeS}_2$ ) and tennantite ( $\text{Cu}_{12}\text{As}_4\text{S}_{13}$ ), with minor sphalerite ( $\text{ZnFeS}$ ) and galena ( $\text{PbS}$ ), disseminated between and on the rim of the very fine pyrite grains. The arsenic content of copper mineralisation is ~0.1-0.3% As.

The zinc mineralisation similarly consists of very fine-grained sphalerite disseminated between and on the rim of pyrite grains, with minor galena, chalcopyrite and tennantite. Mineralogical studies show that some extremely fine-grained sphalerite is contained within pyrite grains, and that grains of chalcopyrite and tennantite are also contained within sphalerite. Other impurities in sphalerite include trace amounts of cadmium (Cd).

The very fine grain sizes of the copper and zinc mineralisation indicate significant processing and metallurgical issues. High arsenic contents in concentrates (~0.7%) indicate a potential smelting issue and massive pyrite waste will create significant acid mine drainage and environmental issues. The deposit appears to have undergone weak metamorphism during the tectonic event, but not to the extent that sphalerite and chalcopyrite grain sizes appear to have been increased.

#### 4.6 Caodi Gold Project

The Caodi Project consists of fault-hosted epithermal style gold vein and breccia deposits. The deposits are hosted in deformed Carboniferous limestones that have been variably folded and faulted, then intruded by quartz and feldspar porphyry dykes (1 to 10m in width, 100 to 2km in strike) that are localised along the faults. Gold mineralisation is restricted to the fault zones, and is hosted both by the sheared intrusive dykes and surrounding brecciated and altered limestone (Figure 4.12 and 4.13). The mineralisation is strongly structurally controlled.

The deposit is subdivided into 11 separate ore bodies, each comprising separate fault zones ranging from 190 to 866m in strike length, 1 to 9m wide, with several zones continuing to 140m depth. These mineralised faults range from east-west striking with moderate to steep north dips, to northeast striking with steep northwest and southeast dips, to north-south strikes and subvertical dips. Mineralisation is best developed where these fault zones merge.



Mineralised zones locally outcrop, mineralisation comprises gold associated with disseminated sulphides, carbonate veining, silicification, composite fault breccias, and sericite and carbonate alteration of porphyries. Gold mineralisation is accompanied by arsenic, mercury, and antimony, and is of epithermal style.

#### 4.7 Jiaochong Gold — Base-Metals Project

The Jiaochong deposit is a distal replacement style gold-silver-copper-zinc-lead-arsenic skarn deposit. The deposit is located in the Tongling copper district that has produced more than 5 million tonnes of copper metal and 160 tonnes of gold metal.

The Jiaochong deposit is hosted in Permian limestones that have been folded into a regional anticline, followed by further faulting and emplacement of diorite, quartz diorite and granodiorite intrusions ranging from 110 Ma to 70 Ma in age. The deposit is characterised by an outer zone of intense alteration of the surrounding limestone to marble (anomalous metal concentrations only), and a core of massive sulphides comprising pyrite-pyrrhotite-chalcopyrite-magnetite-sphalerite-galena. The mineralisation is strongly controlled by, and parallel to, stratigraphy (stratabound) (Figure 4.14).

The deposit comprises a single tabular ore body, ranging from -368 to -608m below surface and has been interpreted as having minimum dimensions of 400m by 440m, with an average thickness of 9m.

### 5 MINERAL RESOURCES AND ORE RESERVES

SRK has visited and reviewed in detail the properties discussed in sections 5.1 to 5.6. In SRK's opinion, these projects are based on a sound geological understanding and have sufficient mineral resources and ore reserves to meet production targets and/or are sufficiently prospective to warrant further investigations and expenditure as proposed by Zijin.

#### 5.1 Zijinshan Gold Mine

The gold is contained within a swarm of sub-parallel, NW striking and NE dipping veins, breccias and stock-works on the upper western flanks of the main intrusive complex that hosts the copper mineralisation at depth. Minor remobilisation and concentration of the gold into fracture zones has occurred during weathering subsequent to the original intense oxidation within the acid leach zone. The brecciated, fractured and highly oxidised nature of the gold mineralisation within a very clean silica host makes it particularly favourable for heap leaching. Inspection of selected drill holes and the open pit by SRK did not reveal any major changes in mineralogy or host geology with depth.

