

Jinfeng Gold Mine

Guizhuo Province, China

Report Prepared for
Sino Gold Mining Limited

Report Prepared by



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Jinfeng Gold Mine Guizhuo Province, China

Sino Gold Mining Limited

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SRK Project Number SIN015

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Disclaimer

The opinions expressed in this report have been based on the information supplied to SRK Consulting (Australasia) Pty Ltd (“SRK”) by Sino Gold Mining Limited (“Sino”). The opinions in this report are provided in response to a specific request from Sino to do so. SRK has exercised all due care in reviewing the supplied information. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. 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.

Summary

Location

The Jinfeng Project is located in the south-west region (Guizhou Province) of the People's Republic of China (PR China). The Project area is approximately 180 kilometres south-south-west of the provincial capital city Guiyang near Lannigou Village (105°50'34'E to 105°54'08'E, 25°06'48"N to 25°10'36"N), some 68 kilometres south-east of Zhenfeng County centre, Qianxinan Prefecture.

Ownership

Sino Guizhou Jinfeng Mining Limited is the operator of the Jinfeng minesite and is 82% owned by Sino Gold Mining Limited, with the remainder owned by Chinese companies.

Geology and Mineralisation

The Jinfeng project is a Carlin-style gold deposit located at the north-eastern corner of the Laizhishan Dome within a district known as the Golden Triangle. Jinfeng is the largest known example of a Carlin-style gold deposit in the Golden Triangle area.

The Jinfeng Gold Resource is hosted within and immediately adjacent to a series of interconnected major faults (locally known as F3, F2, F20, F7 and Rongban faults). The mineralisation consists of disseminated pyrite, arsenical pyrite and arsenopyrite which replace the shale and sandstone of the Middle Triassic Xuman Formation within the faults and in the immediate wall rock at the edge of the faults. The gold occurs in the rims of fine-grained pyrite and arsenopyrite grains and so is very finely distributed through the deposit. This style of mineralisation has many similarities with the "Carlin Style" of deposits found originally in Nevada, USA. At Jinfeng the mineralised zone is 900m in strike, 10 to 30m in width and has been explored on the F3 and F7 down to a depth of 900m vertically below surface.

The controls on mineralisation are adequately understood such that the Jinfeng deposit can be efficiently mined by open pit and underground methods. The key characteristics of the deposit are understood both by the project development teams and by the regional exploration teams. Gold mineralisation occurred during or immediately after the third of a series of compressive deformation episodes identified at Jinfeng. The relationship between the host structure and gold mineralisation is the subject of ongoing research for the exploration teams.

Deposit Sampling

Details of the number of samples and their categorisation is shown in Table 1. In the upper part of the pit (Stage 1), approximately one third of the samples that have been analysed for Au have also been analysed for As, S, Hg and Sb. In the lower part of the pit (Stage 2) approximately half of the samples that have been analysed for Au have also been analysed for As, S, Hg and Sb.

Table 1: Number of Samples by Source, Structural Zone and Element

Samples by Source	Total	Stage 1 Pit ¹	Stage 2 Pit ¹
Adit Channel Sample	1,321	1,071	250
Diamond Drill Hole	2,240	863	1,377
Surface Trench	918	747	171
Total	4,479	2,681	1,798
Samples by Domain	Total	Stage 1 Pit	Stage 2 Pit
F2	262	256	6
F3	3,404	2,108	1,296
F20	127	85	42
F8	109	65	44
Rongban	577	167	410
Total	4,479	2,681	1,798

Samples by Element	Total	Stage 1 Pit	Stage 2 Pit
Gold (Au)	4,479	2,681	1,798
Sulphur (S)	1,695	857	838
Arsenic (As)	1,771	870	901
Mercury (Hg)	1,695	857	838
Antimony (Sb)	1,695	857	838

(1) Stage 1 (Upper) and Stage 2 (Lower) parts of the Open Pit

Resource Estimate

On 30 April 2007, Sino Gold released an updated Mineral Resource estimate for the Jinfeng gold deposit of 28.6 million tonnes at 5.0g/t gold, containing 4.6 million ounces. The table below summarises and compares the April 2007 estimate and the previous estimate published in February 2006.

Table 2: Jinfeng Mineral Resource estimate, February 2006 and April 2007

Resource Category	April 2007 (at 1.0 and 2.0 g/t Au cut-off grades)			Change	February 2006 (at 2.0 g/t Au cut-off grade)		
	Tonnes (' 000)	Grade (g/t Au)	Ounces (' 000)		Tonnes (' 000)	Grade (g/t Au)	Ounces (' 000)
Measured	15,408	5.3	2,617	14%	13,420	5.3	2,287
Indicated	8,593	4.7	1,305	13%	7,766	4.1	1,029
Sub-total Measured + Indicated	24,001	5.1	3,922	14%	21,186	4.9	3,316

The Measured and Indicated Mineral Resources are presented here as the basis of and are inclusive of those Mineral Resources used to produce the Ore Reserves.

Processing Testwork

The various testwork programmes have established that gravity methods and direct cyanidation were not successful on the Jinfeng ores. Whole ore roasting, whole ore bio oxidation and whole ore pressure oxidation have all been successful metallurgically but have cost implications due to the components of the ore or of the capture of gaseous effluents, or of high acid or reagent considerations. Alkaline pressure oxidation was also not successful. Concentration by flotation which removed the naturally high carbonate levels of the ore and subsequent concentrate processing offered the best possibility of economic recovery of gold. Biological leaching of Jinfeng concentrate was demonstrated by Gencor in South Africa and oxidation and CIL gold recoveries of 93% and 94% were achieved.

Mine Planning

The cut off grades applied by Sino to the Ore Reserves estimates were 1.9g/t Au for the open pit and 2.9g/t Au for both the Rongban and HCG orebodies in the underground mine. The dilution and recovery factors that Sino applied to the open pit were 5% dilution at 0.5g/t Au with 100% recovery of the ore. The overall dilution and ore loss factors for the underground mine are 13.5% dilution and 12.9% ore loss.

SRK reviewed the methodology used by Sino to calculate cut-off grade, ore recovery and dilution and accepts the methods used and the resulting factors as reasonable. For the May 2007 estimate, the cut-off grade used a gold price of US\$500/oz and a metallurgical recovery of 87.5%, both of which SRK believes are conservative.

Ore Reserve Estimate

The updated Ore Reserve estimate for the Jinfeng gold deposit totals 17.6 million tonnes at 5.7g/t gold, containing 3.2 million ounces, as shown in Table 3.

Table 3: Jinfeng Ore Reserve Estimate, May 2007

	Category	Tonnes	Grade	Gold
		'000	g/t Au	'000oz
Open Pit	Proved	5,276	5.2	889
(1.5g/t Au c/o)	Probable	503	3.9	63
Total OP		5,779	5.1	952
Underground	Proved	6,435	6.2	1,282
(2.9g/t Au c/o)	Probable	5,097	5.7	929
Total UG		11,532	6.0	2,211
Stockpile	Proved	254	5.7	47
Total Ore Reserve	Proved	11,965	5.8	2,218
	Probable	5,600	5.5	992
Total OP + UG		17,565	5.7	3,210

Construction Status

Sino reported in their June quarterly report as follows:

“Gold production commenced in mid-May following completion of lining the CIL dam. Commissioning and production ramp-up proceeded in line with expectations until continuous operation was impacted by rainfall across southern China in late June. Gold recovered totalled 9,840 ounces for the June quarter.

The crushing, grinding and BIOX[®] circuit capacity appear to be capable of comfortably achieving levels required to meet the design throughput rates of 1.2 million tonnes per annum.

Flotation recovery of up to 80% has been achieved. However, average recoveries have been impacted due to the flotation circuit operating intermittently as concentrate feed rates have been restricted during the ramp-up to BIOX[®] design capacity.”

Interpretation and Conclusions

The Jinfeng mine has successfully achieved construction and commissioning and produced 5,800 ounces of gold in the June 2007 quarter. The open pit mine is developing further and the underground mine has commenced development.

SRK accepts that Sino’s forecast as stated in the June 2007 quarterly report, is reasonable. The forecast is repeated below.

“Following the slow start to production in July, it is anticipated the plant will ramp-up to design throughput and production levels over the course of the September quarter. Jinfeng’s gold production is currently forecast to total 70,000 to 75,000 ounces for calendar 2007. “

Once the ramp-up of production is complete, the Jinfeng operation is forecast to initially comprise gold production of 180,000 ounces per annum.

Exploration at Jinfeng is targeting the continuation of the deposit at depth to extend the known underground Resource down-dip and down-plunge at the intersection of the F3 with the F7, which plunges east-south-east. SRK considers these targets to be reasonably prospective. The review of Sino’s exploration program was conducted by Dr Stuart Munroe who was at that time (October 2006) a Principal Geologist with SRK Consulting. Dr Munroe was of the opinion that the character of the Jinfeng property and surrounding exploration tenements were of sufficient merit to justify the program proposed by Sino.

Recommendations

Geotechnical Recommendations

Golder (2003) noted that there were no site specific in-situ stress measurements and estimated stress characteristics from available literature. They also recommended that site specific testing was carried out. SRK consider that to reduce the risks associated with underground mining it is appropriate to establish the in-situ stress regime by site specific testing. SRK did not sight any evidence of in-situ stress testing, and it was understood from site personnel that in-situ stress testing has not yet been carried out, but is planned to be completed in the future.

No details of compaction methods or levels that may be achieved have been provided to SRK. SRK recommends that Sino complete more detailed waste placement studies to ensure the waste dump meets the required standards. Sino propose to have on-going consultancy applied to this issue as a feature of its operating plan.

1 Introduction and Terms of Reference

This report has been prepared for Sino Gold Mining Limited (“Sino” or “the Company”). The purpose of this report is to provide an Independent Technical Report to comply with the requirements on the Ontario Securities Commission, in particular National Instrument 43-101 (“NI43-101”). The sources of information for this report include personal inspection of the property by the authors, documents and data provided by Sino, previous reports by other experts and reports by other companies involved in the construction or commissioning of the Jinfeng gold mine. Each of the authors, with the exception of Mr Kosacz, inspected the Jinfeng gold mine in October 2006, with each author inspecting those aspects of the mine that relate to their personal expertise.

2 Reliance of Other Experts

SRK has reviewed and referenced reports by other experts including AMC Consultants, Golder Associates, Guizhou Metallurgical Design and Research Institute, Hatch, Matrix Consulting, Nanchang Engineering and Research Institute of Nonferrous Metals, State Council P.R. China, Sino Gold-NERIN, No. 2 Engineering Exploration Institute of Geology & Mineral Bureau of Guizhou Province, The No. 117 Team of Guizhou Metallurgical Design and Research Institute and URS Australia Pty Ltd. References are provided in Section 20 of this report.

For Resource and Reserve estimates, SRK has relied upon the Competent Person, as shown in Section 16.2.2.

- **Mr Phillip Uttley**, who is Sino Gold’s Chief Geologist, takes responsibility for the information in this report which relates to the Mineral Resource estimate. He is a Fellow of The AusIMM and has over 25 years relevant experience in exploration and evaluation of gold deposits, including the estimation of resources in structurally controlled gold deposits and replacement-style gold deposits.

- **Dr John Chen**, who is Sino Gold’s Manager – Mining Technical Services, takes responsibility for the information relating to the Ore Reserve estimate. He is a mining engineer with over 20 years experience in the mining industry and is a Member of The Australasian Institute of Mining and Metallurgy (“The AusIMM”).

The Jinfeng pit design was generated by Mr Weifeng Li of West Swan Pty Ltd and provided to Sino for Ore Reserve reporting. The open pit Ore Reserve estimates were then audited by Mr Weifeng Li.

The SRK experts who contributed to this report are shown in Table 2-1.

Table 2-1: SRK Expert Team

Name and Qualification	Technical Discipline
John Chapman, B.Sc. (Chemical Eng), M.Sc. (Eng)	Environmental Engineering and Permitting
Daniel Guibal, Ingenieur Civil des Mines (Mining Engineer), MSc (Mathematics and Geostatistics)	Geostatistics, Resource Estimation
Kevin Holley, BSc (Geotech Eng) (Honours), MSc	Geotechnical Engineering
Keith Leather, B Metallurgy	Metallurgy and processing
Richard Kosacz, MSc (Mining Geology & Eng)	Geology, QA/QC,
Robin Simpson, BSc (Geology) (Hons), MSc	Geology, Geostatistics, Resource Estimation
Mike Warren, BSc (Mining Eng), MBA	Mining Engineering

3 Property Description and Location

The Jinfeng Project is located in the south-west region (Guizhou Province) of the People’s Republic of China (PR China). The Project area is approximately 180 kilometres south-south-west of the provincial capital city Guiyang near Lannigou Village (105°50’34’E to 105°54’08’E, 25°06’48’’N to 25°10’36’’N), some 68 kilometres south-east of Zhenfeng County centre, Qianxinan Prefecture as shown in Figure 3-1 and Figure 3-2.

The property has been legally surveyed by Chinese authorities and the mining licence includes corner points of the tenement defined by Latitude and Longitude. Sino has also employed surveyors to confirm the site location and to control the positioning of infrastructure, plant and mine construction.

A plan showing the project infrastructure in relation to the exploration tenement boundaries is shown in Figure 3-3.



Figure 3-1: Location Map – Jinfeng Gold Mine

Source: Sino Gold Mining Limited

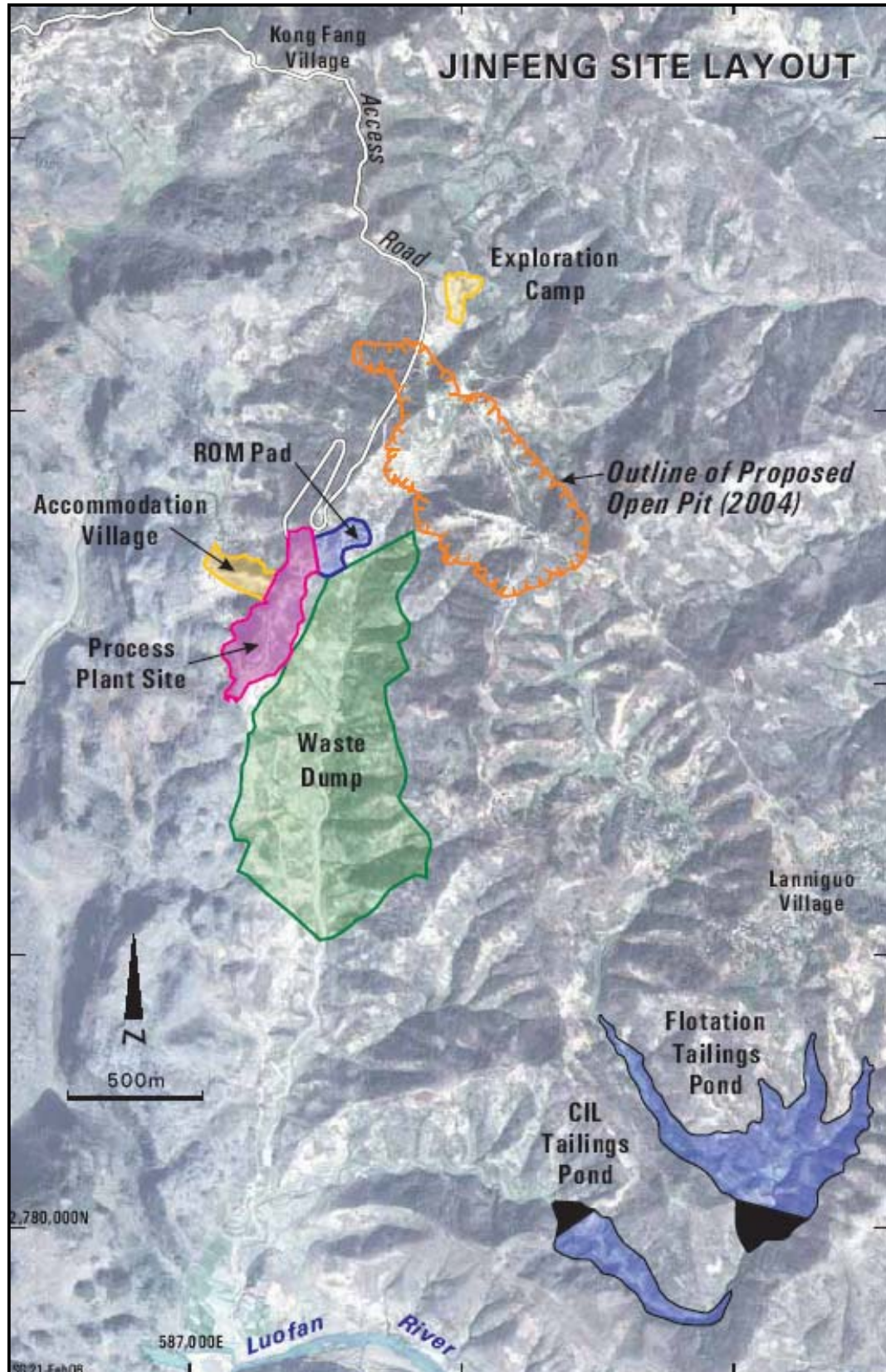


Figure 3-2: Plan of Jinfeng Project Site

Source: Sino Gold Mining Limited

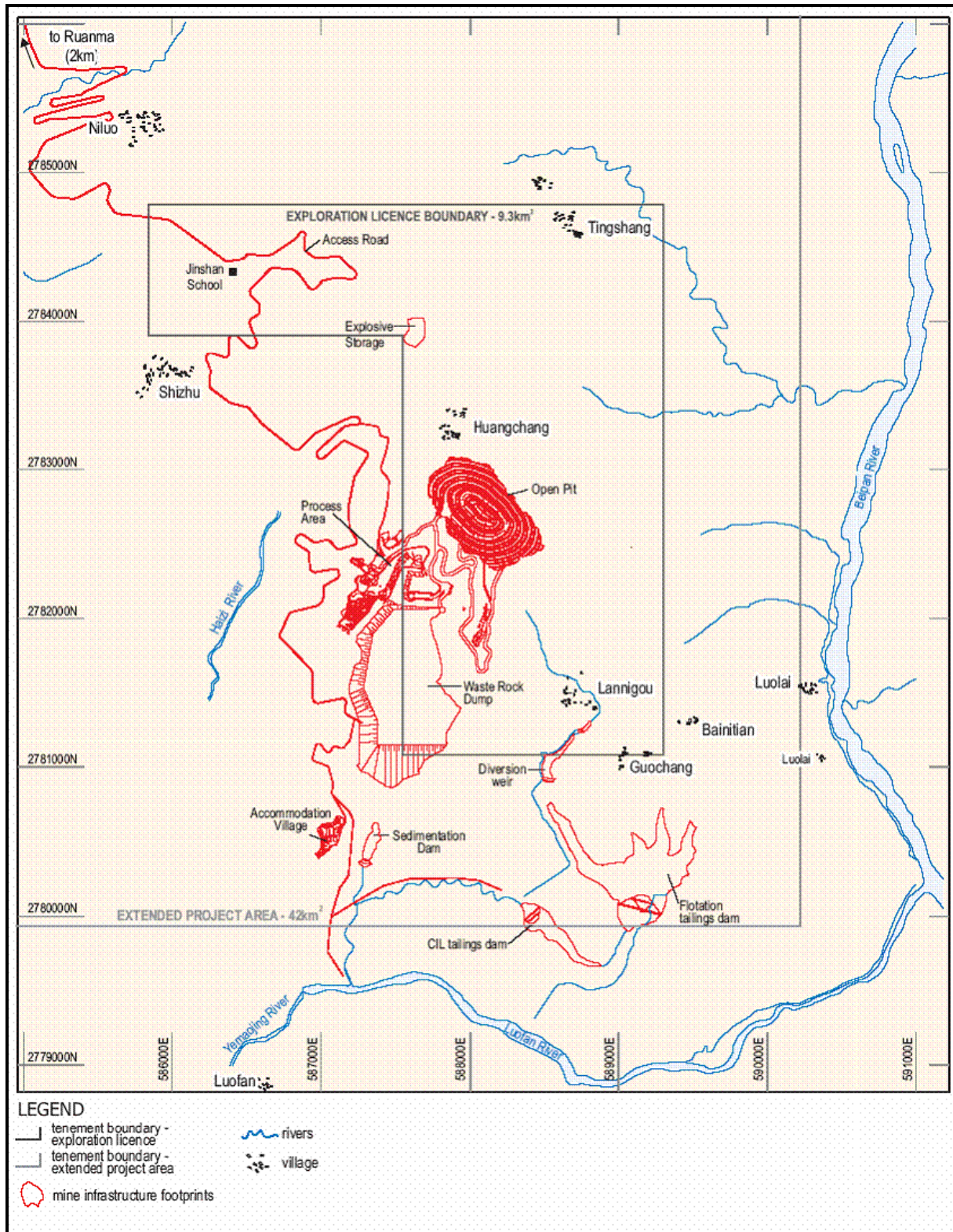


Figure 3-3: Location map of exploration tenement boundaries and Jinfeng infrastructure

Source: Sino Gold Mining Limited

Mining License

The mining license for both the open pit and underground mine was granted in May 2005 and is valid until May 2017. Details are provided in Table 3-1. In China it is normal to include the vertical dimension as part of the mining license. The Jinfeng mining license currently states that Sino is licensed to mine between 750m above sea level and 250m below sea level. Sino will need to apply to mine outside of these levels.

Table 3-1: Jinfeng Mine License

Mine	Mining License No.	Mining Area (km ²)	Mining Capacity (Mtpa)	Issue Date	Date for Renewal
Jinfeng	1000000510057	1.2843	1.2	May 2005	May 2017

Sino also has an Operating Permit for the mine and processing plant which was granted on 25 December 2006 and is valid until 25 December 2016. A copy of the permit, with translation, is shown in Appendix 1.

Jinfeng will apply for the final environmental and safety permit at the end of the ‘trial production’ period and the project has been shown to be operating within the predicted impacts presented in the EIA. Normal trial production is 3 months however Jinfeng has received approval from the provincial EPB for a 6 month trial production period. The period started on 17 May 2007.

Ownership

Sino Guizhou Jinfeng Mining Limited is the operator of the Jinfeng minesite and is 82% owned by Sino, with the remainder owned by Chinese companies as shown in Figure 3-4.

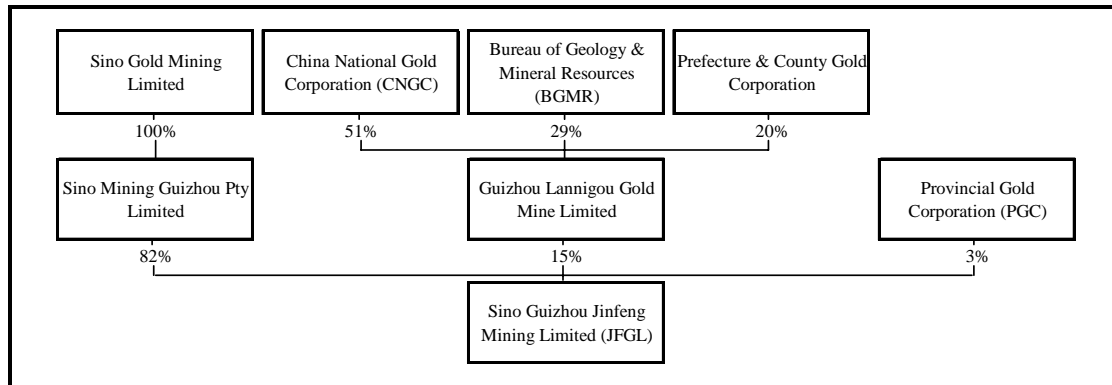


Figure 3-4: Ownership Chart for Sino Guizhou Jinfeng Mining Limited

Source: Sino Gold Mining Limited

Royalties and Encumbrances:

Partner Royalty: the Jinfeng CJV partner, Guizhou Lannigou Gold Mine Limited, is entitled to receive 3% of the net sales revenue of the gold produced each year;

BIOX[®] Royalty: A royalty (payable quarterly in arrears) is payable based on a dollar amount per ounce of gold. The amounts of the payments to be made under the BIOX[®] Licence Agreement are highly commercially confidential, and the Company is not able to publicly disclose those amounts.

No Back-in Rights: The Jinfeng project is not subject to any back-in rights.

Payments: A US\$250,000 payment is still to be made to the CJV partner, Guizhou Lannigou Gold Mine Limited, pursuant to the Jinfeng CJV.

No other agreements apply to the Jinfeng project.

Encumbrances: the project is fully mortgaged according to the terms of a US\$42million Senior Loan Facility made available to the Jinfeng CJV pursuant to a senior loan agreement dated

September 16, 2005 entered into between the Jinfeng CJV, SG Guizhou, the Company, Standard Bank plc, Bayerische Hypo-und Vereinsbank AG and China Construction Bank Corporation.

Environmental Liabilities:

Sino has committed to meet or exceed Health Safety and Environment performance standards as required by:

- Chinese legislation and standards
- International standards and codes of the mining industry and as indicated by applicable policies and guidelines of the International Finance Corporation (“IFC”)
- Sino Corporate Policies

To ensure that IFC requirements will be met, an independent third party review of the Sino project proposal and Environmental and Social Impact Assessment (“ESIA”) was commissioned (Golder, 2006). The ESIA provides a description of the proposed project and identifies potential social and environmental impacts.