The drilling and sampling data at Zijinshan is well documented in a series of reports and plans, and analytical data has been entered into an electronic database. The gold (and copper) deposits were drilled with diamond core, predominantly NQ diameter in sub-vertical holes. The drill core is well stored for reference purposes.

It was not possible for SRK to inspect the sampling and analytical facilities that were in place when the exploration program was being undertaken. However, based on inspection of the current facilities, we understand that AAS was used for both gold and copper analyses. (The Fire Assay analytical technique is normally used for routine gold analyses at low grades.) A series of inter-laboratory check analyses were made with other Chinese institutes as checks on precision, which was found to be within acceptable limits, but no standard reference material or blanks were routinely inserted as checks on accuracy and laboratory drift.

In SRK's opinion there is a low level of risk related to precision of gold analyses, but moderate level of risk in relation to accuracy in the original resource estimates.

Specific gravity measurements were routinely made on drill core and on underground samples using the weight in water method. The risk to tonnage factors, related to accuracy of specific gravity measurements, is rated as very low. The tunnels inspected by SRK were about 4 by 4m in cross sectional area and the channel samples (10 x 3 cm) clearly visible in the walls.

A detailed geological model has been generated by Zijin using both sections and plans. A series of underground tunnels and crosscuts on 30-80m RL spacing and 50 to 100m section spacing, from the previous underground mining and exploration, were used to sample the gold mineralisation and provide information on geological continuity. A limited amount of drilling, mostly passing through to test the copper mineralisation below is also of use in the evaluation of the gold mineralisation. The gold ore zones were largely defined by the tunnel sampling. The standard of geological work completed by the Minxi Geological Team, Fujian Bureau of Mining and Geology appears to be of a high standard, and is well documented in a series of comprehensive reports, cross sections and level plans. The data upon which these estimates are based is shown in Table 5.1.

**Table 5.1 Available Geological Data for Zijinshan Mine.**

<b>Zijinshan Mine</b>	<b>1984-1992</b>	<b>1996-2000</b>
Geological mapping	4.4km <sup>2</sup>	
Number of drill holes	32	
Drill meterage	9,677m	
Number of Au analyses	8,457	7,864
Internal check samples	835	495
External check samples	319	236
Underground tunnels	6,372m	27,379m
Trenching	34,923m <sup>3</sup>	
Metallurgical tests	1	1

The Zijinshan mineral resources prior to mining have been estimated by Zijin using both sectional and computerized Inverse Weighting Methods, in this case Inverse Distance Squared (IDS) method and check estimated and authorised by independent government bureaus. The initial sectional estimates use geology constraints and a cut-off grade of 0.5 g/tAu on samples on section to generate ore zone shapes (Table 5.2).

**Table 5.2 Zijinshan Gold Mine — Identified Mineral Resources, Sectional Method  
(at 0.5g/t Au cut-off gold grade) prior to mining.**

Mineral Resources Category	Chinese Category	Tonnes (Mt)	Gold grade (g/t Au)	Contained
				Gold (t)
Measured	B	13.6	1.71	23.3
Indicated	C	56.5	1.27	71.8
Indicated and Inferred	D	<u>45.1</u>	<u>0.96</u>	<u>43.3</u>
Total	B+C+D	<u>115.2</u>	<u>1.20</u>	<u>138.4</u>

The sectional estimates were then converted into a block model with cell dimensions of 12m using the IDS method. This is still the method used by Zijin for production planning. The Zijin's estimates were also independently checked by three other methods and the results were found to be comparable and generally conservative.