A number of issues were identified in the initial third party assessment and as a result Sino agreed to a number of additional commitments to improve the environmental management and monitoring of the project. These additional commitments included completing:

- An Environmental Action Plan (EAP)
- An Acid Rock Drainage Management Plan
- A Hazardous Substances Management Plan
- A Water Management Plan
- An Emergency Management Plan
- Panel Review of Tailings Dams

Sino also agreed to completing biannual audits of compliance, health, safety and environment management system and that these audits would be completed by an appropriately qualified independent auditor.

The management of the CIL tailings impoundment water has been identified as a critical compliance issue and that uncontrolled and untreated discharge from this facility has the potential to significantly impact the receiving water quality in the Luofan River. To this end Sino has stated that prior to any discharge, the water will be tested for conformance with regulations regarding WAD cyanide and toxic metals. In the event that the water does not meet discharge criteria, the Environmental Manager will report any exceedances to the Plant Manager and the Plant Manager will have the responsibility for determining the action to be undertaken, such as halting CIL discharges. SGJM has also committed to the construction of water treatment plants at Jinfeng that if designed, built, operated, serviced and managed correctly, should substantially reduce the likelihood of exceeding licence conditions for the operation.

In general, as indicated by the third party reviewers, Sino has satisfactorily addressed all the issues identified to meet the IFC requirements. It is noted however that a soil balance has not yet been prepared for the project. Nonetheless Sino has demonstrated a commitment to protecting the environment and submitted to implementing environmental management and monitoring strategies that are expected to achieve the goals and standards to which Sino subscribes.

Sino has adopted the following pH and concentration limits for discharges from the CIL TSF into the Luofan River:

- 6 to 9 pH
- 0.1 milligrams/litre (mg/l) free cyanide (World Bank)
- 0.5mg/l WAD cyanide (World Bank)
- 0.5mg/l total cyanide (Chinese Standard GB8978-1996 applying to Jinfeng Project)
- 0.5mg/l total arsenic (Chinese Standard GB8978-1996 applying to Jinfeng Project)
- 0.1mg/l total cadmium (Chinese Standard GB8978-1996 applying to Jinfeng Project)
- 0.05mg/l total mercury (Chinese Standard GB8978-1996 applying to Jinfeng Project)
- 0.5mg/l total copper (Chinese Standard GB8978-1996 applying to Jinfeng Project)

- 1mg/l total lead (Chinese Standard GB8978-1996 applying to Jinfeng Project)
- 2mg/l total zinc (Chinese Standard GB8978-1996 applying to Jinfeng Project)
- 2mg/l total manganese (Chinese Standard GB8978-1996 applying to Jinfeng Project)
- 2mg/l total iron (World Bank)
- 15mg/l ammonia-N (Chinese Standard GB8978-1996 applying to Jinfeng Project)

Sino has committed to meeting Chinese National Class III receiving water standards. Standard concentration limits for sulphate, nitrate, iron, thallium and manganese in Drinking Water Quality Standard at Concentrative Surface Water Source (GB3838-2002) are used. Fecal coliform, TDS and total hardness concentration limits set in Sanitary Standard for Drinking Water (GB5749-85) are used.

Based on the available dilution within the Luofan River it is expected that should the discharge standards be met, that the receiving water quality objectives will likely be achieved. Chinese air quality standards (GB3095-1996 class 2 and TJ36-79 residential region for arsenic) are to be applied to the site. Based on the proposed mitigative measures, it is anticipated these are likely to be met.

Significantly, Sino is committed to a zero discharge policy. While this will not be possible during the early stages of operations, Sino is looking toward developing a water treatment processes to allow total water recycle to the plant. The anticipated target for introduction of these processes is 1-2 years.

4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Topography

The topography of the region has two distinct styles that are influenced by the underlying geology. The Jinfeng mine area is located on the watershed between the Beipan River to the east and the Luofan River to the west.

To the west of Jinfeng mine, where the lithology is predominately Permian karstic limestone, the topography is rugged and has features that are typical of Karst. The range of elevation is from approximately 350mRL to nearly 1,150mRL. Sinkholes are common and are commonly very large. Surface water is somewhat intermittent within this terrain, with many water courses flowing in cave systems below surface. During the wet season, according to Sino site personnel, very large flows can develop in subterranean river systems. Golder (2003) formed the opinion that this will not have a direct impact on the mine-site, although it is an issue for the access road to the mine and possibly for the future location of infrastructure.

The topography at the Jinfeng mine site is not as rugged as it is within areas underlain by Karst. There are, however, substantial topographic variations from about 400mRL to 760mRL with natural slopes ranging from 20 to 35°. The Jinfeng mine area is underlain by Triassic sandstones, siltstones and mudstones.

Access

The Jinfeng mine is connected to the Provincial road system by 12km of sealed access road. The road to Jinfeng reverts to 72km of unsealed road through the mountainous region before connecting to sealed roads and highways. The County has recently agreed to seal the remaining 72km section of the access road.

The main access road to the site and plant has been constructed as a "Class 4" road by the Provincial Government. From discussions on site, SRK understands that Provincial Government will also have responsibility for maintaining this road.

Nearest population centre

There are four administrative villages in the Jinfeng area, Bai Ni Tian, Shi Zhu, Tingshan and Niluo with a population ranging from 1200 to 500. The nearest larger population centre to Jinfeng by road is Lanniguo village which is a natural village, part of the Bai Ni Tian, with a population estimated at 470. Lanniguo village is approximately 1.6 km from the Jinfeng mine and 1.9 km from the flotation tailings storage facility (“TSF”).”

Climate

Located in the subtropical humid monsoon zone, Guizhou Province enjoys a warm and humid climate with cool summers and mild winters. Climatic conditions should allow the Jinfeng project to operate all year, however seasonal heavy rainfall may interrupt open-pit mining for several days per year. The average annual rainfall is 1,200mm which falls primarily from May to August. The yearly average temperature is 19°C with it ranging between 6°C and 30°C. The rainfall and temperature records from January 2006 to June 2007 are shown below in Figure 4-1.

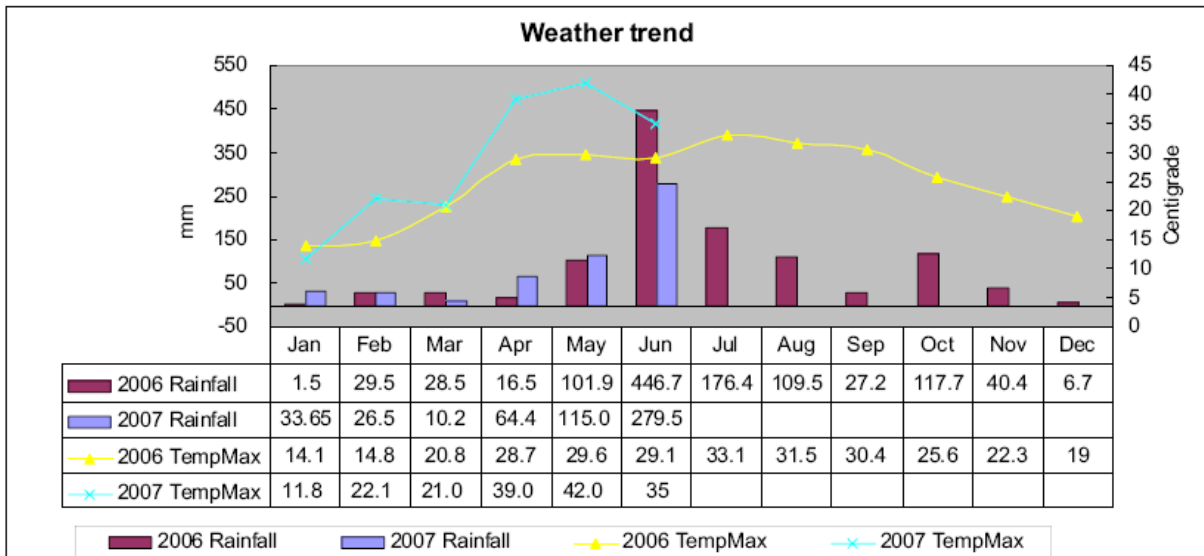


Figure 4-1: Jinfeng area rainfall and temperature records, Jan 2006 to June 2007

(Source: Sino Gold Mining Limited)

Surface rights

Jinfeng has obtained a mining license which allows full surface rights for access and mining of the deposit. A copy of the mining license is provided in Appendix 1.

Infrastructure and Services

Electrical Power Supply: The 110kV electric power line connected to the Provincial electrical grid has been extended 42km from Zhenfeng. The forecast demand from the Jinfeng site is approximately 22MW. A backup 1.2MW diesel set is on site to provide power if the grid connection is interrupted. Electrical power cost for the Jinfeng site is forecast by Sino at US\$0.05 per KWHr. Sino expressed some concern that the local power authority may not be able to meet the full demand of the region if several other future users come on line. The problem has been partly resolved by adding an extra feeder (currently in construction) in the first segment of the supply line to Xingren which reduces the impact of the overloading at the far end of the feeder, near the generation plants. In the longer term Sino has agitated for an additional feeder line to be constructed from Ceheng. The capital cost of such a project is estimated at 6M RMB (US\$800,000) to construct approximately 22km line plus a breaker and other switching equipment at Ceheng. The line design has been completed and the construction time is estimated at 3 months. Sino has made a contingency provision in the 2007 Capital Budget for this expenditure.

Water Supply: Water requirements are estimated at 7,200m³/day which will be sourced from the Luofan River and pumped to the process plant via a 3km pipeline. The Datian hydroelectric scheme normally draws water from upstream Luofan and discharges it into Beipan River, bypassing Jinfeng's raw water extraction point. The Datian scheme has a regulatory requirement to control draw-off so that a minimum residual flow in the Luofan River of 1,300L/s is always maintained which easily exceeds Jinfeng's required take-off volume. There is a slight possibility that the Datian scheme may ignore the regulation and draw off more water for power generation and leave Jinfeng with insufficient water flow. Sino has studied several alternatives, including 1) a very large aquifer under the Laizishan limestone dome which can be accessed from shallow bores and 2) the Beipan River is about 6km from Jinfeng and some water supply may be available. Flows in the Beipan River are 20-50 times those in the Luofan River. SRK believes Sino has made adequate provisions to ensure a reliable and sufficient water is available to the project.

Workforce: China has a well established mining contractor skill base. The mining contractor at Jinfeng has experience at a wide range of civil construction and earthmoving projects and is a subsidiary of one of the top ranking construction companies in China. The underground mining workforce will be based around experience underground miners from Sino's previous mine at Jinchialing. The process plant operators will be drawn from a range of reasonable well experienced workers, many of whom have qualifications in chemical engineering and metallurgy. There are few operators in China with experience in BIOX[®] but the skills will initially be provided by expatriates who will provide training to the Chinese employees. Maintenance skills are readily available in China, as are administrative and accounting skills. The forecast workforce throughout 2007 is shown in Table 4-1.

Table 4-1: Forecast Workforce Numbers, 2007

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SUMMARY (JF EMPLOYEE ONLY)												
GM	7	7	7	7	7	7	7	7	7	7	7	7
SUPPLY	36	36	40	42	43	43	43	43	43	43	43	43
CATERING	3	3	3	3	3	3	4	4	4	4	4	4
SAFETY	13	13	13	13	13	13	13	13	13	13	13	13
CLINIC												
C/RELATION - SITE	10	10	11	11	11	11	11	11	11	11	11	11
TRAINING	23	23	23	22	22	22	22	22	22	22	22	22
FINANCE	11	11	11	12	13	13	13	13	13	13	13	13
H/RESOURCE	6	6	6	6	6	6	6	6	6	6	6	6
E/RELATION - GUIYANG	7	7	7	7	7	7	7	7	7	7	7	7
ENVIRONMENT	13	13	13	13	13	13	13	13	13	13	13	13
SECURITY	3	3	3	3	3	3	3	3	3	3	3	3
MINING	37	37	39	39	39	40	40	40	40	40	40	40
MINE GEOLOGY	42	43	43	43	43	43	43	43	43	43	43	43
PROCESSING	87	101	101	101	101	101	101	101	101	101	101	101
ENGINEERING	91	101	118	114	118	123	131	139	141	151	153	153
TOTAL	389	414	438	436	442	448	457	465	467	477	479	479
EXPAT/NATIONAL												
EXPAT	11	11	11	10	10	10	10	10	10	10	10	10
NATIONAL	378	403	427	426	432	438	447	455	457	467	469	469
TOTAL	389	414	438	436	442	448	457	465	467	477	479	479

SRK notes that the percentage of expatriate workers is less than 3%, so that 97% of the workforce is intended to be Chinese. Sino has a target that 50% of the employees will be drawn from the local area and proposes to give preference to workers from Guizhou Province.

Areas for tailings storage, waste storage and plant site: As shown in Figure 3-2 and Figure 3-3, the Jinfeng site has established areas for TSF's, waste storage and the plant site. All of these areas have been commissioned and are in use.

5 History

5.1 History of the Project

Initial discovery of Jinfeng was in the early 1980's by following up on the source of regional stream sediment surveys. Subsequently the 117 Team defined a 1.5Moz deposit by mapping, surface trenching, development of a number of exploration adits and drilling. From 2002 Sino has been further delineating the Resource and incrementally adding to the size of the deposit. The history of the Jinfeng project is shown in Table 5-1.

Table 5-1: Jinfeng Timeline from Discovery to Development

Dates	Activity
1986	Discovery of the Jinfeng deposit
1990	Newmont and BHP assessed the Jinfeng deposit
2001	Sino won Guizhou Government tender
April 2004	Bankable Feasibility Study completed
February 2005	Development commenced
May 2005	Mining Permit granted
December 2006	Gold Operating Permit Granted

Geophysics

Regional gravity, regional magnetic and detailed IP geophysical techniques have been employed at Jinfeng to assist with the exploration work undertaken. It is not expected that geophysical techniques will be employed during mining or during the deep drilling exploration on the Mine Lease.

Surface

Initial surface work by The 117 Team involved the collection and analysis of a regional stream sediment survey. Follow-up of a significant anomaly was sourced back to the prominent topographic high where the current Resource is exposed at surface. Detailed geological mapping, rock chip sampling and trenching at surface was started by The 117 Team and has been extended by Sino during more recent exploration in the Mine Lease and surrounding exploration license.

Geological mapping and sampling of the deposit was possible in shallow surface mines that extended to the base of weathering (approximately 15 to 20m below surface). There are no reliable estimates of the amount of gold or mercury that were recovered from these workings.

Underground

The 117 Team developed a number of exploration adits into the upper parts of the deposit in the 1980's, mapped and sampled the walls of the adits and provided insights into the variability in distribution of gold mineralisation and controls on mineralisation. Reconnaissance mapping and analysis of sampling revealed a strong control on thicker and higher-grade mineralisation in the F3 (main ore zone) between zones of strong shear faulting. The F3 has a strong control on the location of gold mineralisation, however the later shear zones partition the gold within the F3 structure.

The 117 Team sampled and analysed only for gold in the adits. Sino drilled a number of horizontal drill holes between cross cuts into the adits which allowed a check on the gold assay and also allowed for analysis of sulphur, arsenic, mercury and antimony of the mineralised zone in this part of the deposit, which will likely fall within the Stage 1 open pit.

Sino reported that the underground portal has been completed, as shown in Figure 5-1. The decline to access the underground deposit has progressed approximately 200m with little geotechnical instability. The face of the decline is reported to be below the oxidised layer and in strong rock and Sino do not anticipate any significant geotechnical issues for the on-going development of the decline.



Figure 5-1: Jinfeng underground mine portal

5.2 Mine and Plant Production

The Jinfeng open pit mine was commissioned progressively from April 2007 with production commencing in May 2007. The open pit mine continued stripping of waste and mining of ore to the Run of Mine (“ROM”) stockpile. At 30 June 2007, ore stockpiles totaled 276,728 tonnes. Operation of the processing plant allowed gold recovered to total 9,840 ounces for the June 2007 quarter.

6 Geological Setting

6.1 Regional Geology

The Jinfeng project is a Carlin-style gold deposit located at the north-eastern corner of the Laizhishan Dome within a district known as the Golden Triangle. Jinfeng is the largest known example of a Carlin-style gold deposit in the Golden Triangle area.

The Laizhishan Dome exposes Silurian to Late Triassic age sedimentary rocks that were originally deposited in the predominantly marine Youjian Basin and have subsequently been folded and uplifted to form a number of regional scale domes including the Laizhishan Dome (Figure 6-1).

The Basin occurs at the southwest margin of the Precambrian Yangtze Craton, the edge of which may have acted both as a site for the initial basin formation and as a buttress against which later folding (a result of crustal shortening during compression) was focussed. Within the Basin, most of the known gold occurrences occur within folded Triassic limestone, marl (silty limestone) and siltstone near an unconformity with underlying Permian limestone and dolomite.

Regional geological constraints indicate the Jinfeng area underwent a number of extension events during the Carboniferous and Permian, but then again in the Early Triassic and Middle Triassic periods. Each of these extension events created faults that accommodated the extension and facilitated formation of the Basin in which the sedimentary rocks formed. Three folding events (probably Late Triassic and Jurassic in age) have also been identified at Jinfeng.

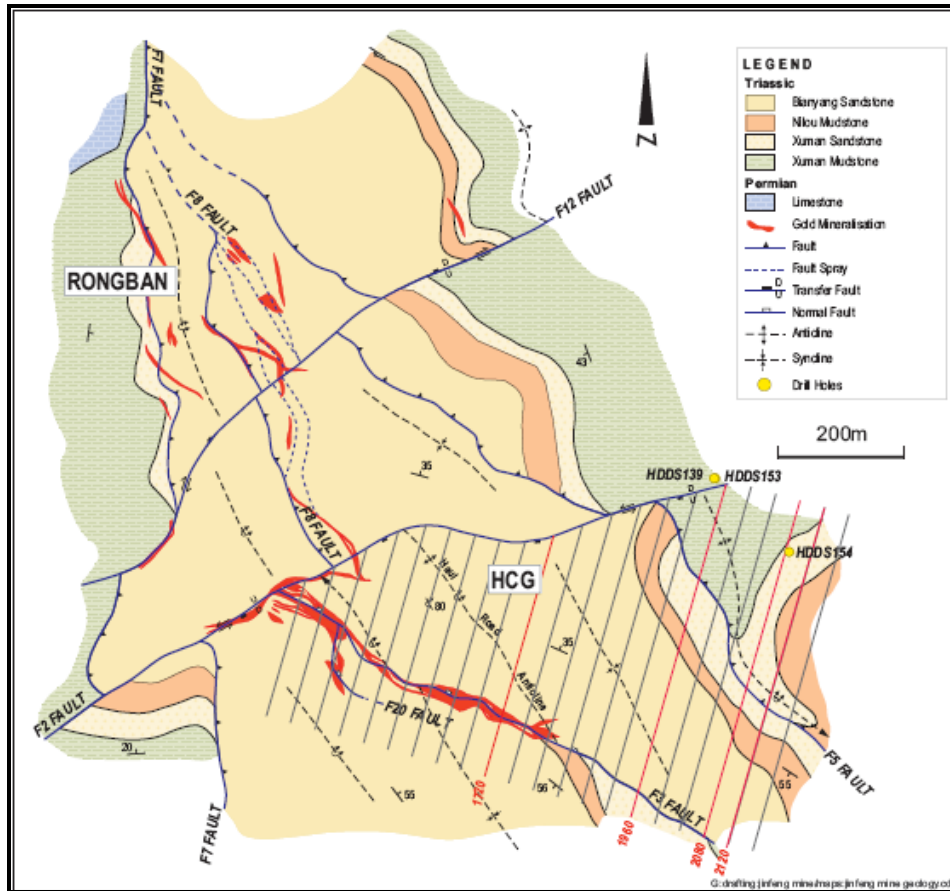


Figure 6-1: Jinfeng Area Regional Geology

(Source: Sino Gold Mining Limited March 2006 Quarterly Report)

6.2 Deposit Geology

The Jinfeng Gold Resource is hosted within and immediately adjacent to a series of interconnected major faults (locally known as F3, F2, F20, F7 and Rongban faults). The mineralisation consists of disseminated pyrite, arsenical pyrite and arsenopyrite which replace the shale and sandstone of the Middle Triassic Xuman Formation within the faults and in the immediate wall rock at the edge of the faults. The gold occurs in the rims of fine-grained pyrite and arsenopyrite grains and so is very finely distributed through the deposit. This style of mineralisation has many similarities with the “Carlin Style” of deposits found originally in Nevada, USA. At Jinfeng the mineralised zone is 900m in strike, 10 to 30m in width and has been explored on the F3 and F7 down to a depth of 900m vertically below surface.

Jinfeng has been mined in the past at the surface where the mineralisation is exposed and has been oxidised by natural weathering processes. Initially the deposit was a source of mercury and later a source of gold for local miners.

Geologically, the Jinfeng deposit can be divided into three major domains (Figure 6-2):

- Mineralisation on the west-north-west trending F3 fault and at the intersection of the F3 with the F7 fault at depth (the F7 is not exposed at surface within the proposed mine, Figure 8-1). These structures host approximately 80% of the gold within the current Resource. These structures are the major features of the Huangchanggou part of the deposit at Jinfeng

- Mineralisation associated with the F2 fault, which strikes orthogonally to the F3 and forms the northern edge of the Huangchanggou deposit
- Mineralisation hosted by a number of narrower north-west trending faults at Rongban (the Rongban deposit, Figure 8-2), separated from Huangchanggou by the F2 fault and largely related to the F12 fault.

Gold at Jinfeng is associated mainly with arsenic-rich pyrite and minor arsenopyrite. The gold grade to sulphur ratio, the gold to arsenic ratio and the gold to mercury ratio are related, but are internally variable within the deposit. Arsenic, gold and mercury deposition were controlled by the same series of faults but were probably deposited over slightly different time intervals. As a result, the distribution of each element within the deposit is slightly different, resulting in some variability in gold: arsenic and gold: mercury ratios at the mining scale.

The average and maximum values of elements and minerals of interest in the Resource is shown in Table 6-1.

Table 6-1: Elements and Minerals of Interest to Mining and Recovery of the Gold Deposit at Jinfeng

Element or Mineral	Resource Average *	Resource Maximum
Gold (Au)	4.9g/t	
Arsenic (As)	2857ppm	5.4% (54,000ppm)
Sulphur (S)	1.6ppm **	4.83ppm
Mercury (Hg)	37ppm	1,100ppm
Antimony (Sb)	50ppm	1,500ppm

* September 2007 re-estimate (SRK October 2007)

The sulphur content of the deposit is of particular interest as the gold within the deposit is almost entirely refractory, i.e. the gold is physically or chemically locked up in the sulphide crystal structure or within the atomic lattice of the sulphides. As a result, gold extraction requires chemical destruction of the sulphide complex to release the bulk of the gold.

Based on the February 2006 Resource, the sulphur for the deposit is shown in Table 6-2 for 40m thick horizontal slices. The mine schedule allows for mining to Level 570 metres Reduced Level (mRL) in the first 2 years, to Level 520mRL in the Stage I pit and to Level 430mRL in the stage II pit.

Table 6-2: Sulphur and Arsenic Estimated from the February 2006 Resource Estimate

RL From	RL To	Sulphur (%)	Arsenic (ppm)
780	740	0.43	1472
740	700	0.89	2451
700	660	0.82	1910
660	620	1.05	2524
620	580	1.18	2987
580	540	1.29	2896
540	500	1.33	3171
500	460	1.35	3141
460	420	1.58	3555
420	380	1.65	3485
Weighted Average		1.25	2929

The April 2006 Ore Reserve Estimate includes the sulphur and arsenic estimates as shown in Table 6-3.

Table 6-3: Sulphur and Arsenic Estimated from the April 2006 Ore Reserve Estimate

	Sulphur (%)	Arsenic (ppm)
Stage 1 Pit	1.37	3655
Stage 2 Pit	1.52	4211
Underground	1.93	3726
Weighted Average	1.79	3782

The Stage I Pit estimates for Sulphur are of interest as the total sulphide and sulphide to gold ratio are factors for consideration in the processing design of the ore. Sulphur analyses in the upper parts of the deposit may have a negative bias, caused by reliance on channel samples from the old adits which have been used to estimate sulphur. The original adits were constructed by The 117 Team in the late 1980's, however channel samples taken at that time were not analysed for Sulphur or Arsenic. In 2002 Sino re-sampled the adits for Sulphur analysis after the walls had partially oxidised, hence it is expected there is a negative bias in the Sulphur estimates. At the time of writing this report, some analyses from a detailed RC drilling program in the upper part of the pit within the F3 Resource domain had been done which indicated the upper parts of the Stage I Pit is likely to have an average sulphur grade of 1.5%, although these analyses were incomplete at the time of writing this report. This agrees well with the underground horizontal drill holes completed by Sino in 2002 which returned from 1.4% to 1.5% sulphur in the F3 Resource domain. This level of sulphur is at the lower end of the specification set by the process engineers, but is within specification for optimisation of the recover process.