In SRK's opinion, the sectional estimates prior to mining are a reasonable estimate of the global resource as they are the least likely to be suffer from "smearing" at the model edges and in areas of low data density (mostly the eastern and southern extensions) but are not an entirely reliable local estimate for the purposes of detailed mine planning and mining selectivity. The IDS model has been used within the pit shell for the estimation of both resources and reserves. The ore mineral resources have been converted to ore reserves by the application of a cut-off grade and allowance for 15% ore loss. No allowance has been made for dilution. The estimates as at 30 June 2003 are shown in Table 5.3 using two different cut-off grades, 0.5 as used in the past and 0.3 as will be used in conjunction with the low-grade Plant 3 (see processing section). No break-down to resource categories was reported. These reserves are adequate to support the Company's Zijinshan mine production schedule through 2011.

**Table 5.3 Zijinshan Gold Mine — Remaining Ore Reserves within  
Pit Design as of 30 June 2003.**

Ore Reserves Category	Ore		Ore Contained		Waste Tonnes (t)	Waste Ratio
	Cut-Off Grade (g/t Au)	Ore Tonnes (t)	Grade (g/t Au)	Gold (kg)		
Proved and Probable	0.5	119,743,939	0.98	117,349	93,280,528	0.78
Proved and Probable	0.3	163,979,024	0.82	135,283	47,184,001	0.29

SRK has made a comparison between actual and IDS predicted production for 2000 and 2001 which shows the mining of higher tonnages at lower grades than were planned, for the same contained gold. This is a common occurrence in low-grade operations has been allowed for in the use of a lower

cut-off grade. In SRK's opinion an improved, geologically controlled, geostatistical block model could result in a more reliable local grade estimates, grade control and mining selectivity. The current estimates are reasonable in the central area which contains the bulk of the reserves, particularly in light of the Phase 3 expansion with much reduced Ore to Waste ratio.

Zijin has recently acquired an adjoining lease of 1.91km<sup>2</sup> to the south-east of the current mine, below exploration line 24, that contains the remainder of the same ore-body mined in the main pit (Figure 5.1). The area has small scale farmers mines and has been tested in the past by exploration tunnels about 100m apart on several levels. Resource estimates for this area have been made by Zijin using the sectional method (Table 5.4), this is the same method at the same level of confidence as Table 5.2 but the area is in addition to those in Table 5.2. Zijin is currently undertaking an accelerated evaluation program of tunnels, mapping and sampling in this new area. The expansion of the pit design into this new area with an updated reserves statement is planned to be completed by July 2004. SRK is of the opinion that these are reasonable early stage estimates but care should be taken by Zijin when planning pit extensions to the eastern and southern areas as the IDS method has the potential to over-estimate low grade in these areas of lower data density.

**Table 5.4 Zijinshan Gold Mine — South-East Additional Identified Mineral Resources, Sectional Method (at 0.5g/t Au cut-off gold grade) prior to mining.**

<b>Mineral Resources Category</b>	<b>Chinese Category</b>	<b>Tonnes (Mt)</b>	<b>Gold Grade (g/t Au)</b>	<b>Contained Gold (t)</b>
Indicated and Inferred	C+D	5.0	1.19	5.9
Inferred	E	<u>9.4</u>	<u>0.96</u>	<u>9.0</u>
Total	C+D+E	<u>14.4</u>	<u>1.03</u>	<u>14.9</u>

## 5.2 Shuiyindong Gold Mine

SRK inspected a number of drill holes to verify geology and mineralisation. Drill core is well stored for reference purposes and sample pulps are available (no coarse reject samples were seen). Data is stored in hard copy and is reasonably well-documented in reports, sections and plans.

The sample preparation facility appears to have been of a low to moderate standard. Analysis for gold was done by Fire Assay with AAS finish, which should provide a good level of detection. Until 1995 analyses were made by the No. 105 Team's Guizhou laboratory. From 1996-1998 all analyses were made by Bondar Clegg laboratories in Canada (during the time of involvement by a Canadian company), including re-assay of all previous mineralised intervals (105 samples) which were found to be in close agreement. Since 1998 analyses have been made at the mine using No.105 laboratory. Quality control consisted mainly of internal checks (233 samples), and external checks (161 samples) at the Guizhou Geological Bureau. Standards supplied by BERIN are inserted every 12th sample and blank samples are inserted occasionally. Precision and accuracy of gold analyses were found to be within acceptable limits.

In SRK's opinion, the level of risk regarding gold analyses is rated as low to moderate, mainly related to sample preparation. Zijin undertook some check analyses, in 2001, which were found to be satisfactory.