Some blending of slightly above average sulphur ore with slightly lower than average sulphur ore may be required to provide the process with the required gold to sulphur ratio and total sulphur content required.

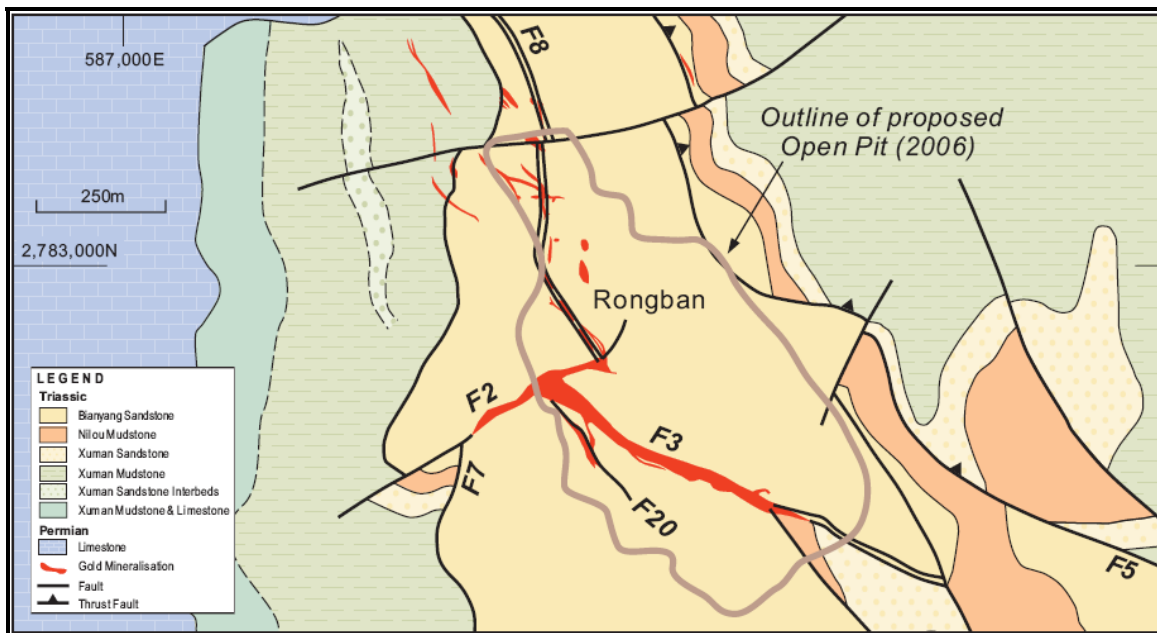


Figure 6-2: Major Structures at Surface in the Jinfeng Project Area
(Source: Sino Gold Mining Limited)

7 Deposit Type

The Jinfeng project is a Carlin-style gold deposit located at the north-eastern corner of the Laizhishan Dome within a district known as the Golden Triangle. Jinfeng is the largest known example of a Carlin-style gold deposit in the Golden Triangle area.

8 Mineralization

8.1 Controls on Mineralisation

The geology of the Jinfeng deposit forms the basis of exploration for similar deposits in similar structural settings within Guizhou Province and Guangxi Province, with a particular focus on the Laizhishan Dome and the potential within trucking distance of the Jinfeng processing plant.

The controls on mineralisation are adequately understood such that the Jinfeng deposit can be efficiently mined by open pit and underground methods. The key characteristics of the deposit are understood both by the project development teams and by the regional exploration teams. Gold mineralisation occurred during or immediately after the third of a series of compressive deformation episodes identified at Jinfeng. The relationship between the host structure and gold mineralisation is the subject of ongoing research for the exploration teams.

The controls on mineralisation at Jinfeng within preferentially mineralised faults are well understood for this deposit. The intersection between the F2 and F3 faults and the location of the Xuman sandstone units in the hangingwall of the F3 fault are important controls on mineralisation (see Figure 8-1). As a result, there are a number of thicker, high grade pods at intersections of the F3 with the F7 and F2 at Jinfeng. In addition, it has been observed that within individual structures such as the F3 there is a strong control on gold mineralisation by numerous late shear zones that compartmentalise higher grade and thicker zones of mineralisation within the F3. This overprinting relationship may have a fundamental control on the location of the Resource within an early (extension) fault which is strongly overprinted by late faults (compression).

Within the deposit there is a strong correlation between gold and sulphur (in the form of sulphide). Mercury and antimony are later than the gold-forming events, although there remains a spatial correlation between mercury, antimony and gold as a result of common controls by the major faults. The distribution of arsenic within the deposit is less well understood. High arsenic can occur without high gold, although high gold values will more commonly be associated with higher arsenic. Arsenic distribution is not directly proportional to gold because the late overprint of mercury (orpiment and realgar mineralisation) which does not contain gold but is associated with some of the arsenic mineralisation.

Figure 8-1 shows the main ore zone in the proposed open pit on the F3 fault and the main ore zones at depth in the F3 and at the intersection of the F3 with the F7-F20 fault system.

At Rongban, narrower, moderately dipping faults host narrower zones of silicification, sulphide replacement and accompanying gold mineralisation. Figure 8-2 illustrates the numerous moderately dipping mineralised faults that have been defined by exploration drilling.

The Rongban faults are likely to be a result of activation of thrust faults during the two major NE-SW-directed compression events that have been observed at Jinfeng. By comparison, the F3 structure is likely to be an early fault, formed during Basin development, which has subsequently been reactivated during and after the compression events.

The current Jinfeng pre-strip pit is routinely mapped by the project geologists to assist in identifying the limits to zones of mineralisation. Mark up of the mineralised domains will initially be done by the survey team based on blast hole sample analyses. It is expected that the geologists will be responsible for visually identifying the limits to the mineralised material in the pit after mark up by the survey team.

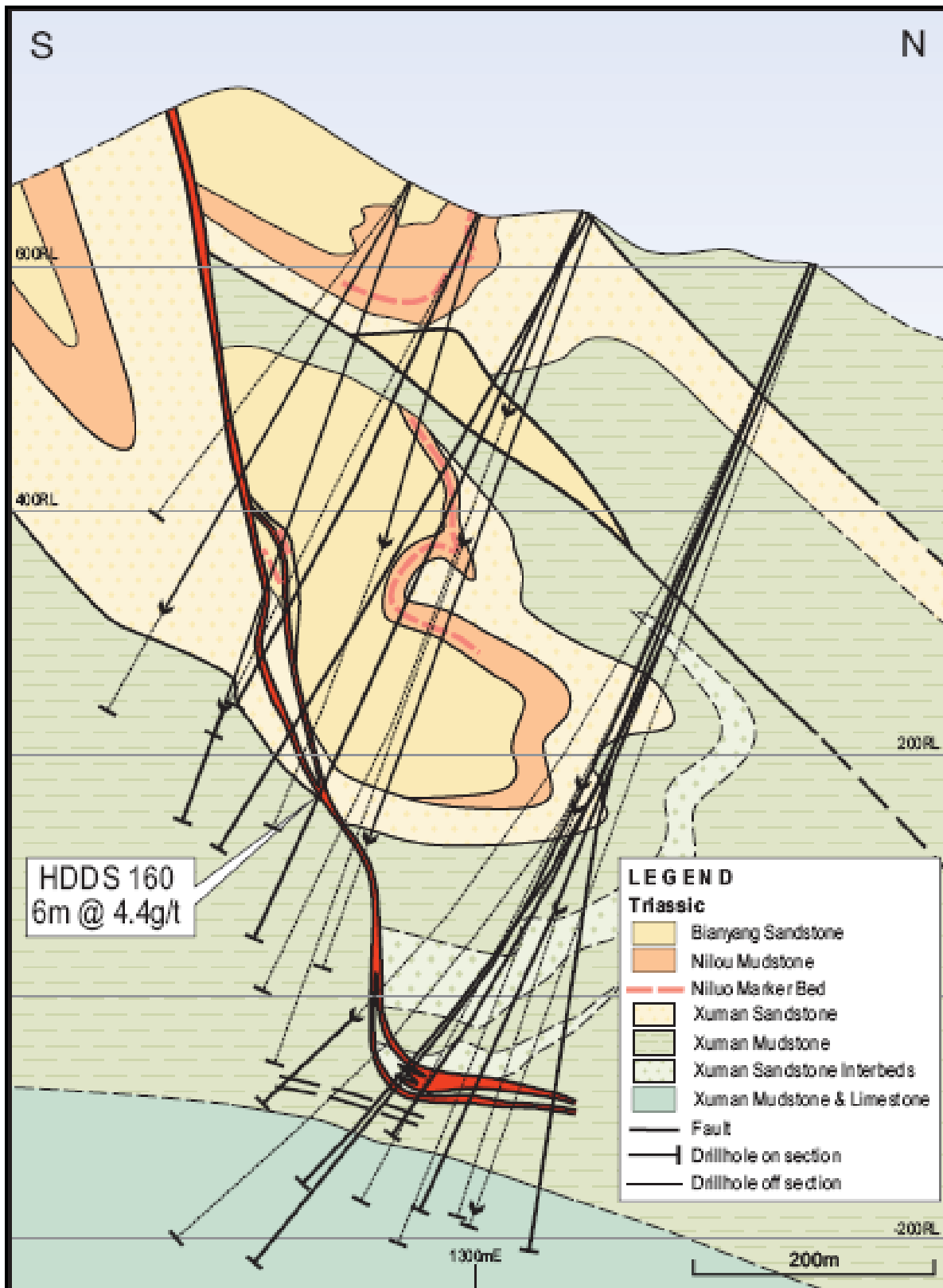


Figure 8-1: Section 1960E through the Jinfeng Deposit

(Source: Sino Gold Mining Limited)

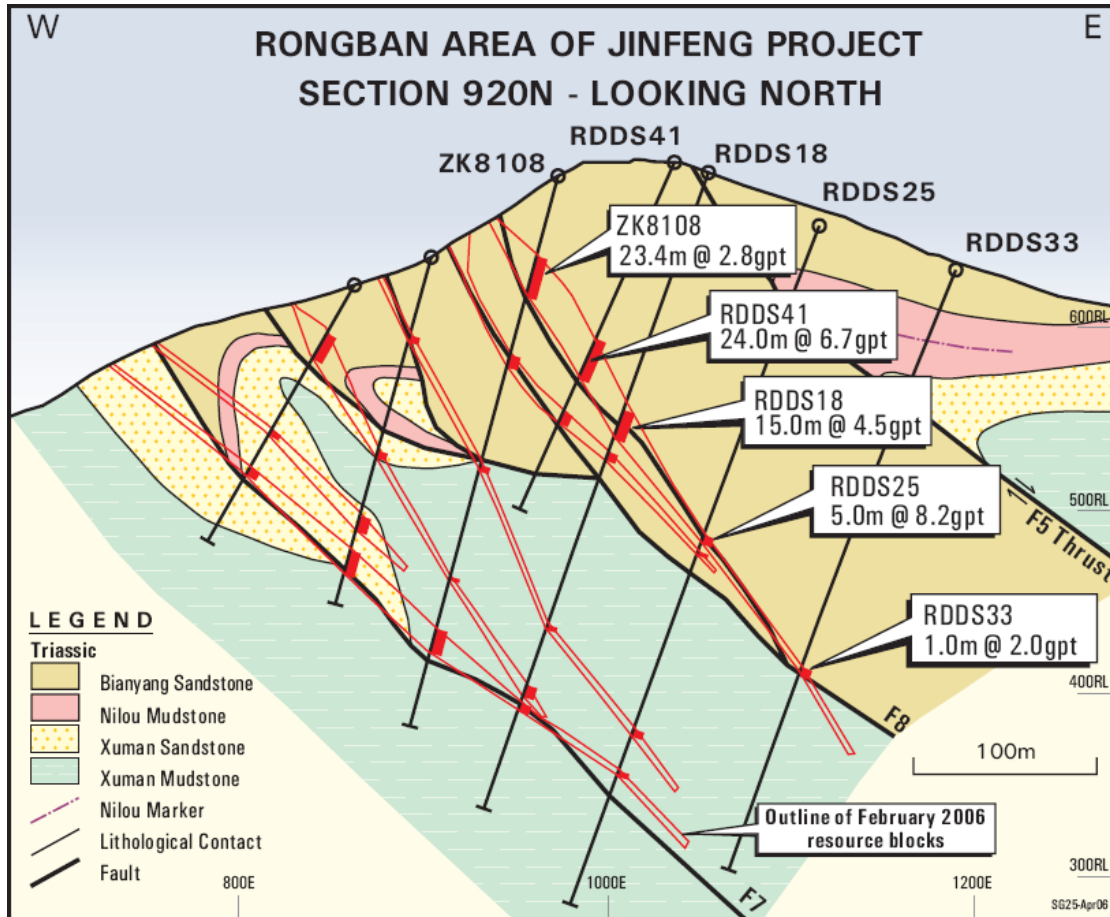


Figure 8-2: Drill Section of the Rongban Fault Controlled Mineralisation

(Source: Sino Gold Mining Limited March 2006 Quarterly Report)

8.2 Ore Categories

For grade control purposes, ore categories are assigned and marked up in the open cut mine for the mineralised domain ahead of digging. Ore block limits and categories are determined by:

- Ordinary Kriging of the blast hole sample assays for Au, As, S, Hg, Sb
- Blocks that are less than 1.5g/t Au are expected to be mined as waste
- Blocks that are above the 1.5g/t Au cut off but contain As greater than acceptable limit of 5,000ppm are expected to be mined as waste, or may be sent to a high As stockpile for possible later blending with low As material. The As levels must be maintained below acceptable limits defined by the processing technique to optimise bio-oxidation of the sulphide and liberate the gold
- Blocks that are above the 1.5g/t Au cut off but contain low sulphur (S less than 1.5%) are expected to be stockpiled for possible later blending with high sulphur material. The sulphur grades must be maintained within limits defined by the processing techniques, which aim to oxidise the sulphides to liberate the gold
- Blocks that are above the 1.5g/t cut off but contain high sulphur (S greater than 2.25%) are expected to be stockpiled for possible later blending with low sulphur material.
- For blocks that are within processing specification for As (As less than 5,000ppm), and S (S between 1.5% and 2.25%), there are three ore categories expected to be assigned, being “Low Grade” (Au 1.5 to 3g/t), “Normal Grade” (Au 3g/t to 8g/t) and “High Grade” (greater than 8g/t Au).

A summary of the ore categories is shown in Table 8-1.

Table 8-1: Ore Categories Defined from Blast Hole Samples

Ore Category	Au		S		As		Sb	Hg
	Low Limit ppm	Upper Limit ppm	Low Limit %	Upper Limit %	Low Limit ppm	Upper Limit ppm	ppm	ppm
Low Gold	1.5	3	1.5	2.25	0	5,000	<500	<450
Normal	3	8	1.5	2.25	0	5,000	<500	<450
High Gold	8	>8	1.5	2.25	0	5,000	<500	<450
Low Sulphur	1.5	>1.5	0	1.5	0	5,000	<500	<450
High Sulphur	1.5	>1.5	2.25	>2.25	0	5,000	<500	<450
High Arsenic	1.5	>1.5	1.5	2.25	5,000	>5,000	>500	>450

9 Exploration and Drilling

9.1 Drilling and Sampling

Drilling at Jinfeng was started by 117 Brigade and has been continued by Sino. The Brigade drilled 77 diamond drill holes from surface and 176 holes underground (from the adits), predominantly into the upper parts of the deposit and sampled half-core for gold only. Only those parts of the drill core that were considered likely to contain at least some gold were analysed. The remainder of the core was not sampled. The lack of sulphur and arsenic analyses in the upper parts of the deposit provides a gap in the information base in that part of the deposit. This has been partly infilled by surface reverse circulation (RC) drilling in the pit and horizontal drill holes within the adits, completed by Sino. The sulphur model will be generated in future by the grade control drilling program from blast holes drilled within the open pit.

Drilling at and nearby Jinfeng during 2006 totalled 43km of drill holes in 111 drill holes. The drilling by Sino as at the end of 2006 in the Jinfeng area totalled 105km in 272 drill holes, as shown in Table 9-1.

Table 9-1: 2006 and total drill holes and metres

Program	No. of Holes	Metres drilled	Cumulative No. of holes	Cumulative metres drilled
Deep and infill	48	25,930	154	78,148
Rongban	26	8,909	64	16,122
Regional – Jinfeng JV	7	2,271	24	4,997
Regional – Jinluo JV	30	5,896	30	5,896
Total	111	43,006	272	105,163

Drill core is cut into half-core, sampled and assayed for Au, As, S, Hg and Sb. The drill core is predominantly NQ size (47.6mm diameter, approximately 70% of the core taken). PQ size core (85mm diameter) and HQ size core (63.5mm diameter) have also been taken. Only those parts of the drill core that were considered likely to contain at least some gold were assayed. The remainder of the core is not assayed at this stage.

In addition to the exploration and delineation drill holes, Sino have drilled a number of closely spaced, angled RC holes (40m along strike by 40m down dip) within the F3 shear zone at surface to provide some grade control and additional information on S and As for the initial open pit mining. There is reported good reconciliation between the grades and tonnages so far returned from the close spaced RC drilling and the blast hole samples in the top benches of the pit.

Blast hole grades and geological mapping from previously mined benches will be used as a guide to determine the likely position of ore blocks ahead of blast hole sampling on current benches.

Drilling during the June 2007 quarter continued to extend the deep and upper zones which both remain open along the plunge to the east-southeast. Nine diamond drill rigs are active at Jinfeng and key assay results from drilling undertaken during the quarter are shown in Table 9-2.

Table 9-2: Key assay results since March 2007

Hole No.	Section	Zone	From (m)	Interval (m)	Grade (g/t Au)
HDDS154E	2080E	Deep	858	3.0	24.0
HDDS154F	2120E	Deep	857	6.0	7.6
"	"	Deep	871	4.0	7.8
"	"	Deep	888	6.0	4.0
HDDS161	2120E	Deep	851	28.0	1.7
HDDS161A	2160E	Deep	909	5.0	4.6
HDDS161B	2160E	Deep	901	20.0	7.4
HDDS163A	2000E	Infill	611	24.0	6.4
HDDS167	2120E	Upper	547	4.0	2.6
HDDS170	1920E	Infill	594	7.0	12.3

Note: All intercepts are downhole intervals and based on 1.0g/t gold cut-off grade. Blending of high sulphur and high arsenic material may be required before processing

HDDS167 intercepted 4m at 2.6g/t gold in the most southeasterly drillhole in the upper zone. This hole contains a wider (17m at 1.2g/t gold) intersection of low-grade gold and strong arsenic mineralisation, with the arsenic suggesting that this mineralised zone could be continuing further southeast. Drilling is continuing with the aim of testing this potential extension to the upper zone.

The long section below illustrates the intensity of mineralisation and the location of key recent results in the deep high-grade zone plunging east-southeast along the intersection of the F3 and F7 Faults.

Drillhole HDDS161B drilled through a strongly mineralised zone and assays received to date have returned 20m at 7.4g/t gold from 901m downhole. This intercept has extended known mineralisation 40m down-plunge to the east.

Further step-out drilling is underway and is targeted to intercept the deep zone a further 40m down-plunge to the east. In order to drill deeper holes down plunge, a more powerful Boart Longyear multi-purpose drill rig is being mobilised to Jinfeng.

During the quarter, one drill rig commenced testing of favourable rock types adjoining the major mineralised faults approximately 800m southeast of the Jinfeng orebody, aimed principally at extensions of the F3 and F7 Faults. Near-term targets are southeast, northwest and down-dip of the Jinfeng orebody.

SRK considers the exploration data regarding the Jinfeng deposit to be reliable as Sino employ skilled and experienced professional geologists who design and manage drilling and sampling protocols to international standards, uses accredited laboratories and analysis techniques, including check samples, for sample assays, and prepare reports to international standards.

Key drill results since the prospectus for the listing on the Stock Exchange of Hong Kong Limited are shown in Figure 9-1.

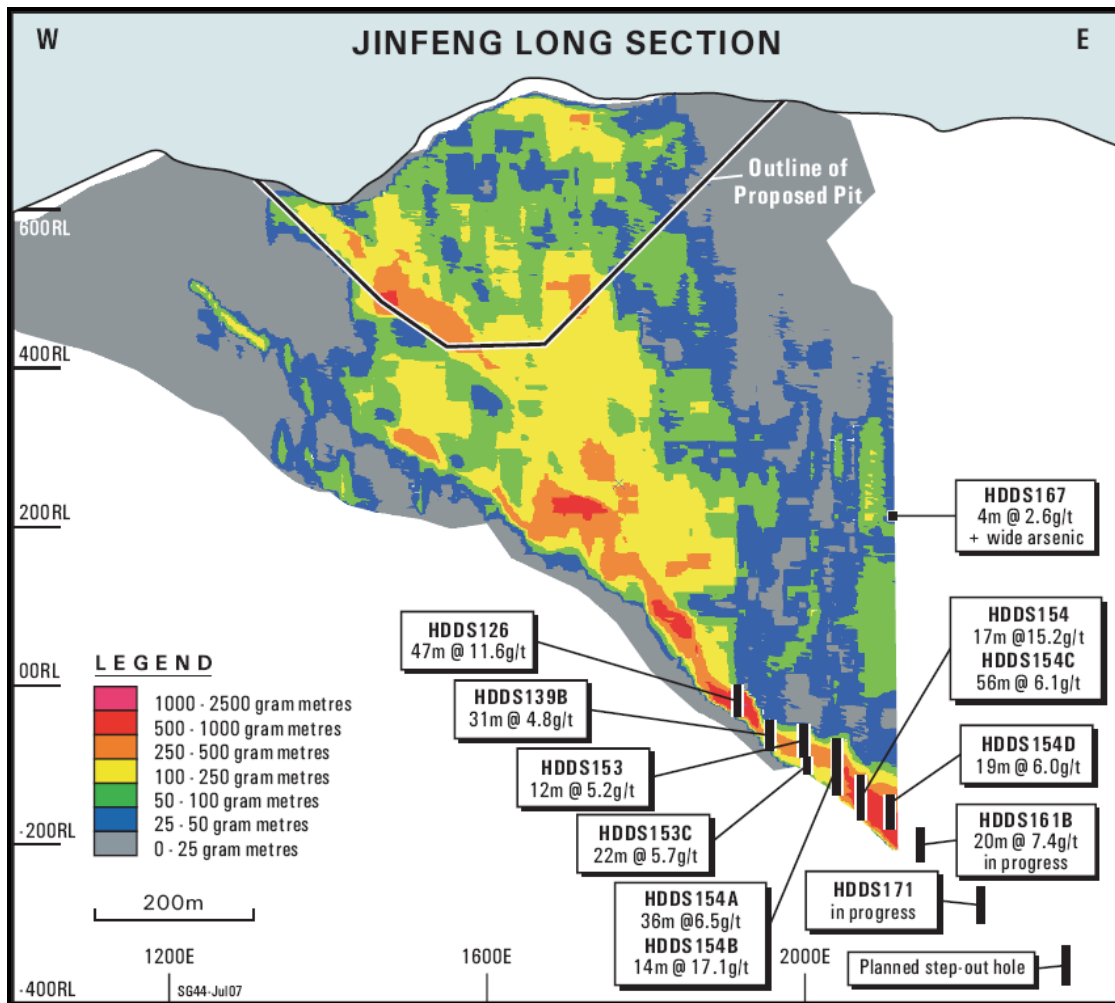


Figure 9-1: Jinfeng Long Section with key June 2007 quarter drill results

Source: Sino Gold Mining Limited

9.2 Jinfeng Mine Lease Exploration Potential

Exploration at Jinfeng is targeting the continuation of the deposit at depth to extend the known underground Resource down-dip and down-plunge at the intersection of the F3 with the F7, which plunges east-south-east. SRK considers these targets to be reasonably prospective.

9.3 Jinfeng near Mine Exploration Licences (JF42)

Three Jinfeng JF42 JV exploration licences have been consolidated into one Joint Venture as part of the Jinfeng Project, surrounding the Mining Lease, which is 82% held by Sino (Figure 9-2 and **Error! Reference source not found.**). Since 2004, the JV exploration licences have been explored by Sino for Carlin-style replacement gold mineralisation similar to that at Jinfeng.

Exploration on the JF42 licences aims to identify additional Resources which could add to the current Jinfeng project or become a stand alone operation. Exploration to date has been unable to significantly add to the Resource that exists on the Jinfeng Mine Lease.