The Shuiyindong gold resource and reserves were estimated by conventional methods and are shown in Tables 5.5 and 5.6 respectively.

**Table 5.5 Shuiyindong gold project — in-situ mineral resource estimates, as of September 2002, prior to mining.**

<b>Mineral Resources Category</b>	<b>Chinese Category</b>	<b>Tonnes (t)</b>	<b>Gold Grade (g/t Au)</b>	<b>Contained Gold (kg)</b>
Indicated	C	86,436	18.04	1,559.5
Indicated + Inferred	D	652,728	11.19	7,305.7
Inferred	E	1,552,536	8.47	12,894.8
Sub-total	C+D	<u>739,165</u>	<u>11.99</u>	<u>8,865.2</u>
Total	C+D+E	<u>2,291,701</u>	<u>10.23</u>	<u>21,760</u>

**Table 5.6 Shuiyindong gold project — mineable ore reserves estimates (down to 1200m RL) as of September 2003\*.**

<b>Ore Reserves Category</b>	<b>Tonnes (t)</b>	<b>Gold Grade (g/t Au)</b>	<b>Contained Gold (kg)</b>
Probable	475,081	13.04	6,193.7

\* Which has already excluded 20,215.67t @16.76g/t Au of ore mined to September 2003 for 338.87kg of Au produced.

In SRK's opinion, the mineral resources and ore reserves presented herein are reasonable global in-situ and recoverable estimates respectively. The level of risk attached to global resource and reserves is rated as low to moderate. However, none of the estimates for each of these projects will be suitable for making local estimates of grade and tonnage, for the purposes of detailed mine planning where the risk will be high. More detailed block models will need to be generated for each deposit using more advanced estimation methods, such as geostatistics. This will require the collection of additional geological information such as sampling, drilling and underground development.

Since SRK's visit, Zijin has completed a further 5,660m of drilling. SRK has not reviewed these results, but has been advised by Zijin that the total gold resource has not changed materially. However, the mineable ore reserve should be re-estimated in due course, also taking new mining factors into account. The ore reserve grade of 13g/t Au has been exceeded by the September 2003 year-to-date mining head grade of 16.7g/t Au.

### 5.3 Hunchun Copper-Gold Mine

The exploration and evaluation of the Hunchun mine was completed by the No. 603 Geological Team. This work is well documented in several comprehensive reports and the database for the Beishan deposit consists of:

- 160 drill holes at spacings of 40-100m apart, and on sections spaced 120m apart.
- 59km of E-W underground tunnels, spaced 40m apart N-S and 40m RL vertically, and 700 channel samples.
- Sampling of surface trenches (300m<sup>3</sup>).
- Semi-continuous sampling of bench faces in the Beishan open pit.
- Geological plans, cross sections and drill logs presented to good standard.
- 1,150 analyses and 12 bulk samples.

No drill core remains to be inspected. However, the quality of drilling in Zone II appears to be reasonably good, as based on our review of the #603 drill logs. Core recovery is shown as 90-100%, with no loss of vein rock recorded. In Zone I, only the vein intervals were analysed. However, a small diameter drill core may be the cause of some sampling issue for gold, but should not be a problem for copper. The underground channel sampling has been completed to a very high standard, sampling one wall continuously over 1-2 m lengths in each tunnel across both Zones.

Gold assaying was done, using the fire assay with AAS finish method, by the laboratories of either the No. 603 Geological Team or the Hunchun Mine. Copper was analysed by AAS. SRK did not inspect either of the laboratory or sample preparation facilities, nor evaluated quality control procedures for accuracy and precision of gold or copper assays.

The resource and reserve for the Hunchun Copper-Gold project are estimated using conventional methods according to prescribed criteria in accordance with the Chinese system (Table 5.7). Comments on the estimation method are discussed in section 5.2.

**Table 5.7 Hunchun project — mineral resource estimates for Zones I and II, Beishan copper-gold mine as of November 2002, prior to mining.**

<b>Gold and Copper Resource Category</b>	<b>Chinese Category</b>	<b>Tonnes (t)</b>	<b>Gold Grade (g/t Au)</b>	<b>Copper Grade (% Cu)</b>	<b>Contained Gold (kg)</b>	<b>Contained Copper (t)</b>
Indicated	C+D	19,506,197	1.12	0.32	21,772.6	63,218.0
Inferred	E	<u>4,347,556</u>	<u>1.32</u>	<u>0.34</u>	<u>5,730.8</u>	<u>14,969.4</u>
<b>Total</b>	<b>C+D+E</b>	<u><u>23,853,753</u></u>	<u><u>1.15</u></u>	<u><u>0.33</u></u>	<u><u>27,503.4</u></u>	<u><u>78,187.4</u></u>

None of the current resource and reserve estimates have fully utilised the detailed geological mapping data and drill logs, which clearly shows the distribution of high-grade gold veins. This information is readily available from the #603 Geological Team's reports. In a bulk-mining situation, this may prove to be a low risk. However, use of this data would improve confidence in any resource estimate or mine planning.

During visit to the underground 564m RL level, SRK noticed there has been some underground mining of high-grade veins. SRK was not able to examine the full extent of such activities, but obviously this has the potential to have some impact upon the gold grade of the deposit, depending on how much gold might have been removed.

The metallurgical test samples collected by Zijin are representative blend of ore types.

Trial mining of the north Beishan deposit has recovered 4,878t of ore at an average grade of 0.9g/t Au (4.49kg Au) and 0.26% Cu (12.59t Cu). Mining of remnant material at south Nanshan has recovered 7,677t of ore for 68.33kg Au and 160.53t Cu.

#### 5.4 Paodaoling Gold Mine

The Paodaoling gold mine is a small open cut operation based on the thin upper oxidized sections of narrow gold-bearing sulphide fractures and veins.

Geological and analytical data is stored in hard copy, and is not computerised. Drill logs contain hole descriptions, but little or no structural information has been recorded and transferred to cross sections or level plans.

Sample preparation and analyses are conducted on site to an adequate standard. Gold analysis is done by AAS, not by Fire Assay. Internal (18% of 705 Zijin samples) and external (12% of samples) check analyses indicated that precision is acceptable. Analytical accuracy is not checked by routine use of standard or blank samples. Further check analyses were made at Zijin's laboratories in Shanghai and found to be within acceptable limits.

The risk attached to grade estimates is rated by SRK as low to moderate.

In SRK's opinion, the published gold resources (see Table 5.8) and so-called 'mineable' reserves are not adequate and do not accurately represent the nature of the deposit. Accordingly, ore reserves are not presented here.

**Table 5.8 Paodaoling Resource Estimate as at 30 November 2001, prior to mining.**

<b>Mineral Resource Category</b>	<b>Chinese Category</b>	<b>Metric Tonnes (t)</b>	<b>Gold Grade (g/t Au)</b>	<b>Gold Metal Contained (kg)</b>
Indicated	C	230,700	2.32	534.9
Inferred	D+E	<u>2,800,100</u>	<u>2.07</u>	<u>5,794.5</u>
Total	C+D+E	<u>3,016,300</u>	<u>2.10</u>	<u>6,329.4</u>

Zijin's forecast 'mineable' gold grade of 3.3g/t Au is most unlikely to be achieved, and is more likely to remain below approximately 0.9-1.0g/t Au. In addition, the portion of sulphide ore (i.e. unlikely to be suitable for the heap-leaching process) has not been properly estimated.

Zijin has stated the remaining oxidised "ore reserve" as at September 2003 is 81,300t @1.49g/t Au, but this estimate has not been audited by SRK. Paodaoling resources and reserves should be re-estimated using much improved geological control.

### 5.5 Zijinshan Copper Project

The Zijinshan copper deposit sits below the gold mine, to which it is genetically related as part of the same mineralising system, as described in Section 4.1. The copper resource is defined by at least 127 diamond drill holes totalling 77,820.8m, tunnel exploration totalling 3,062.79m, trench (37,209 m<sup>3</sup>) and over 24,319 basic (cu) and 1,170 combined samples. Drill core has either been split or sawn over 1m-sample lengths. Drill profiles are generally spaced 50m apart NW-SE. Drill core is well stored and adequately described, although with a lack of structural detail (which also applies to the geological cross-sections and level plans).