The current exploration program for 2007 is concentrating on mapping and identification of deeper targets. The surface drilling programs have been completed, and have been unable to add to the Resource. There remains potential for deeper targets which may have underground mining potential. Deeper targets may have a slightly different style of mineralisation than that at Jinfeng. The structural models remain the same with intersections between north-west trending faults and north-east trending faults remaining the primary target. Further work will focus on:

- The F7 at depth down dip of the main Jinfeng Resource but off the Mine Lease
- The F3 to the south-east of the Mine Lease
- The F7 from Laowuji to Nilou and Gaolu

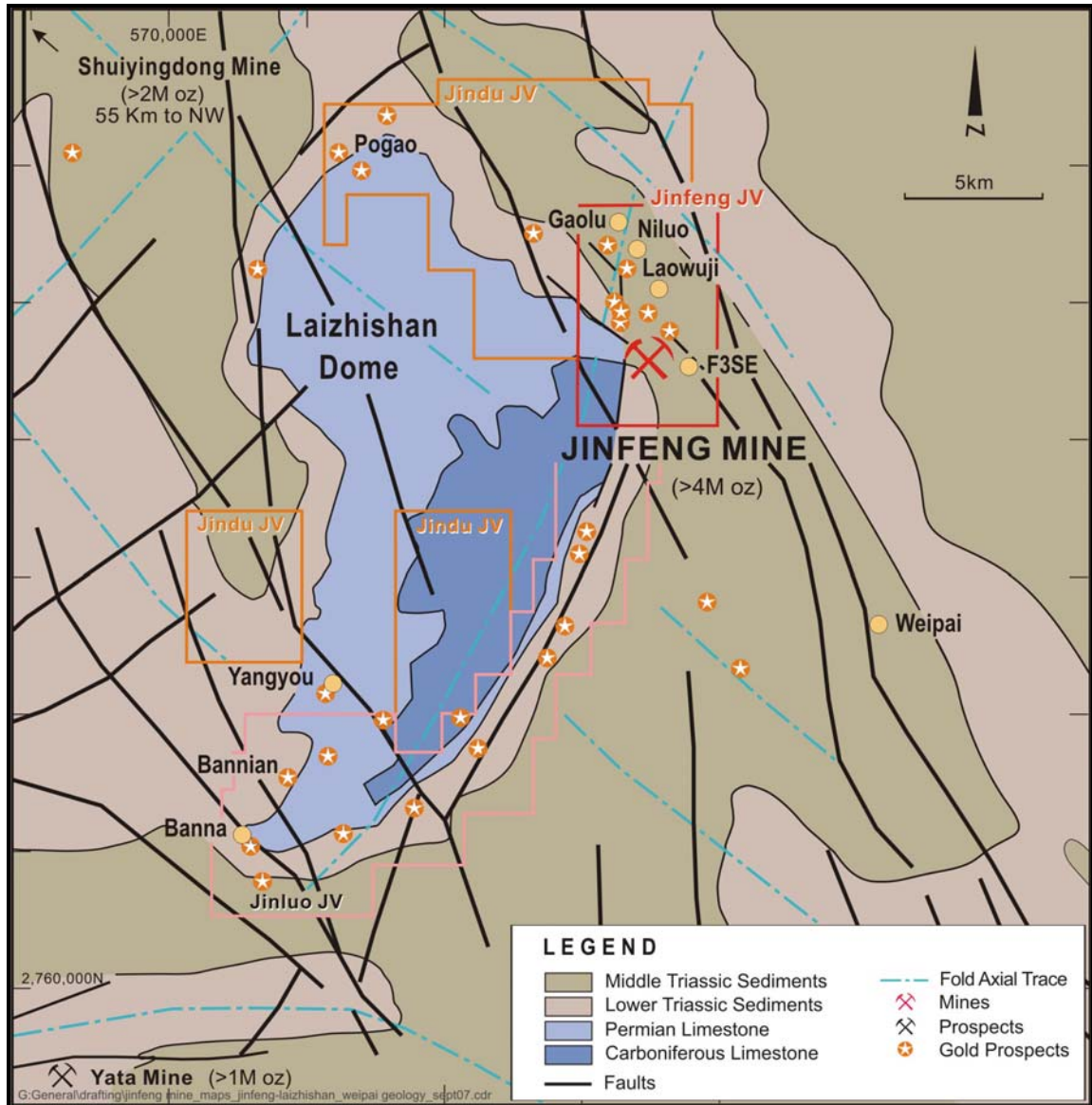


Figure 9-2: Location of the Jinfeng JV

Showing the Jinfeng JV exploration licence around the Jinfeng Mine Lease, the location of the Jindu JV licences and their relationship to the Laizhishan Dome

Source: Sino Gold Mining Limited

10 Drilling

Deep drill exploration holes are currently completed with five (5) Boart Longyear LF90 drill rigs and employ “Navidrill” directional drilling expertise. It is expected that approximately 36 drill holes will be completed in 2007, with each of these hole having total depths of 850 to 900m.

Best results from the deep drilling program are shown in Figure 10-1. Results from hole HDDS151 demonstrate the shoots of deeper mineralisation are open to the east from section 2080E, where this hole was drilled, as shown in Figure 10-1.

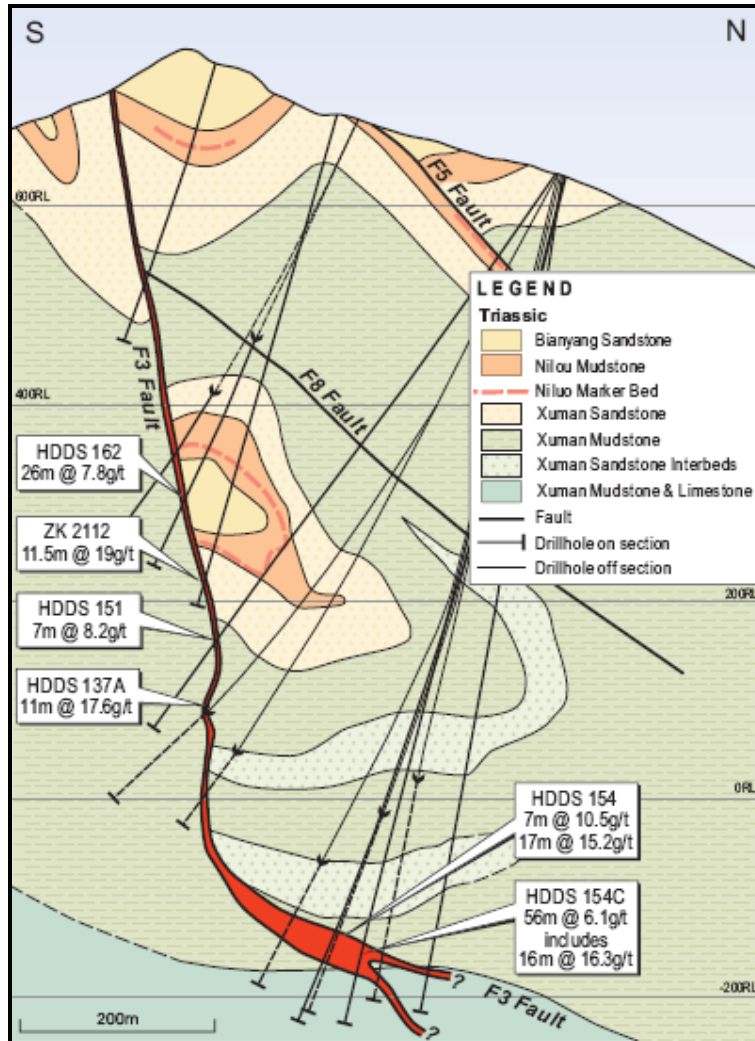


Figure 10-1: Section 2080E through the Jinfeng Deposit

(Source: Sino Gold Mining Limited)

In SRK’s opinion, the continuing deep drilling program at Jinfeng is well constrained by the detailed geological models and is optimised to incrementally increase the Resource in the deeper parts of the underground deposit.

Sino has maintained an active drilling program aimed principally at (i) extending the identified resource down-plunge to the ESE, and (ii) infilling the resource to upgrade resource categorisation as basis for estimating ore reserves. The Jinfeng resource is open on 2 levels extending down-plunge to the ESE, comprising an ‘Upper Zone’ and a deeper ‘High Grade Zone’, situated approximately

400-500m and 800-900m below surface respectively. In addition, the resource is open down-dip to the NNE, particularly at the western end of the deposit, where extension drilling is also continuing.

Near-mine exploration drilling is also continuing with the aim of extending the main Jinfeng deposit to the SE, or discovering satellite deposits to the NW of Jinfeng. Approximately 7 to 9 drill machines operate at Jinfeng on extension and infill drilling programs, including one on near-mine exploration.

11 Sampling Method and Approach

During a site visit SRK had an opportunity to observe

1. drilling core recovery from a double tube at one of the drilling rigs
2. drillers, logging and sample interval marking by geologist at the core shack,
3. core cutting and sample preparation in preparation laboratory as well core, rejects and pulps storage facilities.

The NQ core is recovered from the inner tube and placed into plastic core boxes marked with hole ID, successive number and depth interval. The boxes then are transported to the core shack and placed appropriately on the logging tables.

The logging geologists examine the core and collect data regarding physical properties, stratigraphy, lithology, structure and texture of the rocks as well as mineralization and alteration of the ore bearing intervals. The data are put on the template logging sheets using Jinfeng logging codes then copied to the exploration data base. The logging geologist also marks sampling intervals and the cutting line on the core. The sample interval is 1.0 metre long within an orebody which is a visibly mineralized zone but also an additional four samples in the hangingwall as well footwall of the mineralized zone are collected. Generally the cutting line follows the bedding of siltstone or fine grained sandstone which usually hosts disseminated mineralization, however in the case where irregular veining is present geologist attempts to select a representative section for both halves of the core.

After all procedures regarding logging are completed, the core boxes with selected sampling intervals are transported to the cutting section of the preparation laboratory which is located nearby the core shack and after splitting, all core boxes are stored in the exploration camp storage facility.

11.1 Sample History

Details of the number of samples in different categories is shown in Table 11-1. In the upper part of the pit (Stage 1), approximately one third of the samples that have been analysed for Au have also been analysed for As, S, Hg and Sb. In the lower part of the pit (Stage 2) approximately half of the samples that have been analysed for Au have also been analysed for As, S, Hg and Sb.

Table 11-1: Number of Samples by Source, Structural Zone and Element

Samples by Source	Total	Stage 1 Pit ¹	Stage 2 Pit ¹
Adit Channel Sample	1,321	1,071	250
Diamond Drill Hole	2,240	863	1,377
Surface Trench	918	747	171
Total	4,479	2,681	1,798
Samples by Domain	Total	Stage 1 Pit	Stage 2 Pit
F2	262	256	6
F3	3,404	2,108	1,296
F20	127	85	42
F8	109	65	44
Rongban	577	167	410
Total	4,479	2,681	1,798

Samples by Element	Total	Stage 1 Pit	Stage 2 Pit
Gold (Au)	4,479	2,681	1,798
Sulphur (S)	1,695	857	838
Arsenic (As)	1,771	870	901
Mercury (Hg)	1,695	857	838
Antimony (Sb)	1,695	857	838

(2) Stage 1 (Upper) and Stage 2 (Lower) parts of the Open Pit

11.2 Blast Hole Sampling

Angled blast holes drilled in the open pit are designed on a 5m (along strike) by 4m (across strike) staggered array. Over the area where the main zone of mineralisation is expected, the future blast hole drilling will be closed to a staggered array of 2.5m across strike by 4m along strike for the purposes of gaining a closer spaced samples of the mineralised domains.

Blast holes are drilled and blasted to 5m vertical depth within the ore domains in preparation for expected 2.5m mining benches. Sampling of the blast hole material for analysis of gold, sulphur, arsenic, mercury and antimony is done using a hollow stainless steel tube by taking a section through the blast hole fragment pile (cone) deposited on the floor of the pit by the blast hole rig. The tube is pushed into the pile and extracted with the sample in the tube. This is done a number of times in different locations around the circumference of the pile to obtain a sample of the blast hole material for that blast hole. The sample is analysed for Au, S, As, Hg and Sb and the results used for determining the mine block Au, As and S grades, assigning ore categories and to assist identifying the limit of the mineralised domain.

12 Sample Preparation, Analyses and Security

12.1.1 Sample Preparation Equipment

The sample preparation facility is located on-site and includes an office, oven units, pulverizing units and sample storage facility. The Assay Center of Northwest Non-Ferrous Geology Research Institute (NWGI) runs the sample preparation laboratory and conducts sample preparation and assay under contract. The primary function of this unit is to dry, crush and pulverize samples to the appropriate mesh size and split out the samples accurately to the correct pulp weight for transport to the NWGI laboratory in Xi'an.

The sample preparation facility is fitted out with the following equipment:

- 2 x Electric Thermostat Ovens Model 101A-4 380V 9000Kw, capacity of 40 samples each.
- 1 x Jaw crusher Model PEF, sample capacity of 100x60mm.
- 2 x Pulp Pulverizing Units Model F77, 1kg capacity pots with 1 major and 5 minor 'pill' rollers, input size 0.5-8mm, grinds to 120-200 mesh 3-5 minutes.
- 1 x small volume air compressor.
- Two un-hooded 'extraction' fans

All equipment (except compressor) was manufactured by Nanchang Huadong Factory of Grinder for Chemical Analysis.

12.1.2.2.0 Sample Preparation

Core is marked for cutting by the logging geologist. Generally the cutting line follows the beddings of siltstone or fine grained sandstone which usually host disseminated mineralization, however in the case where irregular veining is present the geologist tries to select a representative section for both halves of the core. Marked-up core is submitted to the core cutting area. Core cutters slice the core in half and return one side of the core to the core trays as the representative sample, while the other

half is placed in pre-numbered calico bags. These bags are then transferred to the sample preparation laboratory.

Samples are received in the oven room where they are dried in batches of 40 per oven at 60°C for 5 hours. The lower temperature is to reduce the loss of volatiles from the sample. The samples are then transferred to the pulp room and crushed in a jaw crusher to 5mm particle size. Crushed samples are stored in plastic trays then lined up to wait further processing.

The 5mm crushed material is then split 50:50 in a Jones-type riffle splitter, with one sample retained for any further analysis required in the future.

The other sample is subject to the following preparation:

- pulverized between -80 and +100 mesh (177 – 149µm).
- the sample is then poured out onto a plastic sheet and then transferred to a steel chute and feed through a 10mm Jones Riffle Splitter.
- From this material a reject and a primary pulp is produced with a weight of ~500g each.
- The reject sample is bagged, labelled and stored in the storage shed.
- The primary pulp sample is returned to the second LM pulverizing pot and milled to -200 mesh (75µm) for 6 minutes.
- The 200 mesh material is then emptied onto a plastic sheet.
- The preliminary pulp is then split again in the riffle splitter in the same method as above producing a residue and a primary pulp.
- A portion of the primary sample is then transferred to a Kraft paper sample bag using a scoop or tablespoon and then weighed to ~150g.
- The weight of this primary sample is recorded prior to packaging and dispatch.

The remaining residue samples and the reject samples from the coarse pulp grind are stored in appropriately labelled plastic drums in the sample storage shed. Samples are dispatched in batches of 150 -200 samples every 3-5 days from site.

12.1.3 Assaying

Analytical Laboratory

The primary laboratory selected to assay samples for the BFS was the Northwest Geological Institute (NWGI) in Xi'an, Shaanxi Province. The NWGI had previously provided assay services to other Sino Gold projects and has demonstrated international standard performance.

Sample Processing

Samples that arrived from site are accompanied by a sample dispatch sheet, which is checked to ensure that all samples were accounted for. The Jinfeng batch number is then allocated with a laboratory batch number. Sino batches are then split into smaller batches of 30-40 samples. The sample data is entered into the laboratories database where replicates and laboratory standards are allocated.

The internal laboratory standards were Chinese national standards and range from 1, 5 and 11ppm gold. Arsenic, mercury, antimony and sulphur standards were also added. These standards were inserted at the ratio of 2 to 3 samples per 30 samples, while one replicate sample was added in every 10 samples.

Sample Digestion

After all samples are allocated and check samples inserted, ca. 50g is accurately weighed out for analysis using an electronic balance and sample spoon. The three acid procedure, coded YD2.3.11-91 with nitric-hydrochloric acid (aqua regia) digestion used to dissolve the sample. A hydrofluoric acid finish was added to the solution, reacting with silica to completely destroy silicate matrices and thus liberate all trace constituents. This acid mixture is taken to incipient dryness in order for the

reaction to go to completion. The resulting residual cake is leached with hydrochloric acid, which is the second step in the process and coded YD4.5.1-91. All elements for determination following this digestion are normally considered to be "near total".

Assay procedures

Following the sample digest, the aliquot is diluted, mixed and presented to the Atomic Absorption Spectrometer (AAS) graphite furnace and analysed directly for gold for a range of 0.01 – 100ppm Au. An aliquot is removed prior to the AAS analysis and assayed by hydride generation Atomic Fluorescence Spectrometer (AFS) for arsenic, antimony and mercury for the respective ranges of 5 – 5000ppm As, 0.10 – 1000ppm Sb and 0.01 – 1000ppm Hg, laboratory code YD2.4.2-91. Sulphur is determined by titration of iodine reaction for a range of 0.1 – 10% S, laboratory code YD2.8.32-91

Results for the various samples are loaded into the previously setup database and the results emailed to the Jinfeng Data Administrator in the form of an excel spreadsheet. The structure of this form is set and does not vary from one batch to another. This allows ease of data merging at Jinfeng site. The results spreadsheet is emailed to 5 people including the Sino Gold Technical Services Manager in the Sydney office who maintains a separate database as a check on the master on-site database.

Turn around time for sample analysis from site was 2-3 weeks.

12.1.4 Analytical Quality Control

Insertion of duplicate and standard samples conformed to international standard practice to test laboratory's procedures for accuracy and precision, ensuring good QA/QC control on the assay data.

Duplicates

The previous 117 Geology Team program involved duplicate check assays sent to two laboratories (GMI and GME). The Jinfeng JV drilling program includes duplicate assays sent to the primary local laboratory, Northwest Geology Institute (NWGI) located in Xi'an, Shaanxi Province and an independent Australian laboratory, ALS-Chemex (ALS) in Brisbane.

Duplicate samples are taken in a sequence which is predefined by the sample sheet. This sequence requires a duplicate to be inserted at a ratio of 1:20 for the Chinese laboratory (Xi'an) duplicates and 1: 20 for Australian check duplicates for an aggregate ratio of 1:10 duplicate assays by both laboratories. Duplicate samples consist of 150g of reject assay pulp following pulverization (to 200 mesh) in the on-site sample preparation facility.

Standards

Standards are inserted at a ratio of 1:20. There are a number of different standards used and these have been obtained from two different sources in Australia. Each standard has been assigned a unique standard number that corresponds to a particular grade randomly inserted into the pre-assigned sample sequence as per the sample sheet.

NWGI also incorporated both internal standards and monitoring samples. The internal standards are Chinese national certified standards and the monitoring samples are composites derived from assay reject pulps from the Jinfeng JV project. Table 6-4-2 lists these standards and monitor samples and their agreed values and Figure 6-4-15 and Figure 6-4-16 show their performance.

12.1.5 SRK opinion

SRK's opinion is that sampling and sample preparation procedures and practises at the Jinfeng site are adequate and generally concordant with internationally observed QA/QC protocols. However several issues should be taken under consideration to improve these procedures as well as to assure complete security of assayed samples.

- A principal rule in exploration, especially for the precious metals, is that field samples (half of core) are shipped directly to the independent laboratory for sample preparation and assaying.

The preparation facility in Jinfeng site officially is run by NWGI laboratory but is located at the exploration camp and consequently could be accessed by third parties.

- To assure a proper QA/QC protocol, every batch of field samples should be equipped with:
 1. Field duplicate – which is a rule quarter of core not coarse reject or pulp
 2. Field blank – which is normally the same hosting mineralization rock but devoid of utility element (barren of gold)
 3. Standard – different standards in every batch
 4. Laboratory duplicate – coarse reject
 5. Pulp duplicate

Three first insertions are made at the exploration site without knowledge of laboratory personnel; laboratory and pulp duplicate are chosen in laboratory for its inner control.

Additionally exploration management should send periodically returned pulps to an independent external control (Sino complete this step by sending samples to a laboratory in Australia).

- Pulps and standards are stored in the same room at the Jinfeng preparation facility. This practise is not ideal for assuring the security of the pulps.
- Cleaning crusher and especially pulveriser only with compressed air could be not adequate. Using a pressure water stream is suggested followed with pressured air drying.
- The storage facility should be improved especially regarding coarse rejects and pulps. Presently they are stored in the plastic barrels but many of them are covered only with plastic tarp or canvas. Also there is no index of stored samples. When collecting control samples SRK found it very difficult to find a chosen sample from the database sample, many of them were missing or had been used for other testing purposes.

13 Data Verification

The main purpose of the SRK sample control visit was to collect control samples chosen from the exploration database and dispatch them to the independent laboratory other than the NWGI laboratory.

At the Jinfeng exploration site 150 samples consisting mainly of coarse rejects, but where these did not exist, pulps were collected. All selected samples were shipped to the Central Laboratory in Langfang under strict supervision of SRK.

All of the data concerning those samples was copied from the Sino exploration data base. Sino was requested to provide control assays and to have these performed in an independent laboratory in Australia.

The results of this QA/QC verification are not yet available.

14 Adjacent Properties

The only mineral property in the area near the Jinfeng mine is the Yata mine at Banqi, 30km SW of Jinfeng. Historical mining in the area consisted of a number of small oxide deposits which were processed using heap leach methods. The current operator on the Yata mine is attempting to treat the sulphide mineralisation.

15 Mineral Processing and Metallurgical Testing

15.1 Test-work methodology

The chronology of mineralogical and/or metallurgical testwork is shown in Table 15-1.

Table 15-1: Jinfeng Mineralogical and or Metallurgical Testwork Chronology

	Date and Company or Institute
China	March 1989 Changchun Gold Research Institute
	April 1990 Guizhou Province Metallurgical Design and Research Institute
	1991 Changchun Gold Research Institute
Others	1992,1993 Hazen Research Denver Colorado For Davy International
	1995 BHP
	1995 Newmont
	1996 Gencor
	2002 Roger Townsend and Associates
	2002 Terry Leach
	2003 Pontifex and Associates
Sino	2001-2003 Channel Samples for Changchun, Ammtex, Lakefield , AMDEL and BGRIMM
	2003 Core samples for variability testing Pontifex AMDEL BGRIMM and Lakefield for BIOX [®] compatibility

A bulk sample was collected using channel sampling techniques in 2003. This sample was to produce at least one tonne of concentrate for pilot testing of roasting or Biological leaching. The concentrate was prepared at the Beijing General Research Institute of Mining and Metallurgy (BGRIMM).

A suite of lump samples was collected for comminution testing at Amdel’s laboratory using the Julius Kruttschnitt Mineral Research Centre (JKMRC) drop testing and Advanced Media competency Testing for mill selection modelling.

The various testwork programmes have established that gravity methods and direct cyanidation were not successful on the Jinfeng ores. Whole ore roasting, whole ore bio oxidation and whole ore pressure oxidation have all been successful metallurgically but have cost implications due to the components the ore, or of capture of effluent gases, or high acid or reagent considerations. Alkaline pressure oxidation was also not successful.

Concentration by flotation which removed the naturally high carbonate levels of the ore and subsequent concentrate processing offered the best possibility of economic recovery of gold.

Biological leaching of Jinfeng concentrate was demonstrated by Gencor in South Africa and oxidation and CIL gold recoveries of 93% and 94% were achieved.

Comminution testwork has been completed and data generated to facilitate mill selection.

A substantial body of work has been completed to demonstrate the effectiveness of sulphide flotation to concentrate the Jinfeng ores. Two stage grinding and flotation with a primary grind of P₈₀ of 75 microns followed by rougher flotation with regrinding of the rougher tailing to a P₈₀ of 45 microns and subsequent scavenging in two stages was demonstrated. Cleaning of the primary concentrates with recirculation of cleaner tailings through the secondary ball milling circuit has been shown to provide consistent results and has been adopted for the Jinfeng plant.

In view of the graphite/pyrobitumen content of the ores a prefloat to remove the bulk of the material has been included.

15.2 General Description of Metallurgical Facilities

For the past 20 years the refractory gold resource at Jinfeng has been metallurgically tested in laboratories in China, Australia, South Africa and the USA. These tests have identified the ultra fine nature of the gold mineralisation within fine sulphides, mainly pyrite and arsenopyrite with minor occurrences in quartz, clays, carbonates and carbonaceous material. There are many similarities to the Carlin Trend deposits in Nevada.

The sulphide level in the Jinfeng ore is low between 1.5%S and 2.5%S. The minerals stibnite, realgar, orpiment and cinnabar are present but there is a lack of base metal sulphides which has precluded the use of concentrate or whole ore roasting techniques as an economic treatment route before conventional cyanidation for gold recovery. Tests have confirmed that autogenous roasting is easily achievable, plus flotation test at SGS Lakefield have confirmed that an 18% sulphur concentrate can be achieved.

The process plant design is based on a metallurgical flowsheet designed to optimise gold recovery and minimise cost of production. The unit operations comprising the flowsheet are all well proven and have been used in the proposed configuration in other successful operations. The route chosen includes primary crushing, semi-autogeneous grinding, ball milling bulk flotation, thickening, biological leaching, and neutralisation, CIL gold dissolution, AARL elution and tailings detoxification.

Tailings from Flotation and Leaching are impounded in separate storage facilities to avoid biocides returning to the process water circuit.

Where ever possible equipment has been sourced within China, usually for cost reasons. However, all such equipment has a working track record and no equipment is the first of its type and or size.