The copper resource has also been investigated by underground drives and cross cuts on three levels, 500m RL, 520m RL and 560m RL, totalling some 4,000m of development in the resource. These underground workings have been intensely sampled by 1m-channel samples on the wall to a high standard. This sampling has indicated the continuity of copper mineralisation both along and across strike on these two levels. Unfortunately it was not possible to closely examine the copper mineralisation underground due to safety concerns at the time of the SRK visit. However, colour photos of the underground exposures were examined and compared to the sampling results on sections and plans.

The bulk metallurgical samples, currently undergoing test leaching, were collected from 7 different lenses of copper mineralisation on 2 sections and all three underground levels. These bulk samples appear to be representative for the purposes of test work.



The Zijinshan copper project is based on a deep, large low grade vein stock-work/disseminated copper sulphide (non-oxidized) deposit that lies from 160 to 600m below and to the east of the base of the current gold open pit. The dominant copper sulphides of covellite, enargite and digenite-chalcoite are amenable to bio-heap leaching with SX-EW copper recovery. The underground copper resource was originally estimated by Zijin using a conventional method that was applied conservatively and to high standard (Table 5.9). The copper resource does not contain a significant gold by-product.

**Table 5.9 Zijinshan copper deposit — in-situ mineral resources  
as of September 2002, prior to mining.**

<b>Mineral Resources Category</b>	<b>Chinese Category</b>	<b>Tonnes (Mt)</b>	<b>Copper Grade (% Cu)</b>	<b>Contained Copper (K tonnes)</b>
Measured	B	14.1	0.62	88
Indicated	C	107.4	0.60	642
Indicated and Inferred	D	73.4	0.63	463
Inferred	E	38.0	0.71	272
Sub-Total*	B+C+D	194.9	0.61	1,193
Total	B+C+D+E	232.9	0.66	1,465

\* The total resources (B+C+D) is related to the ore reserves in table 5.10.

The copper ore reserves were independently estimated using geostatistical methods, including allowance for dilution and loss. No distinction has been made by Zijin between proved and probable reserves. Zijin is currently conducting trials of bio-heap leaching and will be updating the mine design on the completion of this work. In SRK's opinion, the proved and probable copper reserves provide the basis for reasonably reliable local estimates of recoverable grade and tonnage for the purposes of the copper project's feasibility studies (Table 5.10).

**Table 5.10 Zijinshan copper deposit — 'mineable' ore reserves as of September 2003\*.**

<b>Ore Reserves Category</b>	<b>Tonnes (Mt)</b>	<b>Copper Grade (% Cu)</b>	<b>Contained Copper (Tonnes)</b>
Proved and Probable	175.9	0.52	914,927

\* Which has already excluded 184,560t @ 0.5% Cu of ore mined to September 2003 for 949t of Cu produced.

## 5.6 Ashele Copper-Zinc Project

SRK inspected the drill core from a range of holes and observed that drill core is very poorly stored on site for reference purposes, as are retained sample pulps and coarse reject samples. Geological and analytical data is presently stored on hard copy. The standard of geological interpretation is very good and highly detailed.

The evaluation program comprised 69 diamond drill holes drilled on grid spacing of 50m x 25-50m, 100m x 50-100m, and 100m x 110-200m, totalling 37,790m.

Underground development on the 500m RL comprised a main access shaft and over 1.1km along a main drive and five cross cuts to delineate the massive sulphide body. The drive was mainly in zinc-rich mineralisation. The underground workings were channel sampled on 1m or 2m intervals. No underground drilling fans were undertaken. The extent of faulting seen on the 500m RL has not been mapped, nor is information available on the geotechnical conditions encountered. This is a concern regarding the mining conditions likely to be encountered.

Specific gravity and rock density measurements were based on 375 drill core samples of different types of mineralisation, and bulk samples taken from the underground workings. Rock density is estimated for different copper and zinc grades derived from regression equations based on the correlation of specific gravity and grade.

Samples were initially analysed by AAS at the No.4 Geological Team's laboratory up until 1989, and subsequently at the Xinjiang Chemical Laboratory until 1995. Internal check analyses were completed, and ~5% of all samples were sent once a year for external check analyses by the Xinjiang Research Centre. Based on this work, precision of copper and zinc analyses appears to be within acceptable limits. However, no standard or blank samples were routinely inserted as a check on accuracy and laboratory drift.

In SRK's opinion, the level of risk related to tonnage factors at Ashele is low, and risks related to copper and zinc grades are low regarding precision and moderate regarding accuracy.

Metallurgical samples were collected from the underground workings for test work by the Beijing and Xinjiang research institutes. Test work is presently being made on massive pyrite material regarding potential ignition hazards during underground mining.

Zijin conducted its own due diligence program prior to acquiring Ashele, which included some check analyses at their in house laboratory in Shanghang, Fujian Province. However, Zijin has undertaken no drilling since acquisition.

The resource and reserve for the Ashele copper project are estimated using conventional methods according to prescribed criteria in accordance with the Chinese system (Tables 5.11 and 5.12). Comments on the estimation method are discussed in section 5.2. However, as a general comment, the Ashele resource estimates are based on a lower amount of drilling and underground information than is desirable, and the risk is rated as moderate.

**Table 5.11 Ashele copper deposit — in-situ mineral resource estimates as of September 2002.**

Mineral Resources Category	Chinese Category	Tonnes (t)	Copper Grade (%)	Zinc Grade (%)	Contained Copper (t)	Contained Zinc (t)
Measured	B	5,085,200	3.27	1.03	166,297	52,552
Indicated	C	19,430,800	2.58	1.44	501,214	280,299
Inferred	D	13,254,400	1.9	0.57	251,942	75,482
Sub-Total*	B+C	24,516,100	2.72	1.36	667,511	332,851
Total	B+C+D	37,770,500	2.43	1.08	919,453	408,333

**Table 5.12 Ashele copper deposit — mineable ore reserve estimates, listed by mining ‘Phases I & II’, as of September 2002.**

PHASE	Ore Reserve Category	Chinese Category	Metric Tonnes (t)	Copper Grade (%)	Zinc Grade (%)	Silver (g/t Ag)	Gold (g/t Au)	Sulphur (% S)
Phase I Mineable Reserve (>500m RL)	Proved + Probable	B+C	12,481,843	2.50	1.52	27	0.4	29.9
Phase II Mineable Reserve (350m - 500m RL )	Proved + Probable	B+C	8,317,983	2.46	0.90	N/A	N/A	29.9
Total Reserves	Proved + Probable	B+C	20,799,826	2.48	1.27	N/A	N/A	29.9

### 5.7 Caodi Gold Project

The deposit is delineated by 6 drill holes totalling 1,426m, trenching totalling 67,935m<sup>3</sup>, exploration tunnel totalling 3,469m, and surface mapping of outcrop.

Mineral resources have been calculated by the Hydraulic Engineering Team of the Bureau of Metallurgy and Geological Exploration of Sichuan Province in December 2002 by using polygonal methods in long section. The mineral resources for the 11 ore bodies are shown in Table 5.13:

**Table 5.13 Caodi Resource Estimate as of December 2002.**

<b>Mineral Resource Category</b>	<b>Chinese Category</b>	<b>Metric Tonnes (t)</b>	<b>Gold Grade (g/t Au)</b>	<b>Gold Metal Contained (kg)</b>
Indicated + Inferred	D	2,878,990	2.59	7,454
Inferred	E	<u>7,414,066</u>	<u>2.56</u>	<u>18,968</u>
Total	D+E	<u>10,293,056</u>	<u>2.57</u>	<u>26,422</u>

In SRK's opinion, the mineral resources are reasonable global in-situ estimates. The level of risk attached to global resource is rated as moderate. However, the estimate for each of the ore zones will not be suitable for making local estimates of grade and tonnage, for the purposes of detailed mine planning.

In SRK's opinion there is significant potential to expand the current resource through more exploratory tunnelling and drilling, and to delineate further mineralised fault zones within the tenement package. Discussions with the project geologists indicated that the company has a reasonable strategy in place to confirm previous work and test the exploration potential of this project.