The prime criteria for the Jinfeng plant design was a capacity 1,200,000 tonnes per annum (tpa) of primary ore with a feed sulphur grade of 1.7% and a maximum grade of 2.25%.

Milling design availability of 91.3% is conservative but within normal levels of modern plants. Design availability of 95% for the BIOX[®], CCD, liquor neutralisation, CIL and detoxification circuits is as recommended by Gold Fields.

Monitoring of key process streams with essential automated control by Programmable Logic Controllers (PLC's) using a Citect platform is provided to support the plant operations and provide management data.

15.2.1 Plant

Subsequent to the preparation of the Project Feasibility Study a further review of the metallurgical data, design criteria and engineering practicalities was completed in the Optimisation Phase Report which resulted in some minor changes to the original flowsheet.

The process route incorporates recovery and blending of ore prior to single stage crushing to a stockpile, underground reclamation and conveying to a single low aspect ratio SAG mill. The discharged pulp is classified by cyclone with the underflow gravitating to the primary ball mill forming a closed circuit.

The cyclone overflow, P₈₀ 75 microns, flows to a prefloat stage for graphite/pyrobitumen control.

The prefloat tailings are conditioned and pass to primary flotation and primary concentrate is pumped to a concentrate thickener or to the cleaning circuit. Primary flotation tailings are pumped to secondary grinding and return, P₈₀ 38 microns, to two stages of secondary flotation. The secondary flotation tailings are pumped to the tailings thickener. Secondary concentrate is pumped to the three stage cleaning circuit.

Concentrate from the primary cleaner stage is pumped to the concentrate thickener. Concentrates from the second and third stages are pumped to the preceding stage. Cleaner tailings are returned to secondary grinding. After thickening the concentrate is transferred to either of two bio-oxidation surge tanks. Each surge tank feeds a discrete leaching suite comprising four primary leach tanks in parallel which are followed by four secondary leach tanks in series.

Leach residence time of 4.5 days is predicted at a pulp density of 20% weight/weight (w/w) and pH between 1.2 and 1.8 with the pulp temperature controlled at 43°C.

The design of the biooxidation section of the plant has been a separate package by Gold Fields/Gencor using the patented BIOX[®] process. A testwork programme was carried out in the SGS Lakefield, Johannesburg, laboratory utilising their 120 litre mini plant for continuous pilot testing. More than 1,000 kilograms of flotation concentrate was produced in a flotation programme in China transported to Lakefield and processed in several campaigns to produce the design and engineering data for the Jinfeng project.

The oxidised pulp from the Biological leaching tanks is pumped to a three stage continuous counter-current decantation thickener circuit for solids liquid separation. CCD thickener overflow is neutralised in six series agitated tanks with thickened flotation tailing to utilise the contained carbonates to a pH of 3.5 and lime to bring the pH to 7 before discharge into the flotation tailings thickener. Soluble arsenic is precipitated as a stable form of ferric arsenate. CCD thickener underflow is pumped to the pH adjustment tank before further pumping to the six stage CIL circuit with a residence time of 24 hours.

The elution of gold from the loaded carbon is by the AARL system with a 10 tonne capacity elution column. Mercury entrained on carbon entering the elution is captured in two ways:

- By fume extraction/scrubbing in the carbon regeneration area
- By calcination of electrowinning cell sludge and loaded cathodes condensing mercury vapour generated in the retort/calciner.

Tailings from the CIL circuit is detoxified by the INCO CuSO₄ and air/SO₂ method (using sodium metabisulphite).

15.2.2 Process Engineering Design Criteria

The process design criteria for the various sections of the plant have been based on extensive testwork with piloting of the process being completed where necessary. The proposed comminution circuits of the Jinfeng ore have been based on data from test samples drawn from channel sampling.

The primary jaw crusher SAG mill, primary and secondary ball mill, and lime slaking mill selected are Chinese in origin with a successful track record.

The flotation circuit and reagent suite has been developed through the work of several laboratories world wide. The circuit has been piloted to prepare concentrate for biological leaching testing. A factor of 200% has been applied to the laboratory residence times in line with normal practice. Flotation equipment chosen is Chinese and has been successfully employed in other successful plants.

The leaching circuit design including biological leaching, CCD circuit and neutralisation criteria have been developed from laboratory and pilot testing through the Goldfields /Gencor/Lakefield BIOX[®] continuous pilot plant. Engineering design data has been provided by Goldfields based on their experience in design of similar plants worldwide. The CIL and Gold room process design is of typical Australian design with the addition of mercury recovery. Tailings detoxification and liquor neutralization is by well proven and utilized processes.

15.2.3 Tailings Dams and Water Reticulation

Tailings from the process plant is in two parts:

1. The flotation tailings, which comprise the bulk of the solid residues from the plant operations, is stored in a discrete facility with supernatant liquor being recovered via a decant system at the dam for return to the plant process water system. The flotation tailings will also contain the ferric arsenate precipitated subsequent to the bioleaching of the concentrate. The flotation tailings are naturally alkaline with only 5% of the original Sulphide present is expected to remain alkaline to stabilize the arsenic storage
2. The residue from the concentrate processing section of the plant which is submitted to detoxification by the Inco $\text{SO}_2/\text{CuSO}_4$ /air process for cyanide destruction is stored in a separate facility with no return for plant use of the supernatant liquor.

15.3 Process Description

15.3.1 Crushing

Ore is received from the open pit and underground mines onto the ROM stockpile, where it is stored in elongated fingers of designated types according to its type. Ore is reclaimed from the finger stockpiles of the ROM stockpile area by front-end loader into the primary crusher feed hopper. The hopper is fitted with a stationary 500mm grizzly to prevent oversize from entering the crusher, and with dust suppression sprays. Ore is withdrawn from the primary crusher feed hopper by an inclined 1,200 x 3,000mm vibrating grizzly feeder at a controlled rate to discharge directly into the primary jaw crusher.

Grizzly fines and crushed ore are collected by conveyor running beneath the crusher which in turn feed the crushed ore stockpile conveyor.

15.3.2 Milling

Ore is continuously withdrawn at a controlled rate, nominally 150 dry tonnes per hour, from the crushed ore stockpile using a combination of a central apron feeder and two in line vibrating feeders each with variable speed drives. The feeder will discharge onto the SAG mill feed conveyor to feed the low aspect ratio SAG mill.

The mill, which is 5.03m diameter by 6.49m effective grinding length, is fitted with a 14mm internal grate between. The mill is driven by a 2.3MW variable speed drive. SAG mill discharge will flow by gravity to the primary cyclone feed sump, where it is diluted with process water and pumped to the primary cyclones for classification at 75 microns.

Cyclone underflow slurry is fed to the primary ball mill which is sized to reduce the particle size from an intermediate size P_{80} 367 microns to P_{80} of 75 microns. The ball mill is similarly sized to the SAG mill at 5.03m diameter and 6.79m Effective Grinding Length (EGL) and a 2.3MW drive. Primary ball mill discharge is recycled to the primary cyclones.

Overflow from the primary cyclones is sampled, passed over a vibrating trash screen to remove detritus and then gravitate to the pre-float section.

15.3.3 Concentrator

The overflow from the primary cyclones flows to the pre-flotation circuit. The pulp is at 20% solids w/w and floated in two 50m³ cells with MIBC alone as the frother. Testwork has demonstrated that approximately 55% of graphite/pyrobitumen can be removed in this stage. Pre-flotation concentrates is pumped direct to final flotation concentrate thus lowering the chance that organic carbon could absorb large quantities of flotation reagents.

Pre-flotation tailings is conditioned with flotation reagents CuSO_4 , PAX and MIBC, then floated for a total of 18 minutes Primary Flotation residence time in four 40m³ cells. Concentrate from the first two cells is pumped to the concentrate thickener, while concentrate from the remaining two cells is transferred either to final product or to the regrind mill circuit.

The Primary Flotation tailings is pumped to the secondary cyclones, to cut at 38microns. Cyclone underflow slurry will gravitate to the secondary ball mill. The size reduction required within the mill is from F_{80} 103 microns to P_{80} 38 microns. The mill is 3.8m in diameter by 6.2m effective grinding length and is powered by a 25MW drive. Secondary ball mill discharge is recycled to the secondary cyclones.

The overflow from the secondary cyclones will gravitate to a secondary flotation conditioner and six 100m^3 cells. After three cells a conditioner adds the provision to add sodium hydrosulphide to promote flotation. The tailings from the secondary flotation gravitate to a secondary scavenger conditioner prior to secondary scavenger flotation in three 100m^3 cells. After two calls a conditioner adds the provision to add sodium hydrosulphide and PAX to promote flotation.

These long flotation times, representing 200% of the batch laboratory flotation times determined from tests by Australian Metallurgical and Mineral Testing Consultants (AMMTEC), are deemed necessary for high recovery of gold. All secondary flotation concentrates are collected and pumped to the cleaner circuit.

Tailings from the final scavenger flotation stage is directed to the tailings thickener for water recovery prior to transfer to the flotation tailings dam. The scavenger concentrate and partial rougher concentrate is pumped to conditioner ahead of a series of six 40m^3 cleaner and cleaner-scavenger flotation cells. The cell configuration as is flexible to allow various cleaner, cleaner-scavenger combinations.

The cleaned concentrate prefloat concentrate and partial rougher concentrate is collected and fed to a thickener for dewatering.

Cleaner tailings is recycled to the secondary milling circuit cyclones.

15.3.4 Bacterial Leaching

Thickened flotation concentrate is pumped to each of two 800m^3 storage tanks providing a 48 hour surge capacity. Each storage tank feeds a train of four primary leach tanks followed by four leach tanks in series. Stored concentrate is pumped from the surge tanks to a feed splitter box above the primary BIOX[®] reactors and dilution water is injected into the pump discharge line to control the concentrate slurry density feeding the primary BIOX[®] reactors. The dilution water is a combination of fresh water sourced from the Luofan River and recycled BIOX[®] process water.

The splitter box will consist of a timed splitter to evenly distribute the diluted concentrate slurry to the four parallel, $1,000\text{m}^3$ primary BIOX[®] reactors. Nutrient solution is dosed to the feed splitter box to maintain the correct levels of nitrogen (N), potassium (K) and phosphorous (P) in the BIOX[®] reactors for optimum bacterial activity.

The primary BIOX[®] reactors will overflow into launders, which will deliver the partially-oxidised concentrate to the first of four, $1,000\text{m}^3$ secondary BIOX[®] reactors in series. By-pass launders will enable any one of the reactors to be taken off-line for maintenance. The first secondary reactor can be used as a primary reactor if required.

The BIOX[®] culture is kept active in the reactors by controlling the slurry conditions, specifically the temperature, oxygen level and pH, within specific ranges. The oxidation reactions are exothermic and it is necessary to constantly cool the slurry. Each reactor is equipped with cooling coil baffles through which cooling water is circulated to control the slurry temperature at 42°C in each reactor. The circulating water is cooled through cooling towers to remove the generated heat load. Oxygen requirements for sulphide oxidation are significant and medium pressure air is injected into each of the reactors by sparge rings installed below the agitator impeller. The slurry pH in each of the reactors is controlled between 1.0 and 1.6 by the addition of slaked lime slurry from a ring main system.

The oxidised product discharging from the final secondary BIOX[®] reactor will gravitate via a launder to a three stage counter current decantation solid liquid separation circuit using thickeners.

Spillage from the leaching section and hose-down water is contained within the section banded area.

CCD Wash Circuit

During the bio-oxidation of flotation concentrate, iron, sulphur and arsenic are solubilised. The soluble elements are washed from the oxidised residue in a series of three 15m diameter CCD thickeners. The oxidised residue will gravitate to the feed box of the first CCD thickener, combine with the overflow flowing by gravity from the second CCD thickener.

Flocculant are added to the feed boxes of all thickeners to flocculate the slurry prior to the feed well of the first CCD thickener to maintain a clear overflow. The overflow solution from the first CCD thickener will gravitate to the neutralization circuit. The underflow from the first CCD thickener is pumped to the feed tank ahead of the second CCD thickener and similarly for the second thickener to the third. The overflow from the third thickener will gravitate to second thickener feed.

The leaching process water is used as wash-water in the CCD circuit and is added to the feed tank ahead of the third CCD thickener.

The underflow from the last CCD thickener is pumped by the thickener underflow pumps to the pH adjustment tank ahead of the CIL circuit.

The iron, sulphur and arsenic is solubilised during biological oxidation to Fe^{3+} (as ferric sulphate), SO_4^{2-} (as sulphuric acid) and AsO_4^{3-} (as arsenic acid) respectively. The acidic solution will overflow from the first CCD thickener and be pumped to the distribution box above the first and second neutralisation tank.

The neutralisation circuit will consist of six aerated and agitated 300m³ tanks in series and the solution will flow from tank to tank via overflow launders.

The CCD liquor is neutralised in two stages. In the first stage flotation tails slurry is combined with the acidic solution feeding the first tank, utilising the natural basicity of the ore to raise the pH of the solution above pH 3. This allows the natural basicity of the tailings to be used instead of lime reducing costs. In the second step the pH is raised to between 6 and 8 in the remaining tanks using lime slurry.

Scaling can be expected in the neutralization tanks, due to Gypsum precipitation from lime addition and tanks are bypassed as required for cleaning and maintenance. The neutralised effluent is pumped to the flotation tailings thickener.

15.3.5 Carbon in Leach

The thickened underflow slurry from the last CCD thickener is pumped to the pH adjustment tank. Residual acid and any residual soluble arsenic is neutralized with lime and precipitated as gypsum and ferric arsenate prior to the pumping to the CIL circuit. Sufficient excess lime is added to raise the pH of the pulp to 10.5. The pH adjustment tank is sized to provide surge capacity between CCD and CIL circuits and sufficient residence time to ensure that there is a delay before the introduction of Cyanide into the CIL circuits.

The pulp with a nominal density of 30 to 35% w/w is pumped to the distribution box above the first tank of six 430m³ adsorption tanks in series. The conventional arrangement of interconnected with launders allows the slurry to gravitate through the tanks and tanks to be bypassed as required for screen and agitator maintenance. Dual mechanical agitators and a mechanically swept, woven wire intertank carbon retention screen are used in each tank. A travelling gantry hoist will facilitate the removal of the screens for maintenance and routine cleaning.

Barren carbon will enter the circuit at the final tank and is advanced counter-current to the slurry flow by pumping using recessed impeller, vertical spindle centrifugal pumps. The counter-current process is repeated until the first adsorption tank. Loaded carbon and slurry is recovered from the

first tank by recessed impeller pump to a loaded carbon recovery screen. The loaded carbon screen oversize will gravitate to the acid wash column and the screen under flow slurry will return to CIL tank.

The leach tails slurry from the final CIL tank will gravitate to the vibrating carbon safety screen to recover any carbon oversized carbon tanks. The carbon safety screen undersize pulp will gravitate to the tailings detoxification circuit. Sodium cyanide solution is metered into tanks 1, 2 and 3.

The CIL circuit will operate at high carbon concentration to counteract the preg-robbing capability of the graphite/pyrobitumen present in slurry after the prefloat.

Returned barren carbon and any make up is screened across a vibrating screen to remove fine carbon before entering the circuit.

15.3.6 Elution and Electrowinning

The Elution circuit is a typical AARL circuit using a 10 tonne elution column. It is intended to operate the plant on a five day week basis with one strip per day. There is a separate mercury elution cycle and mercury precipitation circuit.

The loaded carbon recovered on the loaded carbon recovery screen gravitates to the acid wash column and is manually controlled to fill the acid wash column. The acid wash and the pumping sequence is automated. During acid washing the dilute solution of hydrochloric acid 3% w/w is circulated through the column in an upward flow direction to remove contaminants, predominantly carbonates, from the loaded carbon. This improves elution efficiency and prevents the carbonates from reducing the carbon activity after regeneration.

After acid circulation the carbon bed is rinsed with fresh water. Four bed volumes of low salinity fresh water is pumped through the column to displace any residual acid from the carbon. The dilute acid and rinse water is disposed of directly to the tails hopper. Acid-washed carbon will then be transferred to the elution column from the acid wash tank. After a low temperature cyanide mercury elution, a dilute solution of caustic sodium cyanide is pumped through the column to elute the gold and silver from the carbon. The solution is heated through a heat exchanger and initially through a recuperative heat exchanger to maintain the strip solution at approximately 125°C.

A circulation time of less than one hour is sufficient to complete the elution. The column will then be flushed with fresh heated water pumped into the base of the column. The eluate and fresh water is cooled through the recuperative heat exchanger pre-heating the incoming solution. The eluate is circulated by pump in three electrowinning cells in parallel to electrowin both gold and silver from solution. Each electrowinning cell has 12 cathodes.

The electrowinning cycle will continue until the solution exiting the electrowinning cells is depleted of gold and silver values. After completion of the elution process, the barren carbon is transferred from the elution column dewatered and fed to a horizontal carbon regeneration kiln. The carbon is heated to 650 to 750°C for re-generation.

Regenerated carbon exiting the kiln is water quenched and then sized on a screen to remove fine carbon. The screen oversize will return to the CIL circuit and the undersize is discarded.

Mercury which enters the circuit via the loaded carbon and is not eluted is volatilised in the regeneration kiln. An extraction scrubber will capture the emission for the regeneration kiln and surrounding area. The cell cathodes consist of stainless steel wool. The loaded cathodes and cell sludge are recovered and calcined before smelting.

The calcining oven will remove and capture mercury by volatilization. The calcined residue will then be direct smelted with fluxes in a diesel-fired furnace to produce doré bullion.

The tailings from the final CIL tank is passed through a safety screen to capture any coarse carbon that has become entrained. The carbon safety screen underflow will gravitate to the feed distribution box ahead of two agitated, aerated interconnected tanks in series.

Sodium metabisulphite and copper sulphate is added into the feed distribution box to destroy free and weak acid dissociable (WAD) cyanides present. Lime is also added to provide protective alkalinity and the pH is maintained at 10. The resultant effluent is pumped to the CIL residue storage facility at a total WAD cyanide (CN) of less than 0.5g/m³. In order to control any heavy metal sulphides sodium hydrosulphide is added to precipitate sulphides.

15.3.7 Plant Services

Water

Water for the plant is pumped from the Luofan river adjacent to the mine site to the Raw Water tank for distribution to process water, fire water, camp water treatment etc. Where possible water is reclaimed within the plant before exiting in the plant tailings. The flotation tailings supernatant water is recovered by decantation and returned to the process water system. The water from the CIL tailings impoundment will not be recycled to the plant due to biocides such as thiocyanates present from the BIOX[®] plant.

Compressed Air

Compressed plant and instrument air is supplied at a pressure of 700kPa. The instrument air is dried via a refrigerated air dryer. Plant air and instrument air is reticulated throughout. Centrifugal blowers will supply medium pressure air at 120kPag which is reticulated throughout the leaching neutralisation, CIL and tails detoxification circuits with off-takes at each tank.

Power

The site power is nominated as a grid connected 1 x 20MVA 110/6.3kV power transformer connection. Sino advised that there is provision for a second transformer to be added. The standby power 1 x 1200kW of emergency diesel generators is installed at the BIOX[®] plant 6.3kV substation. The standby power will facilitate the maintenance of a viable culture in a minimum of one primary reactor.

Process Control Philosophy

The overall control philosophy of the Jinfeng process plant is to provide sufficient automation and instrumentation to assist the operators in monitoring and controlling the plant in order to maximize production and production efficiency. The functionality of the proposed system is provided by the three tier pyramid network.

The bottom tier comprises field devices, switches, contactors etc. The second tier consists of software configurable and programmable hardware (PLC's) which will implement sequence logic program and proportional integral derivative (PID) algorithms. The top tier, the overlying control system, is a SCADA-type Citect system. These systems and their components are robust and proven and currently in use throughout the gold industry and provide a reliable mid level of automation.

The sensors proposed are reliable and well proven. The number of operator interface terminals is typical of this type of plant.

15.4 Forecast Metallurgical Performance

15.4.1 Throughput

The design throughput of the Jinfeng plant is 1.2Mtpa ore. This is planned to be achieved using the crushing plant for 3,285 hours per annum, the milling circuit for 8,000 hours per annum at 91.3% availability and the BIOX[®], CCD, liquor neutralisation, CIL and detoxification circuits for 8,320 hours per annum at an availability of 95%.

The bioleaching section has the capacity to oxidise 74t of sulphur per day with the expected mean daily sulphur intake being 65.8t which equates to a daily throughput of 790t of concentrate at a grade of 8.32%S.

15.4.2 Head Grade

The plant gold head grade is expected to be 5.9g/t Au with a range of 5.5 to 6.3g/t Au. The plant sulphur head grade for flotation design purposes is 1.57%.

15.4.3 Tails Grade

It is anticipated that gold tailings grades will vary between 0.4 and 0.7g/t depending on the plant head grade. For sulphur tailings grades will similarly vary between 0.1 and 0.2%S.

15.4.4 Concentrate Grade and Sulphur Grade

Gold values for flotation concentrate are expected to range between 25 and 35g/t and will obviously depend on the mass pull to concentrate which for design purposes has been calculated at 22.8% but will range between 14 and 23%. Similarly for sulphur a design value of 10% has been used with a range of 8.3 to 12.5%.

In terms of mass of concentrate that the bioleach section can accommodate this will equate to 790t/day for a sulphur grade of 8.3% and 526t/day for a concentrate with a 12.5% sulphur grade.

15.4.5 Deleterious Elements in Concentrates

The presence of the sulphide minerals stibnite, realgar, orpiment cinnabar plus native arsenic in the Jinfeng ore means that after concentrating in the flotation section these minerals have the possibility of dissolving during bioleaching.

In the case of mercury the values in Table 15-2 are predicted from laboratory testwork or by predictions from technical literature.

Table 15-2: Process Behaviour of Mercury

Item	Value
Grade in ore	133g/t
Recovery into Concentrate	94%
Solubilised in BIOX [®]	2%
Solubilised in CIL	2 – 4%
Adsorbed onto Carbon	95%
Eluted from the Loaded Carbon	80%
Recovered in Calcine oven	99.9%
Volatilised in the Furnace	99%
Volatilised in the Regeneration Kiln	100%
Precipitated in Detox	99%

Arsenic in the form of arsenopyrite, realgar and orpiment is recovered to the flotation concentrate and the arsenic is solubilised in the biooxidation process.

The iron to arsenic ratio in solution dictates the stability of the arsenic precipitates formed on neutralization of the leaching waste liquor. Providing the molar ratio of iron to arsenic in solution is greater than 3 ensures a stable ferric arsenate is formed. For Jinfeng, the ratio of iron to arsenic in the concentrate is expected to be >8 and environmentally acceptable effluents are expected.

The Jinfeng concentrate contains relatively low antimony and no toxicity effect from antimony is foreseen.

Lead sulphide minerals forms insoluble PbSO₄ during biooxidation. Levels in Jinfeng ores are low and should not cause process problems. Gold Fields/Gencor recommend lead concentration in solution should be occasionally monitored to give an early warning of a threat to bacterial activity.

15.4.6 Metallurgical Recoveries

The designed plant recoveries are as follows:

- Flotation – Sulphur recovery – 95% into concentrate
- CIL – Gold recovery – 93.1% from concentrate
- CIL – Silver recovery – 80% from concentrate

15.4.7 Plant Maintenance Philosophy and Procedures

The plant has been designed to operate at normal availabilities for plants of this type throughout the world. The plant layout is designed with maintenance in mind and facilitates crane access for major equipment. Critical items of equipment such as pumps are provided with standby facilities.

Tanks have launders and connection systems which facilitate individual equipment isolation for repair without total process interruption.

Similarly in the event of power interruption there is sufficient power available to sustain the materials in process until full power is restored allowing resumption of feed.

15.4.8 Housekeeping

The plant has been designed with normal “Western” style access and plant sections and circuits are contained in spillage recoverable wash down areas.

15.5 Forecast Reagent Consumption

The forecast reagent consumption for the Jinfeng flotation plant is shown in Table 15-3, for the Bioleach plant in Table 15-4 and for the CIL plant in Table 15-5.

Table 15-3: Forecast Reagent Consumption – Jinfeng Flotation Plant

Reagent	Reagent Consumption in kg/t of ore processed
Copper sulphate	0.80
Sodium Hydrosulphide	0.65
Potassium amyl xanthate	0.72
Frother (MIBC)	0.28
NaHS	0.04
Carbon collector	0.03
Flocculant	0.03

Table 15-4: Forecast Reagent Consumption – Jinfeng Bioleaching Plant

Reagent	Reagent Consumption in kg/t of ore processed
Lime Addition	67kg/t
Acid Addition	15kg/t
Nitrogen	1.00kg/t
Phosphorus	0.20kg/t
Potassium	0.50kg/t
CCD Flocculant	0.13kg/t
CCD Lime Neutralisation	82kg/t

Table 15-5: Forecast Reagent Consumption – Jinfeng CIL Plant

Reagent	Reagent Consumption in kg/t of concentrate produced
NaCN	12kg/t
Activated carbon	20g/litre
HCl	Batch
NaOH	Batch
NaHS	0.05kg/t
Lime	10kg/t

15.6 On-site Assay Laboratory Standards

The onsite assay laboratory has been built and operated to international standards and the onsite metallurgical laboratory is fully equipped for routine metallurgical tests including flotation.

15.7 Metallurgical Sampling and Accounting

The planned sampling regime is to international standards and facilitates full metallurgical accounting of ore treated however SRK has not yet reviewed such an accounting.

15.8 Throughput Expansion Potential

During the design phase and optimization study the engineer gave thought to the possibility of increasing the plant throughput by 50%. The crushing capacity is adequate for the expanded rate. The milling capacity will have to be increased by adding a second primary ball mill and possibly a second secondary ball mill. Real Estate is available to facilitate the expansion. The flotation capacity will have to be increased and is allowed for in the plant layout. Thickener design for concentrate and tailings have large safety factors and should accommodate 50% expansion. However real estate is available for additional units. BIOX[®] capacity is based on sulphur oxidation capacity. A third train can be accommodated in the area. The possibility exists that with knowledge of the plant operation the existing two train leaching section could cope with a 50% expansion if flotation concentrate quality is modified. CCD thickeners as other units have a safety factor that may allow the processing of the expansion. Real estate exists for the installation of a second train. Neutralisation capacity will have to increase and this can be accommodated within the current plant footprint.

The CIL circuit designed on residence time has the capacity to allow the 50% expansion and the elution system is based on a 5 strip per week regime which can be increased to cope with the expansion. Tailings disposal will have to be improved to accommodate a 50% increase in throughput. Reagent Mixing can adequately cope with the expansion.

Utilities such as power, electrical services, air systems and water cooling will have to be expanded to facilitate plant expansion.

15.9 Construction Status

Sino reported in their June quarterly report as follows:

“Gold production commenced in mid-May following completion of lining the CIL dam. Commissioning and production ramp-up proceeded in line with expectations until continuous operation was impacted by rainfall across southern China in late June. Gold recovered totalled 9,840 ounces for the June quarter.

For the month of June, highlights of performance were:

- Gold recovered of 5,800 ounces;
- Gold sold of 2,542 ounces at an average price of US\$646/ounce;
- Milling of 53,000 tonnes at a head grade of 5.5g/t gold;
- Following initial availability issues associated with the tailings thickener, the grinding and flotation circuit operated with good availability of 87% from 10 June 2007;
- Average milling rate of 115 tonnes per hour or 77% of design; and
- The BIOX[®] section performing well with concentrate supplied to the BIOX[®] plant increasing to an average of approximately 80% of planned throughput rates.

The crushing, grinding and BIOX[®] circuit capacity appear to be capable of comfortably achieving levels required to meet the design throughput rates of 1.2 million tonnes per annum.

Flotation recovery of up to 80% has been achieved. However, average recoveries have been impacted due to the flotation circuit operating intermittently as concentrate feed rates have been restricted during the ramp-up to BIOX[®] design capacity.

Persistent rainfall in late June necessitated the Company to cease operating the CIL circuit and reduce BIOX[®] processing so that excess water could be removed in a controlled manner from the CIL dam. The month of June is typically the peak of the wet season at Jinfeng, with May and July averaging 50% less rainfall than June. Works have been initiated to improve the project's capacity to divert run-off water from entering the CIL dam.

Subsequent to relevant approvals being obtained, sufficient water was removed to enable re-commencement of tailings discharge from the processing plant to the CIL dam on 17 July 2007.

Following the slow start to production in July, it is anticipated the plant will ramp-up to design throughput and production levels over the course of the September quarter. Jinfeng's gold production is currently forecast to total 70,000 to 75,000 ounces for 2007."

16 Mineral Resource and Mineral Reserve Estimates

16.1 Mineral Resource Estimation

A Resource estimate of the Jinfeng deposit has been made using drill hole, underground adit, underground drill hole and surface trenching results.

On 30 April 2007, Sino Gold released an updated Mineral Resource estimate for the Jinfeng gold deposit of 28.6 million tonnes at 5.0g/t gold, containing 4.6 million ounces. The table below summarises and compares the April 2007 estimate and the previous estimate published in February 2006.

Table 16-1: Jinfeng Mineral Resource estimate, February 2006 and April 2007

Resource Category	April 2007			Change	February 2006		
	(at 1.0 and 2.0 g/t Au cut-off grades)				(at 2.0 g/t Au cut-off grade)		
	Tonnes	Grade	Ounces		Tonnes	Grade	Ounces
	(' 000)	(g/t Au)	(' 000)		(' 000)	(g/t Au)	(' 000)
Measured	15,408	5.3	2,617	14%	13,420	5.3	2,287
Indicated	8,593	4.7	1,305	13%	7,766	4.1	1,029
Sub-total Measured + Indicated	24,001	5.1	3,922	14%	21,186	4.9	3,316

The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources used to produce the Ore Reserves.

16.2 Ore Reserve Estimation

The updated Ore Reserve estimate for the Jinfeng gold deposit totals 17.6 million tonnes at 5.7g/t gold, containing 3.2 million ounces, as shown in Table 16-2. The May 2007 estimate represents a 12% increase in contained gold over the April 2006 Ore Reserve estimate.

Table 16-2: Jinfeng Ore Reserves estimates, 2006 and 2007

	May 2007				April 2006		
Ore Reserve	Tonnes	Grade	Ounces	Change	Tonnes	Grade	Ounces
Category	('000)	(g/t Au)	('000)	In Ozs	('000)	(g/t Au)	('000)
Proved	11,965	5.8	2,218	+11%	11,088	5.6	1,997
Probable	5,600	5.5	992	+14%	5,331	5.1	872
Total	17,565	5.7	3,210	+12%	16,419	5.4	2,869

This new Ore Reserve estimate has increased by 341,000 ounces over the previous estimate, due to the addition of 1.2 million tonnes of ore and the average grade increasing to 5.7g/t gold from 5.4g/t gold previously. Proved Reserves comprise approximately two-thirds of the total Ore Reserve.

Nearly all (93%) of the open-pit Ore Reserves are in the Proved category, while 58% of the underground Ore Reserves are now in the Proved category.

Approximately 82% of Measured and Indicated Resources have been converted to Ore Reserves. The planned underground mine contains an estimated 2.2 million ounces of Ore Reserves, with the remaining 1.0 million ounces contained in the planned open pit and ore stockpiles. The Ore Reserve increase has been provided by an increase in the underground Ore Reserve.

Table 16-3: Jinfeng Ore Reserve Estimate, May 2007

	Category	Tonnes	Grade	Gold
		'000	g/t Au	'000oz
Open Pit	Proved	5,276	5.2	889
(1.5g/t Au c/o)	Probable	503	3.9	63
Total OP		5,779	5.1	952
Underground	Proved	6,435	6.2	1,282
(2.9g/t Au c/o)	Probable	5,097	5.7	929
Total UG		11,532	6.0	2,211
Stockpile	Proved	254	5.7	47
Total Ore Reserve	Proved	11,965	5.8	2,218
	Probable	5,600	5.5	992
Total OP + UG		17,565	5.7	3,210

Under current mine plans, ore is to be sourced concurrently from the open pit and underground mine. This will bring forward the higher grade underground ore and enable the average head grade to approximate the average Ore Reserve grade of 5.7g/t gold.

Diamond drilling of the Jinfeng deposit continues to confirm the deep high-grade zone plunging east-southeast and the important new upper eastern zone of mineralisation closer to the surface along strike. Five diamond drill rigs are currently testing these zones. Both zones plunge east-southeast and remain open.

16.2.1 Background & Key Parameters for Ore Reserve Estimate

On 30 April 2007, Sino Gold released an updated Mineral Resource estimate for the Jinfeng gold deposit of 28.6 million tonnes at 5.0g/t gold, containing 4.6 million ounces. Approximately 83% of the total resource is in the Measured and Indicated categories.

The new Ore Reserve estimate is based on detailed geology, rigorous modelling and estimate methodologies that demonstrate the robustness and quality of the Jinfeng orebody, which remains open in two main directions.

The cut-off grades for this Ore Reserve estimate are based on a gold price of US\$500/oz. Key parameters for the open pit are a strip ratio of 14.9 to 1, a cut-off grade of 1.5g/t gold, mining dilution of 5% and a base of the open pit at 415mRL.

Mechanized cut-and-fill methods are planned for the underground mine. Key parameters for the methods are mining recovery of 88%, dilution of 14% and a cut-off grade of 2.9g/t gold.

16.2.2 Competent Persons

The following individuals take responsibility for the following information in this document:

- **Dr John Chen**, who is Sino Gold’s Manager – Mining Technical Services, takes responsibility for the information relating to the Ore Reserve estimate. He is a mining engineer with over 20 years experience in the mining industry and is a Member of The Australasian Institute of Mining and Metallurgy (“The AusIMM”).
- **Mr Phillip Uttley**, who is Sino Gold’s Chief Geologist, takes responsibility for the information in this report which relates to the Mineral Resource estimate. He is a Fellow of The AusIMM and has over 25 years relevant experience in exploration and evaluation of gold deposits, including the estimation of resources in structurally controlled gold deposits and replacement-style gold deposits.

Each of the above individuals are full-time employees of Sino Gold and have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as Competent Person as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (“2004 JORC Code”) and consent to the publication of this information in the form and context in which it appears.

As required under NI43-101 section 1.3 and 1.4, SRK indicates that the standard used for estimation and categorization of the Resource and Reserves estimates in this report is the JORC Code (2004). The differences between the JORC Code and the Canadian Institute of Mining, Metallurgy and Petroleum (“CIM”) guidelines are not substantial or material in their criteria for categorization. However the CIM guideline does not allow the addition of Inferred Resources to Measured and Indicated Resources. SRK has abided by this guideline as shown in Table 16-1.

16.2.3 General Parameters Utilised for Ore Reserve Estimates

The cut-off grades for the May 2007 Jinfeng reserve estimate are based on:

- a gold price of US500/oz; and
- estimated average, long-term operating costs which have been updated for variations in key cost since April 2006, such as increased diesel, labour, cyanide and lime costs.

Notes on Open Pit Ore Reserve Estimate

The Open-Pit Ore Reserve estimates were based on the April 2007 SRK Uniform Conditioning Resources Block Model. The ore stockpiles and Ore Reserves for the planned open pit at Jinfeng are reported in Table 16-4 at a 1.5g/t gold cut-off grade.

Table 16-4: Jinfeng Open Pit Ore Reserve, May 2007

	Category	Tonnes '000	Grade g/t Au	Gold '000oz
Open Pit	Proved	5,276	5.2	889
(1.5g/t Au c/o)	Probable	503	3.9	63
Total OP		5,779	5.1	952
Stockpile	Proved	254	5.7	47
Total Ore Reserve	Proved	5,530	5.3	936
	Probable	503	3.9	63
Total		6,033	5.2	999

The open-pit reserve is based on a practical pit design, which was reported against the Uniform Conditioning (“UC”) Mineral Resource model. The UC model parent cell size was 30m by 8m by 5m vertical and UC modelled the selectivity of a selective mining Unit (“SMU”) of 5m by 4m by 5m vertically. The UC estimate was made independently by Mr Daniel Guibal, Corporate Consultant (Geostatistics and Resources), of SRK Consulting. The Whittle pit optimisation was performed by Mr Danny Kentwell, Senior Consultant (Resource Evaluation) of SRK Consulting. He used the updated cost parameters and a gold price of US\$500/ounce. The optimised pit shell which was used as the pit design was essentially the same as the one used in the previous pit design. The pit design was generated by Mr Weifeng Li of West Swan Pty Ltd and provided to Sino Gold for Ore Reserve reporting. The open pit Ore Reserve estimates were then audited by Mr Weifeng Li.

The base of the pit design is at the 415m RL and the strip ratio for the open pit is 14.9 to 1. A 5% dilution at an average diluting grade of 0.5g/t gold was added to the Measured and Indicated Resource blocks inside the March 2007 digital terrain model (DTM) limits of the practical pit design.

Notes on Underground Ore Reserves Estimate

The Jinfeng Ore Reserves estimate is reported in Table 16-5 below in two separate underground mining areas - the main Huangchanggou (“HCG”) orebody and the Rongban orebody. The Underground Ore Reserves estimate was based on the April 2007 SRK Conditional Simulation Resources Block Model and used a cut-off grade of 2.9g/t gold.

The Conditional Simulation Model performed 100 Conditional Realizations. The realization showing the median contained metal was adopted for the estimate of the Ore Reserves. The Conditional Simulation estimate was made independently by Mr Daniel Guibal, Corporate Consultant (Geostatistics and Resources), of SRK Consulting.

Table 16-5: Jinfeng Underground mine Ore Reserves, May 2007

	Category	Tonnes '000	Grade g/t Au	Gold '000oz
	Proved Ore Reserve	5,895	6.3	1,185
	Probable Ore Reserve	4,784	5.7	873
	Total - HCG	10,679	6.0	2,058
	Proved Ore Reserve	540	5.6	97
	Probable Ore Reserve	313	5.5	56
	Total - Rongban	853	5.6	153
	Proved Ore Reserve	6,435	6.2	1,282
	Probable Ore Reserve	5,097	5.7	929
	Grand Total	11,532	6.0	2,211

Calculation of Cut-off Grade for Underground Ore Reserve

The underground cut-off grades are break-even grades, at which total operating cost is equal to the value of the recoverable gold metal. Cut-off grade were calculated at 2.9g/t gold for both the HCG and Rongban orebodies.

AMC Diluted Block Model

AMC Consultants were independently retained to determine the potential mineable tonnage and grades for the Jinfeng underground mine. The methodology used includes the creation of a diluted Datamine block model at the respective cut-off grade. The AMC Consultants’ diluted block model excluded the blocks under a minimum mining width and minimum barren pillar width of 2.5m.

Internal barren blocks with a width of less than the minimum barren pillar width became internal dilution.

The AMC Consultants' diluted block model also created hangingwall and footwall dilution blocks. These blocks usually have grade below the cut-off grade, and they become parts of the dilution of underground mining.

Underground Mining Methods

Underhand and overhand cut-and-fill methods were selected as the underground mining methods in the 2006 Ore Reserves estimate with a lift height of 5m and sublevel interval of 20m. The same mining methods were adopted in the current Ore Reserves estimate. Some revisions were made to the mine plan developed in 2006 with the level development modified to suit the new orebody geometry and extended to the east and/or west to access the additional mining blocks. The depth of the mine has deepened by 160m to -120mRL. The Rongban orebody will be accessed at different levels either via the mine development planned for HCG or from a new horizontal crosscut planned from the adjacent hill side. Only the mining blocks that have mine access planned are included in the Ore Reserves Database. A 10m rib pillar was allowed against the pit wall, and ore recovery is reduced for the mining blocks immediately under the pit bottom, after considering the possible need for permanent ore pillars in these mining blocks. Multiple mining fronts or levels are planned for HCG to maintain a high underground production rate, creating several crown pillars which have also been taken into account in the estimation of reserves. Total ore loss and dilution are summarized in Table 16-6.

Table 16-6: Jinfeng underground mine, assumed mining loss and dilution values

Item	Value
Ore loss- AMC diluted model	3.2%
Design ore loss	5.7%
Ore loss to backfill and others	3.0%
Total Ore Loss	11.9%
Internal dilution- AMC diluted model	2.1%
Hangingwall dilution (0.5m)	4.3%
Footwall dilution (0.25m)	2.1%
Backfill and other dilution	5.0%
Total Dilution	13.5%

The design ore loss includes ore losses related to the irregular orebody geometry and discontinuity, and permanent ore pillars allowed in crown pillars.

Audits and Reviews

The 2007 'recoverable resource' estimates were calculated independently by consultant geostatistician, Mr Daniel Guibal, FAusIMM (CP) of SRK Consulting. The categories of tonnages contained in the Sino Gold Mineral Resource estimate (i.e. - Measured, Indicated and Inferred) were reviewed independently by Mr Guibal and found to be reasonable.

The open pit Ore Reserves were estimated by Sino Gold employees and have been independently audited by Mr Weifeng Li of West Swan Pty Ltd.

The underground Ore Reserves were estimated by Dr John Chen of Sino Gold have not been independently audited, but involved an independent consultant from AMC.

Relative Accuracy/Confidence

The cut-off grades for the Jinfeng reserve estimate are based on a gold price of US\$500/oz. If a gold price of US\$700/oz is assumed, then the application of lower cut-off grades would increase total contained gold by approximately 0.25 million ounces. In the centre of the Jinfeng deposit, the orebody remains open down dip to the northeast, mainly associated with the F7 fault, and further exploration drilling will test the resource potential down-dip.

To the east-southeast, within the high-grade zone at depth, the orebody remains open and there are Inferred Resources at depth which will need further drilling to be converted into Indicated Resource. Drilling is continuing in this down-plunge direction.

Essentially the orebody remains open in the two main directions and a further resource and another ore reserve estimate will be required at an appropriate time in the future, based on ongoing drilling results.

17 Other Relevant Data and Information

17.1 Geotechnical Engineering

The geotechnical conditions at Jinfeng Mine were assessed by SRK over a three day period between 14 October and 16 October 2006.

Geotechnical observations and opinions that are given in this report are based on a review of available information and onsite discussions with Messrs John Chen, Ross Jenkins, Joe Skrypniuk and Feng Jun Bo. Information that was made available to SRK and reviewed for the purposes of this report are documented in the references section.

At the time of the SRK site visit the mine development/operations status, as applicable to geotechnical issues, was as outlined below:

- **Open Pit:** Excavation commenced to a level of approximately 720m. The maximum pit wall height was about 30m. All slopes in weathered material. No production at time of visit.
- **Underground Operation:** No mining. Design available and Sino anticipated commencement of decline within about a month. Site investigation in progress for shafts.
- **Plant Area:** Earthworks and foundations completed. Superstructure under construction. Completion expected in about January to February 2007.
- **Office and Accommodation:** Earthworks and foundations completed. Superstructure under construction. Completion expected within about one month.
- **Access Roads:** Formed and being maintained.
- **Tailings Delivery and Water Return Pipelines:** Under construction.
- **Tailings Storage Embankments (CIL and Float):** Construction has been completed. The CIL TSF was modified at the request of Chinese Government authorities to include a full basin liner.
- **Water Diversion Tunnels:** Completed.

17.2 Overview of Geotechnical Conditions

Topography and Hydrology

The topography of the region has two distinct styles that are influenced by the underlying geology. The Jinfeng mine area is located on the watershed between the Beipan River to the east and the Luofan River to the west.

To the west of Jinfeng mine, where the lithology is predominantly Permian karstic limestone, the topography is rugged and has features that are typical of Karst. The range of elevation is from approximately 350mRL to nearly 1,150mRL. Sinkholes are common and are commonly very large. Surface water is somewhat intermittent within this terrain, with many water courses flowing in cave systems below surface. During the wet season, according to Sino site personnel, very large flows can develop in subterranean river systems.

Golder (2003) has formed the opinion that this will not have a direct impact on the mine-site, although it is an issue for the access road to the mine and possibly for the future location of infrastructure.

The topography at the Jinfeng mine site is not as rugged as it is within areas underlain by Karst. There are, however, substantial topographic variations from about 400mRL to 760mRL with natural slopes ranging from 20 to 35°. The Jinfeng mine area is underlain by Triassic sandstones, siltstones and mudstones. The amount of surface water in creek beds is normally limited unless heavy rain occurs. Most rainfall is likely to be shed to the major rivers in a very short period of time. However, the water supply for local rice terraces appears to be perennial.

Golder (2003) have noted that “A review of the local literature and observations at the mine site indicate very few natural landslides within the Triassic Lithologies. Those that do occur are usually associated with areas of artificial over-steepening such as road cuttings and are limited to a maximum height of perhaps 50m. They appear to be mostly bedding or fault plane related and most likely occurred during heavy rain.”

At the time of the SRK site visit evidence of natural slope instabilities was observed at a number of locations. The scale of these instabilities is not known. During the site visit SRK observed that slope failures and areas of instability associated with road cuttings were common. SRK note that the rugged topography and numerous cuttings that are required for the development and operation of Jinfeng presents a risk. SRK are of the view that this risk can be properly managed by identifying areas most susceptible and implementing appropriate procedures and/or engineering works. Proper management of storm water is also important. During discussions with on-site personnel SRK formed the opinion that Sino has a good appreciation of the risks associated with natural slope failure.

17.2.2 Geology

A schematic section through the Huangchanggou prospect, as interpreted by the Sino Jinfeng Geology Department, is given in Figure 8-1. From this figure it can be seen that the geology of the Huangchanggou prospect is highly folded and faulted.

The interpreted local Jinfeng stratigraphy (Lannigou Middle Triassic) that is expected to be intersected by the mining operations is summarised in Table 17-1.

Table 17-1: Lannigou Middle Triassic Local Stratigraphy (after Sino Gold, 2006)

Formation Name	Member	Thickness	Map Code	Description
Bianyang		>270m	T_{2by}	Dominated by thick to medium thick, minor massive bedded fine-grained quartz sandstone, siltstone and wacke interbedded with mudstone and claystone. Clastic components are dominated by quartz grains with minor feldspar, anatase and rutile. Matrix minerals include clay, carbonate and silica. Host sequence for economic Au mineralisation.
Nilou		10 to 50m	T_{2nl}	Considered a local marker horizon. Grey to dark grey thin bedded claystone to mudstone containing abundant bivalve and plant fragment fossils. Interbedded with limestone and muddy limestone to 10m thick. Can host Au mineralisation with favourable structure.
Xuman	Unit 4 Subunit 4	30 to 110m	T_{2xm}^{4-4}	Light grey to grey thick to massive fine sandstone, siltstone and muddy siltstone. Common claystone interbeds. Coarse cubic to aggregated fine-grained diagenetic pyrite common. May host Au mineralisation.
	Unit 4 Subunit 3	50 to 210m	T_{2xm}^{4-3}	Mudstone with fine siltstone interbeds. May host Au mineralisation with favourable structure.

The structural evolution of the Lannigou area is reported, by Sino, to have involved four stages of stress orientation from north-south, to east-west, to northeast-southwest and then northwest-southeast. The interaction of these stress orientations has resulted in the formation of the Laizhishan Dome short axial anticline, the Banchang Thrust and a series of steeply dipping reverse faults.

The main fault orientations in the Lannigou area are northwest-southeast, northeast-southwest and north-south. The northwest-southeast faults include the F3 fault which is the main mineralised zone of the Huangchanggou prospect. Dips are generally steep (65 to 85°) to the north-east but the F3 structure is overturned and dips steeply to the southwest in its upper portions but changes dip to a consistent steep north-east dip below approximately 600mRL. Structures in this orientation have been described as reverse faults with a dextral strike-slip component as a result of northeast to southwest oriented compression.

The north-south oriented structures are also compressive reverse faults. The F1 fault has a shallow to moderate dip to the west and forms a boundary between the Permian carbonaceous sediments to the west and Middle Triassic clastic sediments to the east. The F7 and F9 faults have moderate to steep dips to the east (45 to 70°).

17.2.3 Rock Mass

Golder (2003) has made an evaluation of rock mass characteristics for the purposes of surface and underground mine design.

Sino has a geological database that includes measured discontinuities, a description of discontinuity characteristics, and other rock properties including Rock Quality Designation (RQD). A summary of the measured RQD by rock types and stratigraphy within the FW and HW, that was extracted from the Sino database is given in Table 17-2.

Table 17-2: RQD Summary by Stratigraphy for FW and HW (SRK, 2006)

Formation	FW		HW	
	% of Rock	Average RQD	% of Rock	Average RQD
T2by	49%	62%	91%	42%
T2nl	6%	64%	5%	30%
T2xm4-3	22%	52%	2%	23%
T2xm4-4	23%	49%	2%	42%

The structure of the Sino Jinfeng Geology Department database, and the type of information that has been recorded, does not allow ready application of rock mass classification systems to the data. However, by consideration of the available information an *estimate* of the rock mass quality value (Q) has been made as summarised in Table 17-3. Figure 17-1 shows that the FW rocks as a whole are, on the basis of the available information, likely to be more competent and require less support.