SRK recommends that the existing and future geological information be captured digitally, such that the volume, tonnes and grade of mineralisation can be calculated by modern computational and geostatistical methods.

### 5.8 Jiaochong Gold — Base-Metals Project

The orebody does not outcrop, and was a conceptual target that led to the successful delineation of further stratabound mineralisation in favourable rock layers in the core of an anticline. The deposit is delineated by 9 drill holes totalling 7,645m. All geological information from drill cores is carefully catalogued and recorded in reports and graphically on column maps and interpreted sections and plans. Additional geological investigations that have been undertaken to date include detailed petrography and metallurgy. In SRK's opinion, the level of available information and understanding of the deposit is very good for this stage of exploration project.

Mineral resources have been calculated by the Anhui Provincial No 321 Geological Team using polygonal methods on projected plans in September 1999, the results are shown in Tables 5.14(a), (b) and (c).

**Table 5.14(a) Jiaochong Resource (Gold, Silver) Estimate as of September 1999.**

Mineral Resource Category	Chinese Category	Gold	Gold	Gold Metal	Silver	Silver
		Resource Tonnes (t)	Grade (g/t Au)	Contained (kg)	Resource Tonnes (t)	Grade (g/t)
Indicated + Inferred	D	211,679	6.53	1,382		
Inferred	E	<u>2,285,051</u>	<u>5.88</u>	<u>13,442</u>		
Total	D+E	<u>2,496,730</u>	<u>5.94</u>	<u>14,824</u>	<u>80.8</u>	<u>32.39</u>

**Table 5.14(b) Jiaochong Resource (Lead) Estimate as of September 1999.**

Mineral Resource Category	Chinese Category	Lead	Lead	Lead Metal
		Tonnes (t)	Grade (%)	Contained (t)
Indicated + Inferred	D	—	—	—
Inferred	E	<u>142,976</u>	<u>4.38</u>	<u>6,258</u>
Total	D+E	<u>142,976</u>	<u>4.38</u>	<u>6,258</u>

**Table 5.14(c) Jiaochong Resource (Zinc) Estimate as of September 1999.**

Mineral Resource Category	Chinese Category	Zinc	Zinc	Zinc Metal
		Tonnes (t)	Grade (%)	Contained (t)
Indicated + Inferred	D	840,655	3.85	32,333
Inferred	E	<u>716,507</u>	<u>2.44</u>	<u>17,452</u>
Total	D+E	<u>1,557,162</u>	<u>3.20</u>	<u>49,785</u>

In SRK's opinion, the mineral resources are reasonable global in-situ estimates. The level of risk attached to global resource is rated as low.

The extent of the orebody is open in two directions, and the drilling is widely spaced around the edges of the orebody. Thus, there is immediate scope to expand the current resource with infill and extensional drilling. There is also potential for further mineralised positions in this favourable stratigraphic position elsewhere on the tenements, which remains untested. Further potential for mineralisation lies at shallower levels in overlying tertiary limestones, which are extensively mineralised elsewhere in the region. In SRK's opinion this upside is only limited by the small tenement holding of 2.5km<sup>2</sup>.

SRK recommends that the existing and future geological information be captured digitally, such that the volume, tonnes and grade of mineralisation can be calculated by modern computational and geostatistical methods.

## **6 EXPLORATION POTENTIAL AND REPLENISHMENT OF RESOURCES**

All the Zijin projects have significant exploration potential, especially at Zijinshan mine where the gold and copper potential is rated as high. At the present time, the exploration potential, and therefore the ability to replenish resources at each of the mining operations, is very limited by the relatively small area and localised tenements held by Zijin. The Company has realised this and has taken SRK's advice to rectify this situation by making applications for extended areas at each project site.

Zijin does not, at the present time, actively explore the near-mine potential around each of its project sites. Zijin's current activities on its assets, outside of the Zijinshan gold mine, are mainly development and acquisition driven at this time. SRK has pointed out the strategic importance of this to the Company, who has agreed to pay greater attention to exploration potential around each of its project sites.