Table 17-3: Interpreted Rock Mass Quality Value in FW and HW (SRK, 2006)

Parameter	FW	HW	Comment
RQD	55	24	Average RQD for area used
Jn	9	12	-
Jr	2	1.5	-
Ja	2	2	-
Jw	0.66	0.66	-
SRF	2.5	2.5	-
Equivalent Dimension D _e	2.7	2.7	Assumes a ESR of 1.8 and height of 5m
Q	1.6	0.4	-
Description	Poor	Very Poor	-

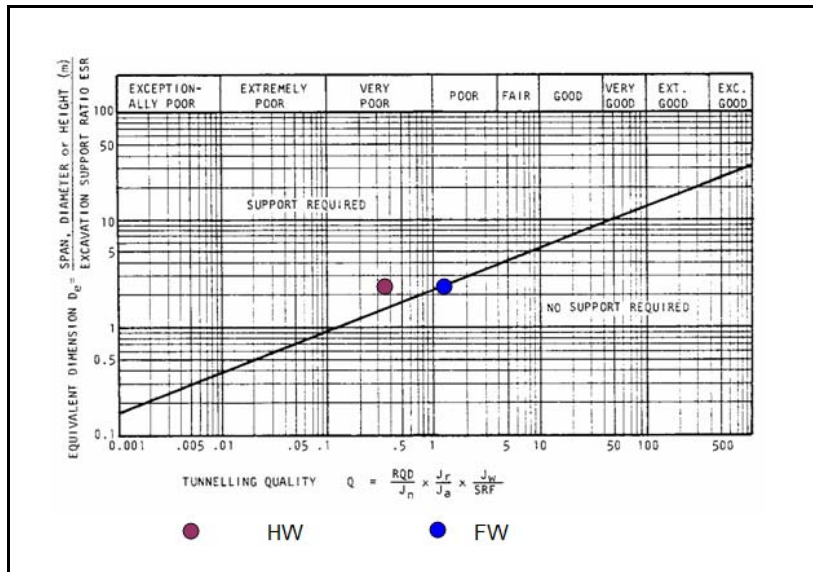


Figure 17-1: Possible FW and HW Support Requirements (SRK, 2006)

According to Golder (2003) the Modified Stability Number (N') range across the Jinfeng deposit is generally from 1 to 3. These values suggest that very limited unsupported spans will be possible during stoping operations.

17.2.4 Seismicity and In-situ Stress

The Guizhou Metallurgical Design and Research Institute (2005) state that the site falls within the “6° Seismic Zone” and in accordance with the Seismicity Code the site is categorised as “Class 1”. As such, their design allows for earthquake-induced accelerations of 0.05g.

Golder (2003) comment that the “earthquake activity recorded in the area is low and infrequent, although it does occur”. They adopted an acceleration of 0.1g for the purpose of the analysis for open pit design.

Golder (2003) noted that there were no site specific in-situ stress measurements and estimated stress characteristics from available literature. They also recommended that site specific testing was carried out.

SRK consider that to reduce the risks associated with underground mining it is appropriate to establish the in-situ stress regime by site specific testing. SRK did not sight any evidence of in-situ stress testing, and it was understood from site personnel that in-situ stress testing has not yet been carried out, but is planned to be completed in the future.

17.2.5 Groundwater

The 117 Team of Guizhou Metallurgical Design and Research Institute (MGMR) has made an assessment of groundwater conditions at Jinfeng. This was done in 1993. MGMR make the observation that the static groundwater level typically occurs at between 3 and 23m below ground level, and that the piezometric surface mirrors the topography. Golder (2003) based their mine design recommendations on the observations and interpretations made by MGMR.

Two main regional aquifers have been identified, namely:

- Carboniferous Permian carbonate rock aquifer, and
- Triassic clastic rock aquifer.

In addition to the aquifers identified above, a series of faults were identified. It has been assumed that these will act as aquifers.

At Jinfeng the open pit and underground mining is to be within the Triassic clastic rock unit. This sequence is made up of inter-bedded sandstone, siltstone and mudstone. The upper 5 to 10m of this unit is typically weathered and is inferred to be more permeable than the fresh rock. Golder was of the opinion that there was uncertainty as to whether the entire rock mass is saturated (i.e. groundwater pressure is greater than atmospheric everywhere below the water table) or if there are a number of perched groundwater lenses that only exist during and just following the wet winter months.

The most permeable aquifer sequence in the area is the Permian carbonate rock unit which is approximately 1km to the west of the boundary of the open pit. Given the low permeability of the clastic rocks Golder is of the view that there is not expected to be any significant hydraulic connection to the open pit or the underground operations.

On the basis of field observation and short term airlift recovery tests (done by MGMR) it has been interpreted that the rock mass (Triassic clastic rock unit) at Jinfeng has a hydraulic conductivity of less than 0.01m/day. To improve confidence in design Golder has recommended that further work was carried out to obtain a better understanding of the groundwater conditions and their potential impact on mining.

Golder have specifically identified that wall stability of the Jinfeng open pit is expected to be sensitive to groundwater pressure, and that an understanding of the likely magnitude of groundwater pressure is essential to the design process. This information would be used to design wall depressurisation measures.

For the purposes of the underground mining operation, the selection of pumps has assumed that underground water will include:

- 182m³/day): Underground water
- 660m³/day: Water used during the ore production and mine development at 0.3m³/tonne ore
- 780 m³/d: Free backfill water (peak 1350m³/d x 87% free x 2/3 released on the same day); and 4921 m³/d: 20% of rainwater in the pit below RL580 in an once every 10 year event.

Daily water is 1622 m³/d under normal conditions, and its maximum value is 6543 m³/d. The design capacity under normal conditions is 85m³/h, and maximum capacity is 340 m³/h.

In the information that was reviewed by SRK there was no evidence of additional hydro-geological assessments having been done. Groundwater conditions (pore pressures and potential for inflows) are in SRK's opinion currently poorly understood, as identified by Golder. However, it is judged by SRK that the risks to the overall project as a result of this are low. This opinion is based on the observations that have been documented with regard to groundwater inflow in existing abandoned underground workings. Further hydro-geological investigation is considered to be required to properly evaluate the impact of groundwater and dewatering requirements in the underground operation.

From discussion with site personnel it is understood that it has been assumed that there will not be a requirement for the installation of horizontal drains in the pit wall. During the very early phases of open pit formation this is likely to be a valid assumption. However, as the pit becomes larger, SRK anticipates that there may be a requirement for the installation of weepholes and horizontal drains to maintain pit wall stability. SRK is of the opinion that it is important for additional hydro-geological information to be obtained. This would include a requirement for long term groundwater monitoring. The monitoring program should be designed to provide information for both the surface and underground operation. It is appropriate to implement a groundwater monitoring program during the early phases of mining.

17.3 Open Pit

At the time of the SRK site visit, excavation within the open pit had commenced (Figure 17-2) and the floor level was at an elevation of about 720mRL, with interim pit walls of up to about 30m having been formed. Competent rock had not yet been exposed in the pit, and the mining fleet was

not operating. At the time of the site visit there was ponded water on the pit floor from recent rainstorm events. No evidence of water seepage from the pit slopes was sighted.



Figure 17-2: Photograph Showing Open Pit as at 15 October 2006

17.3.1 Background

The mining schedule commences as an open pit operation, with production rates designed to achieve a ramp up to match process feed requirements. Underground mining is scheduled to commence approximately 18 months after the open pit start, and attains full production in Year 3. Excavation rates in the open pit reduce from Year 5 onwards, as the strip ratios decrease.

To defer some of the waste stripping to later years, the open pit has been designed in two stages. The first stage is designed to 520mRL, and the second stage extends to 420mRL. The first stage has slightly steeper wall angles and lower wall heights, apart from the south wall.

Bench heights in the final pit will be 20m, with mining of waste planned at 10m. Ore will be mined using 5m operating bench heights, with 2.5m flitches to optimise ore extraction.

Within the pit, the haul road width varies from 20m for most of its length to 14m near the bottom of the pit, with a nominal 10% gradient. Haul road widths outside the pit are 20m wide. The external haul road enters the open pit mining area at 580mRL and reaches its highest at the top of a ridge at 730mRL.

17.3.2 Open Pit Design

Golder (2003) was commissioned by Sino to provide geotechnical recommendations for the design of the open pit. The work that Golder did took into account the results of the MGMR work and included geotechnical site investigation (limited drilling, surface mapping, and underground mapping in old mine workings to compliment the work done by MGMR). Golder formed the opinions that:

- Most of the identified mechanisms of likely wall failure are controlled by geological structure. The actual potential and extent of possible failures will be strongly dependent on the persistence of the structural features. The available structural data suggests that bedding and faults F2 and F3 will be the dominant and most persistent structural features. Unfavourably oriented bedding and faults surfaces were therefore interpreted to have the potential to produce wall scale instability
- There will be a need for good management of surface water flows during times of seasonal high rainfall to ensure that water flow into the slopes is minimised
- The highest walls in the proposed pit will be the west and east walls as they represent the continuation of the approximately east-west oriented ridge line.

Key issues that have potential to impact on pit wall stability, as identified by Golder, included the:

- Accuracy of the current Sino geological model, in particular the interpretations of bedding plane dips, the location and geometry of the interpreted folds, and the location and extent of the major fault structures
- Interpreted shear strength of the major structural features
- Variability of the topography which causes great variability of wall height and hence the normal stress across any potential failure plane
- Likelihood that groundwater pressures will occur and be sustained within the walls as a result of the low permeability of the rock mass. Further studies are required to assess this further – the design recommendations given below are based on the assumption that fully depressurized conditions will be achieved
- Fact that the stress regime is low and unlikely to be able to provide significant constraint to the walls. The quality of blasting needs therefore to be good.

Golder has assessed the potential pit wall failure mechanisms and their scale within four Sectors of the planned open pit. A summary of the results of this assessment is given in Table 17-4.

Table 17-4: Summary of Interpreted Wall Instability Mechanisms

Wall	Mechanism of Instability	Likely Scale
South	Planar Sliding – bedding	Overall wall and multi-batter
	Wedge	Batter scale
West	Planar – joints and faults	Batter scale
	Wedge	Batter scale
North	Toppling – controlled by bedding	Overall wall and multi-batter scale
	Planar- controlled by bedding	Batter scale where bedding dips out of the pit wall
East	Wedge	Batter scale

The overall wall angles recommended by Golder are summarised in Table 17-5.

Table 17-5: Summary of Wall Slope Angles as Recommended by Golder

Position in the Pit	Recommend Wall Angle	Preliminary Design Angle
South Wall	21° to 48°	38°
West Wall	45°	34°
North Wall – Stage 1	50°	45°
- Stage 2	45°	50°
East Wall	45°	36 to 38°

Matrix Consulting (2004) considers that the open pit slopes will be influenced by low material strengths in clay and mudstone sequences, and that bedding planes form the main planes of weakness. In their assessment they consider that the south wall may be susceptible to sliding failures and the north wall may be susceptible to toppling failure. Matrix Consulting note that pit wall stability elsewhere will be dependent on the orientation of bedding relative to the more prominent faults and joints and make an important observation that joint persistence is typically less than 10m as inferred from field mapping. According to Matrix (2004) local groundwater conditions can be expected to increase the potential for localised failure where aquifers are confined and exert pressures greater than atmospheric pressure upon wall faces. To limit the risk of large scale pit wall instability, the pit wall was apparently designed for inter-ramp and overall wall slopes as described below:

- South wall faces developed parallel to bedding, with wall dips in the range of 21 to 48°
- West wall angles limited to a maximum overall slope of 45°
- North wall angles limited to a maximum of 50° in the first stage of the open pit, followed by a maximum slope of 45° in the second stage, and
- East wall angles limited to a maximum of 45°

A schematic typical section through the pit, as envisaged by Matrix Consulting, is shown in Figure 17-3.



Figure 17-3: Schematic Section through Jinfeng Open Pit (Matrix Consulting, 2004)

During the site visit SRK was provided with a three dimensional (3D) model showing the current design pit shell. An isometric view of the design pit shell, showing current topography, is presented in Figure 17-4. Typical pit design parameters, as measured from the Sino 3D model, are given in Table 17-6.

SRK notes that, on the whole, the design pit shell is consistent with the consultant geotechnical design recommendations. The open pit design has been prepared with the input from reputable and experienced specialist geotechnical consultants. From discussions with Sino site personnel SRK understands that Sino anticipates further and ongoing specialist input, and that this has been allowed for in the budget.

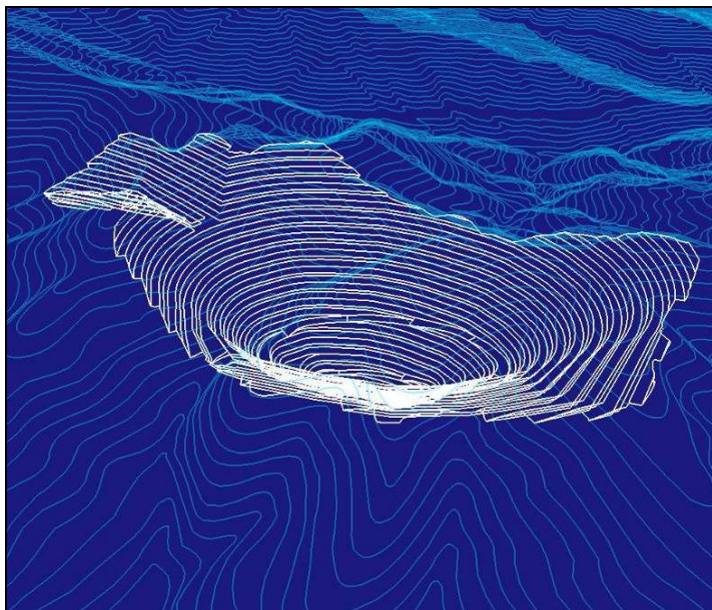


Figure 17-4: Isometric View of Open Pit Shell to North East (Sino Gold. 2006)

Table 17-6: Measured Open Pit Design Parameters

Consideration	Observation
Maximum Crest Level	750m (in ESE Sector)
Floor Level	430m
Maximum Overall Pit Wall Height	320m (in ESE Sector)
Ramp	Spiral, entry in West at Level 580m
Ramp Width	17m (above level 480m), 10m (below level 480m)
Average Ramp Grade	1:10.46
Overall Pit Wall Angle	41.6° to 43.8°
Upper Pit Wall Angle	35° in South Sector above ramp, 45° to 46° in other Sectors above ramp
Lower Pit Wall Angle	56° for 80m high bench stack below ramp in South Sector 48° for 60m high bench stack below ramp in North Sector
Bench Height	20m
Bench Angle	Approximately 65°
Berm Width	Typically 8m to 11m, but 20m in South Pit Sector

17.4 Underground Mine

Development of the underground mining operation commenced in November 2006 with a start of the main decline construction.

17.4.1 Background

According to Matrix Consulting (2004) the underground mine plan allows for 443 stopes, with an average production capacity of 150 tonnes per day per heading, including backfill time. Stopes are progressively backfilled upon completion of mining, with some stopes backfilled immediately where the mining sequence and alignment allow this to occur.

A number of mining methods are employed, depending on the stope width and the direction of mining. Mining of a 100m long ore drive is expected to take between 17 and 20 shifts, for overhand cut-and-fill stopes, and up to 44 shifts for underhand cut-and-fill. A backfill cycle may take around 14 shifts.

The targeting of the orebody in underground mining, and the use of a variety of underground mining methods, results in a relatively constant production rate from the underground mining activity once it is established.

17.4.2 Design

Sino has designed the underground mining operation taking the geotechnical recommendations given by Golder (2003) and other specialist consultants (for example SRK, 2006) into account. A 3D model showing the planned underground mine layout has been made available to SRK. Figure 17-5 shows an isometric view of the planned underground mining operation.

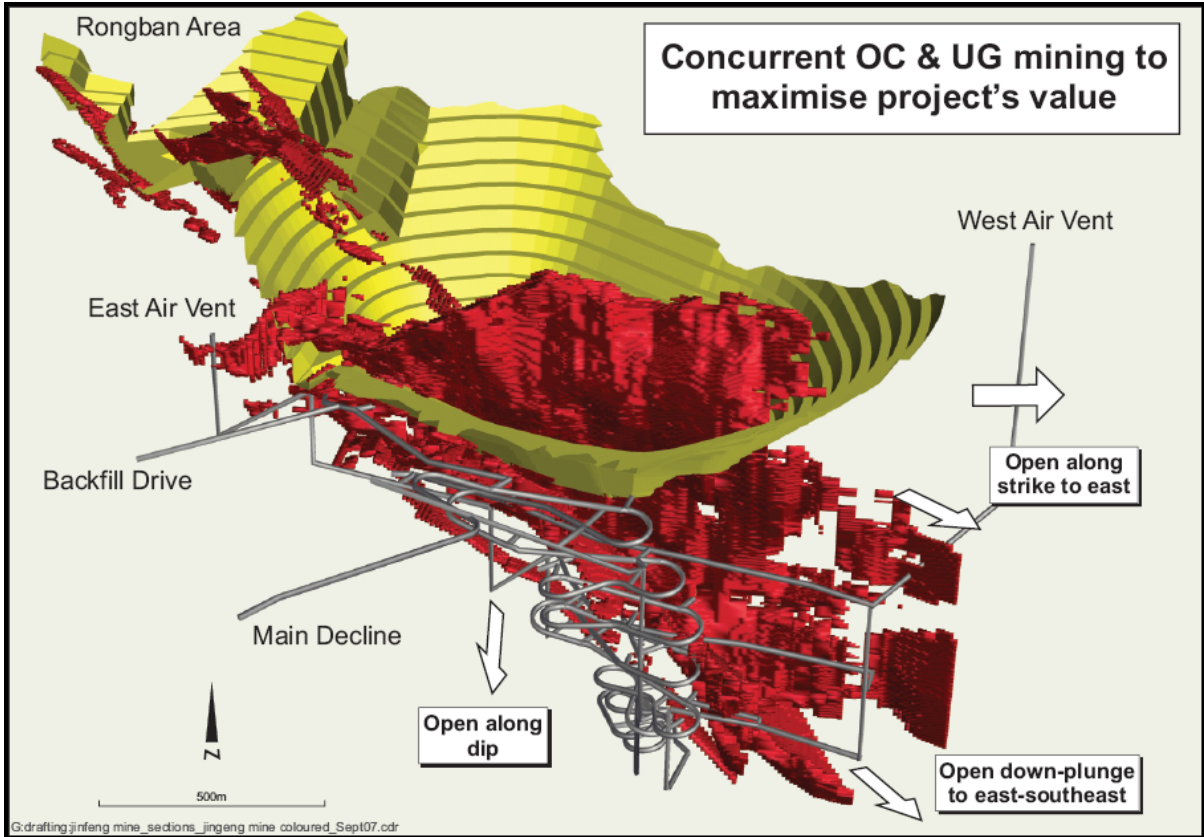


Figure 17-5: Isometric View Showing Underground Mine Layout (Sino Gold, 2006)

The design layout shown in Figure 17-5 has given consideration to the various consultant recommendations.

Portal

The portal for the main decline is located at RL560 in the southwest of the FW of the orebodies. The portal is located outside the 200m fly-rock zone for the open pit. Figure 17-6 shows the main decline portal area prior to development of the portal or the decline.



Figure 17-6: Photograph Showing Main Decline Portal Area, 15 October 2006

Decline

SRK was advised that geotechnical conditions were being assessed using purpose drilled sub-vertical boreholes equally spaced along the design alignment.

The main decline is straight from surface to approximately 520mRL, followed by a zig-zag decline to the bottom of the mine, currently designed at 50mRL. The decline has the following design parameters:

- Cross section 5.5m by 5.5m (for both straights and curves)
- Gradient of 1 in 7 for straights and curves
- Centerline radius of 25m on curves
- Level access at 20m intervals
- First 15m of decline with a gradient of 1 in 25 up to prevent storm water from entering the decline

The design cross section of the decline (Figure 17-7) has been based on the relevant Chinese Mine Regulations, including requirements for ventilation and a 1.2m wide walkway for pedestrians. The main decline is designed to be three-element arch shape and this can be modified to suit ground conditions if required.

Standard ground support for the decline is shown in Figure 17-8. The design has anticipated that standard ground support will be as follows:

- **First pass:** Splitsets and mesh for temporary support. Hole depth is 3m, but 2m long splitsets will be installed initially. Spacing is 1.1m x 1.2m.
- **Second pass:** 3m long cement grouted rock bolts installed inside the splitsets. The grouted rockbolts will be installed manually at a distance from the decline face to avoid disruption of other decline development activities.

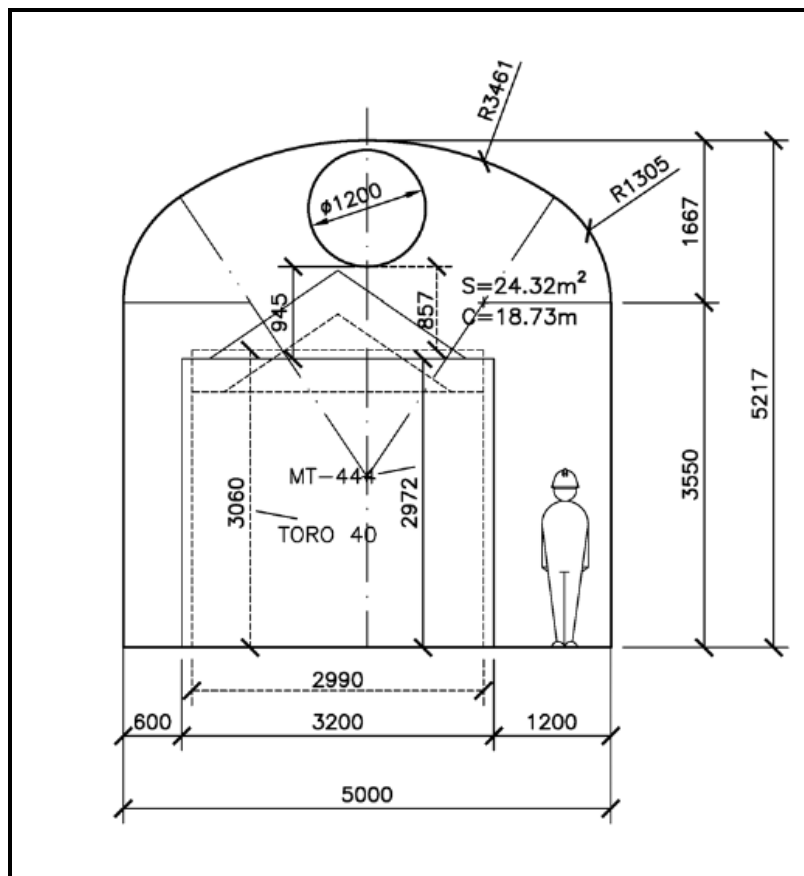


Figure 17-7: Main Decline Cross Section (Sino-NERIN, 2004)

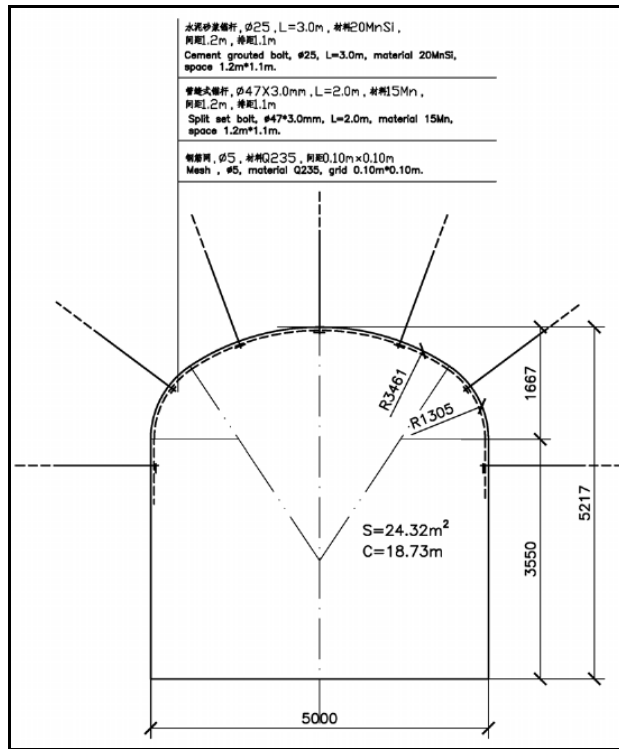


Figure 17-8: Main Decline Support (Sino-NERIN, 2004)

On the basis of available information SRK judge that the proposed standard support is within the expected range for the anticipated conditions. There is also scope to modify the support to suit ground conditions.

AMC Resource Consultants Pty Ltd (AMC) (2004) has made an assessment of the support requirements for the Jinfeng underground operation. A summary of their recommendations is given in Table 17-7. From this table it can be seen that AMC anticipate a need for shotcrete in the upper levels of the decline and also where the decline passes through fault zones. SRK considers this recommendation to be appropriate.

Table 17-7: AMC Support Recommendations (2004)

Excavation	Span (width x height) – Metres	ESR	Bolt length (end anchored) – Effective length range	Rock Surface Support
Decline – 520-450 RL	5 x 5.2	1.6	(1.7) 2-2.4m	Mesh, rock bolt (e.g. Splitsets) spaced 1m apart, 75-100mm layer shotcrete
Decline – Below RL 450	5 x 5.2	1.6	(1.7) 2-2.4m	Mesh, rock bolt (e.g. Splitset) spaced 1m-1.5m apart, in fault breccia zones refer to 520-450 RL shotcrete requirements
Truck FW drive West & East – 520-450 RL	5 x 5.2	1.6	(1.7) 2-2.4m	Mesh, rock bolt (e.g. Swellex or grouted end anchored rebar) spaced 1m – 1.5m apart, 50-100mm layer shotcrete
Crosscuts – FW – RL 520-450	4 x 4.5	1.6	(1.6) 2-2.4m	Mesh, rock bolt (e.g. Swellex or grouted end anchored rebar) spaced 1m apart, 100mm layer shotcrete
Crosscuts – FW – RL	4 x 4.5	1.6	(1.6) 2.4-3m	Mesh, rock bolt (e.g. Swellex or grouted end anchored rebar) spaced 1m apart, 100mm layer shotcrete

Excavation	Span (width x height) – Metres	ESR	Bolt length (end anchored) – Effective length range	Rock Surface Support
520-450 Shear Zone				
Crosscuts – FW – below RL 450	4 x 4.5	1.6	(1.6) 2-2.4m	Mesh, rock bolt (e.g. Splitsets), spaced 1m apart
Crosscuts – FW – Below RL 450 Shear Zone	4 x 4.5	1.6	(1.6) 3m	Mesh, rock bolt (e.g. Swellex or grouted end anchored rebar), spaced 1m apart, 50-100mm layer shotcrete
Ore Drifts – RL 520-450 Shear Zone	4 x 4.5	1.6	(1.6) 3m	Mesh, rock bolt (e.g. Swellex or grouted end anchored rebar), spaced 1m apart, 100mm layer shotcrete
Ore Drifts – Below RL 450 Shear Zone	4 x 4.5	1.6	(1.6) 3m	Mesh, rock bolt (e.g. Swellex or grouted end anchored rebar), spaced 1m apart, 50-100mm layer shotcrete
Decline Crosscut Intersections RL 520-450	5.7-6 x 5.2	1.6	(1.8) 2.4-3m	Mesh, rock bolt (e.g. Swellex or grouted end anchored rebar), spaced 1m apart, 100mm layer shotcrete
Decline Crosscut Intersections Below RL 450	5.7-6x 5.2	1.6	(1.8) 2.4-3m	Mesh, rock bolt (e.g. Swellex or grouted end anchored rebar), spaced 1m apart, 50-100mm layer shotcrete
HW Cable Support Drive	3.5x4.5	2	(1.3) 1.8-2.4m	Mesh, rock bolt (e.g. Splitsets), spaced 1.5m apart. Stope HW support: single strand bulb, 10-12m long, spaced 2.5m apart along dip and strike

Shafts and Raises

According to Golder (2003) there is no precedent for shaft sinking at Jinfeng to provide a basis for design guidelines. They were therefore of the opinion that drilling of pilot holes at shaft locations was important. This opinion was supported by AMC (2004). The feasibility design has allowed for four individual vertical ventilation shafts. Typical design details for ventilation shafts are shown in Figure 17-9.

From discussion with site personnel it is understood that all the shafts and long raises will be installed by contractors, using a blind shaft sinking method. SRK is of the opinion that using specialist contractors and proving geotechnical conditions prior to construction will reduce the risks associated with shaft and raise formation.

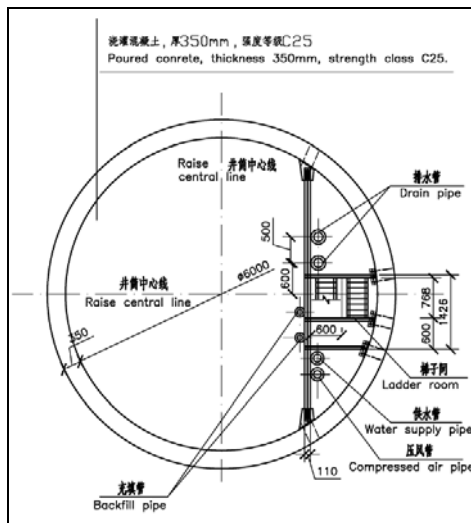


Figure 17-9: Plan View Showing Shaft Design Section (Sino-NERIN, 2004) Access Development

Access development will be approximately north south (i.e. normal to the ore body, but not necessarily cross-cutting many of the major structural elements). Golder (2003) has anticipated that reinforcement for a 5m wide north trending cross-cut will need to adopt at least the same reinforcement as that for the decline.

The Sino-NERIN feasibility study (2004) indicates that:

- There will be a FW drive developed off the decline on each level and that typical length for a FW drive is approximately 600m
- On each level, the FW drive will be mined at 1:50 up from a sump at a location central to the orebodies
- Stopes will be accessed via crosscuts developed from the FW drives. The maximum gradient for an access crosscut is 1 in 7.
- Minimum crosscut length is 50m.
- There will be a crosscut every 100m along the orebody strike. It will pass through the entire sequence of the orebodies on that easting
- Crosscuts on adjacent levels will be offset to improve the flexibility of stope sequencing on the levels.

The features listed above are consistent with the Golder (2003) recommendation.

Stopes and Pillars

Sino has selected the mining method taking Golder (2003) geotechnical assessment into account. According to the feasibility study two forms of CAF mining methods have been selected. These are:

- Overhand CAF for a majority of the underground stopes (see Figure 17-10 and Figure 17-11), and
- Underhand CAF for stopes within the crown pillars for narrow ore bodies.

AMC (2004) notes that: “With respect to mining method selection, the Golder report made an attempt to provide a guideline by determining critical hydraulic radiuses. These however are indicative and more work is required to quantify and clarify the mining method selection”.

There is potential for caving operation above the RL 450 line and a supported benching stoping method below this level from preliminary analysis. A cut and fill operation above and below 450 RL (i.e. rock mass condition seem to worsen towards the east) is also possible. However a risk analysis on the clay content within the rockmass must be conducted and could add risk to the caving operation.

In areas of very poor ground conditions, the selection of a cut/drift and fill method seems reasonable, however AMC has some concerns about the cable bolt design and their effectiveness within the ore zone. Alternative rock support and reinforcement methods could be sourced to accommodate or overcome practical mining and logistical problems foreseen with this recommendation. In addition to this, the option of leaving pillars intact should be seriously considered until such time more detailed information with regard to intact rock strength and apparent stress conditions are obtained.

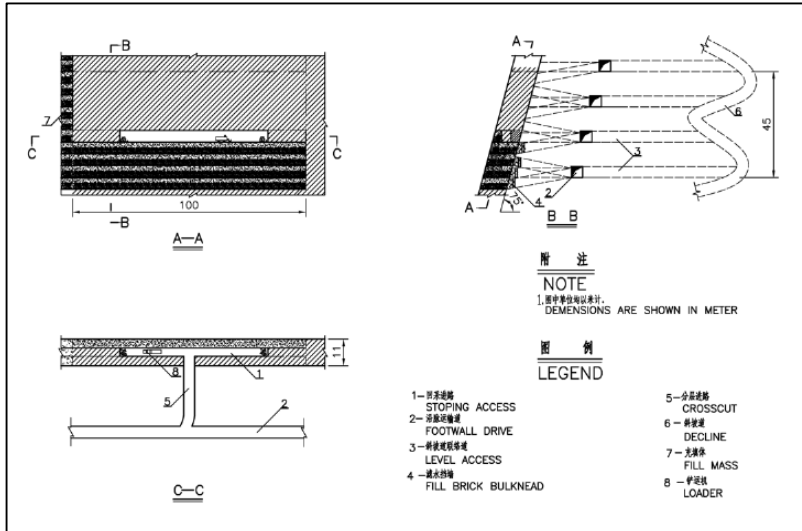


Figure 17-10: Longitudinal CAF Mining Method (Sino-NERIN, 2004)

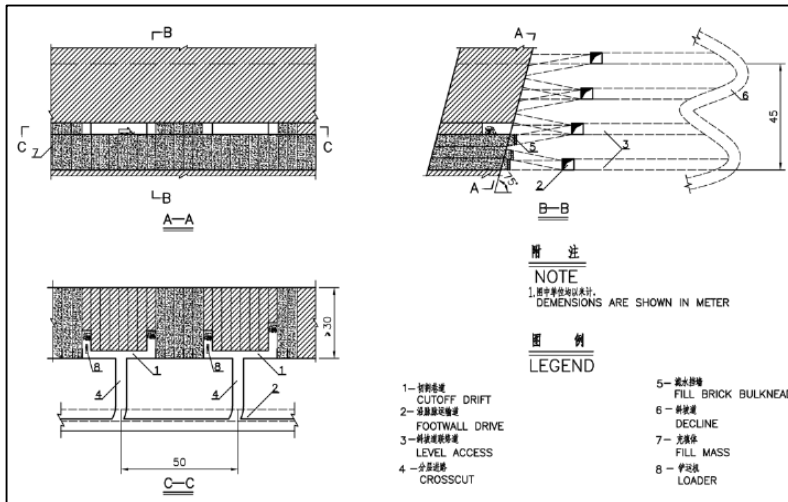


Figure 17-11: Transverse CAF Mining Method (Sino-NERIN, 2004)

Standard stope dimensions for the overhand CAF, used for the design and cost estimate (Sino-NERIN, 2004), are summarised in Table 17-8.

Table 17-8: Standard Stope Dimensions

Parameter	Longitudinal CAF	Transverse CAF
Height	5m	5m
Length	2 x 50m*	30m
Width	4m	5m

* For longitudinal CAF, stope length is typically 100m with a central access crosscut supported by cable bolts in the back.

17.5 Main Access to Site

In order to form the main access road there has been a requirement to construct substantial cut and fill embankments. SRK is of the opinion that there will be a requirement to carry out substantial maintenance works over the life of the road to remediate slope failures. For example, the unstable cut slope shown in Figure 17-12.



Figure 17-12: Unstable Slope on Main Access Road to Plant, 15 October 2006

17.6 Access to Tailings Storage Facilities

SRK considers that the access road to the tailings storage facilities will require considerable maintenance over the life of the mine. There is also considerable risk of loss of the road and tailings discharge/water return pipelines. This risk will require careful management, and it is considered important to carry out a geotechnical hazard survey to properly identify potential areas of instability and the risks associated with the areas identified. From discussions with site personnel it is understood that Sino are aware of the risks and are planning to conduct a hazard survey. Sino has also identified alternative emergency access routes. Following SRK's site visit it is understood that Sino has implemented a comprehensive maintenance and remedial works program and it is anticipated that this will substantially reduce the risks associated with the access road.

17.7 Tailings Storage Facility

17.7.1 Jinfeng TSF's design review

Sino has indicated that the designs will comply with both Chinese law and the Australian National Committee on Large Dams (ANCOLD) 1996 Guidelines for the Design of Dams for Earthquakes. As per IFC requirements, the dam designs are subject to international third party reviews. SRK has sighted evidence of the third part review.

From the information made available to SRK it is apparent that there is a high level of consultant interaction for the design of the TSF's at Jinfeng. The design has included input from reputable and experienced designers. Both design and construction are being carried out to meet the requirements of Chinese Law. These factors are expected to minimise the risks associated with the construction and operation of TSF's.

17.7.2 Background Information

From the information made available to SRK it is understood that the Jinfeng Mine will produce about 13.5 million tonnes (dry weight) of tailings over a 13 year mine life. There will be two main tailings streams:

- About 11.5Mt of flotation tailings, and

- About 2 Mt of CIL tailings.

The CIL circuit uses cyanide in the gold-winning process, and the tailings stream will contain a small residual of cyanide. The flotation circuit includes a micro-biological process which requires chemically neutral and clean input water, and which in particular cannot tolerate cyanide. The tailings management system is therefore required to be designed so that effluent from the CIL tailings does not enter the flotation system. To achieve this separation there will be two TSF's. The layout that has been selected by Sino incorporates both facilities in the same stream valley, with the flotation storage being upstream of the CIL storage (Figure 17-13).

Both TSF's will be formed by the construction of an earth and rockfill embankment across the valley, with the embankments being designed to be raised in several stages over the life of the mine. The TSF embankments are to be constructed in a number of stages using a combination of downstream and centreline raises. SRK is of the opinion that these methods of construction are reliable and appropriate for site conditions.

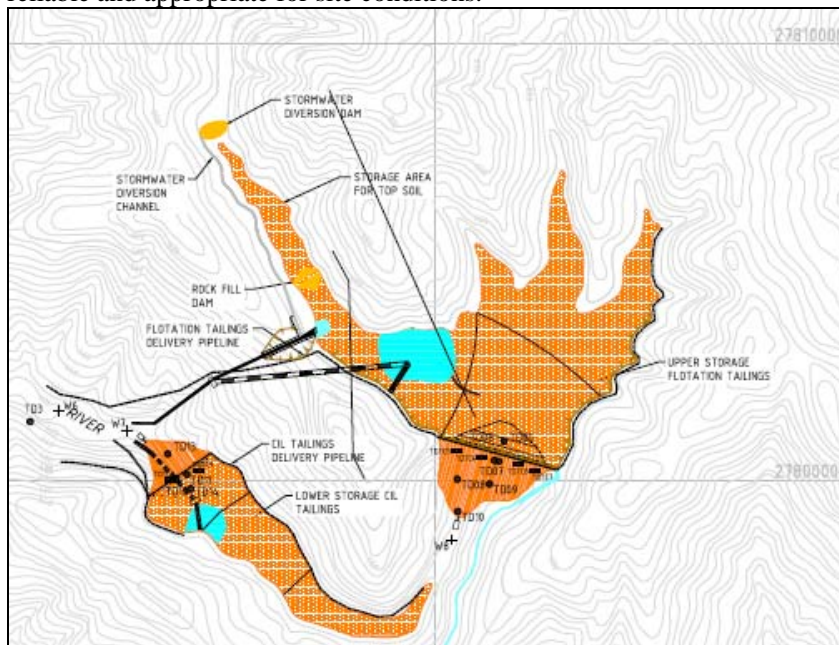


Figure 17-13: TSF Layout (Golder, 2004)

Tailings will be delivered to the TSF's as a slurry, and deposited by conventional sub-aerial methods from multiple spigot points on the embankments and part of the storage perimeters. Both TSF's incorporate decant and emergency spillway facilities to handle the supernatant from the tailings deposits, and inflows to the storages from rainfall and runoff.

It has been estimated that construction of the two tailings dams need 0.34M bank cubic metres (bcm) of waste to be placed (Sino-NERIN, 2004). The transport of this material from the waste dump to the tailings dam will be finalised prior to awarding of the contract for dam construction. For the open pit costing and scheduling it has been assumed that this material will be dumped on the waste dump by the pit fleet and another fleet will be used to transport the waste to the dam.

Both the flotation and CIL TSF's are being designed to use floating pumps to remove excess water from the decant pools – to the process plant for the flotation tailings decant, and to a treatment plant or to the river for the CIL decant. This is considered to be a robust, conservative strategy that avoids the need for pipes through the dam or foundation.

Water balance issues have been considered by Golder (2004). The calculated storage capacity for the TSF's is shown in Figure 17-14.

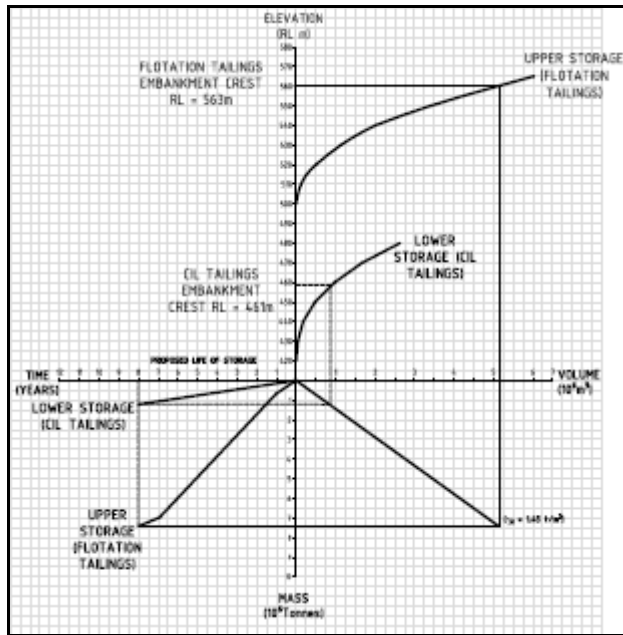


Figure 17-14: TSF Storage Capacity (Golder, 2004)

SRK understands that there has been a period of consultation with the local regulatory bodies with regards to the design and construction of the TSF's at Jinfeng. Licences or permits have been issued for the construction. However, a licence for the operation of the facility has not yet been obtained. This is normal practice in China, and SRK do not anticipate that there will be significant issues to secure an operating licence.

17.7.3 Flotation Tailings Facility

The layout of the Flotation TSF embankment is shown in Figure 17-15. Typical embankment design details are shown in Figure 17-16 and Figure 17-17. The TSF drainage system design is shown in Figure 17-18.

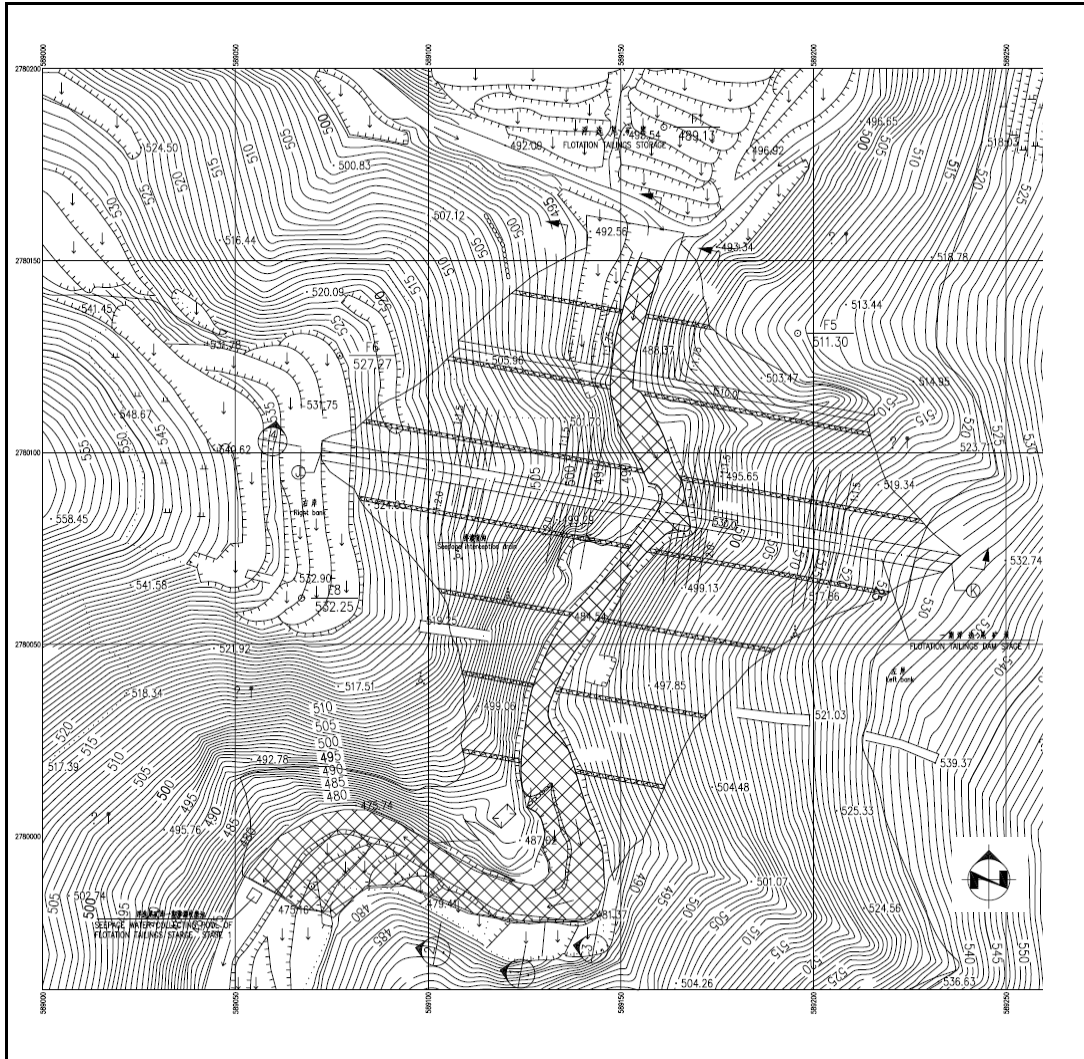


Figure 17-15: Flotation Tailings Storage Embankment (NERIN, June 2005)

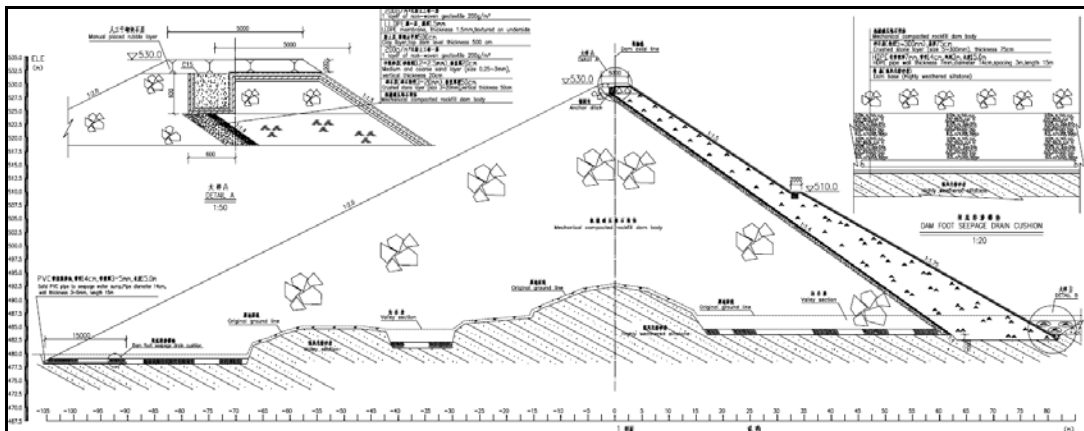


Figure 17-16: Section through Flotation Storage Embankment (NERIN, June 2005)

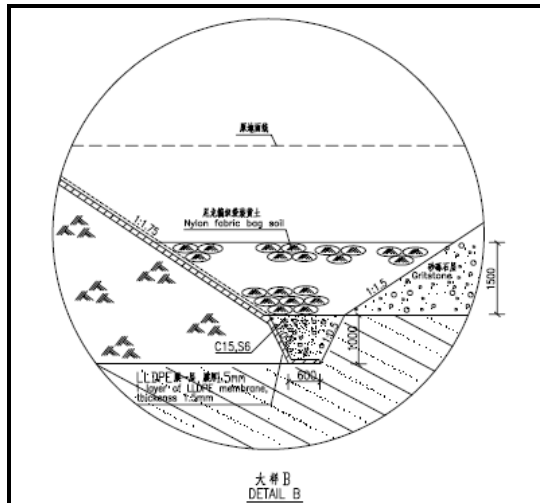


Figure 17-17: Upstream Toe Detail (NERIN, June 2005)

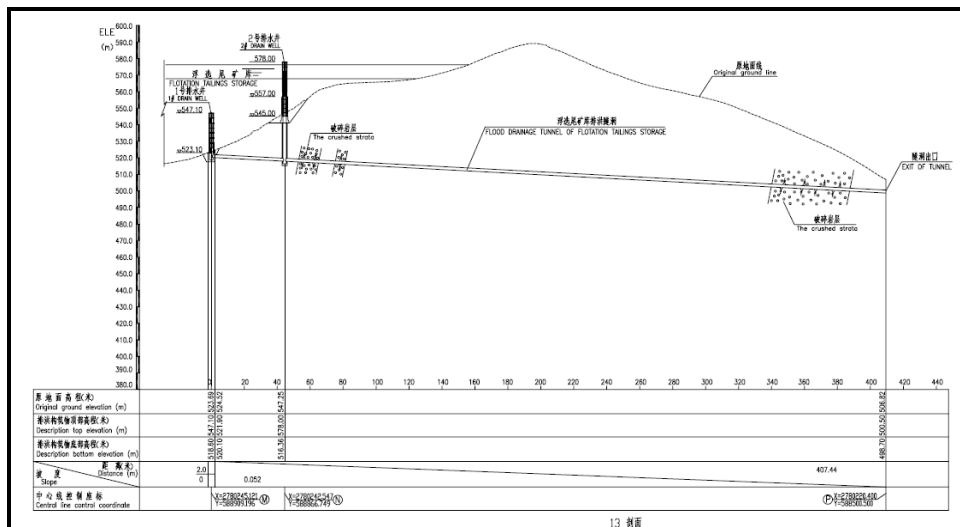


Figure 17-18: Flotation TSF Flood Drainage System (NERIN, June 2005)

The design drawings that were sighted by SRK included detailed notes to describe the construction requirements. These notes included requirements for foundation preparation, material properties, geotextiles, drain formation and compaction. They were judged to be consistent with normal good geotechnical practices for a project of this nature.

In June 2006 there was very heavy rainfall at Jinfeng. This resulted in flooding and damage to the Flotation Storage Embankment that was at an early stage of construction, and also to the embankment dam abutment where there was a landslide. The damage occurred at a time when the embankment had been constructed to an estimated 25% of the design height. Golder was commissioned to review the storm damage and provide geotechnical recommendations for the remedial work. At the time of SRK's site visit Remedial measures were being implemented, and it is understood that they have subsequently been completed.

17.7.4 CIL Tailings Storage Facility

The CIL storage facility is located downstream of Flotation Tailings Storage Facility to minimise potential for contamination. Supernatant process and run-off water at the CIL Storage Facility will not be re-used and excess water will be treated at the storage and discharged into the Lannigou River.

The layout of the CIL TSF embankment is shown in Figure 17-19. Typical embankment design details are shown in Figure 17-19, Figure 17-20, Figure 17-21 and Figure 17-22.

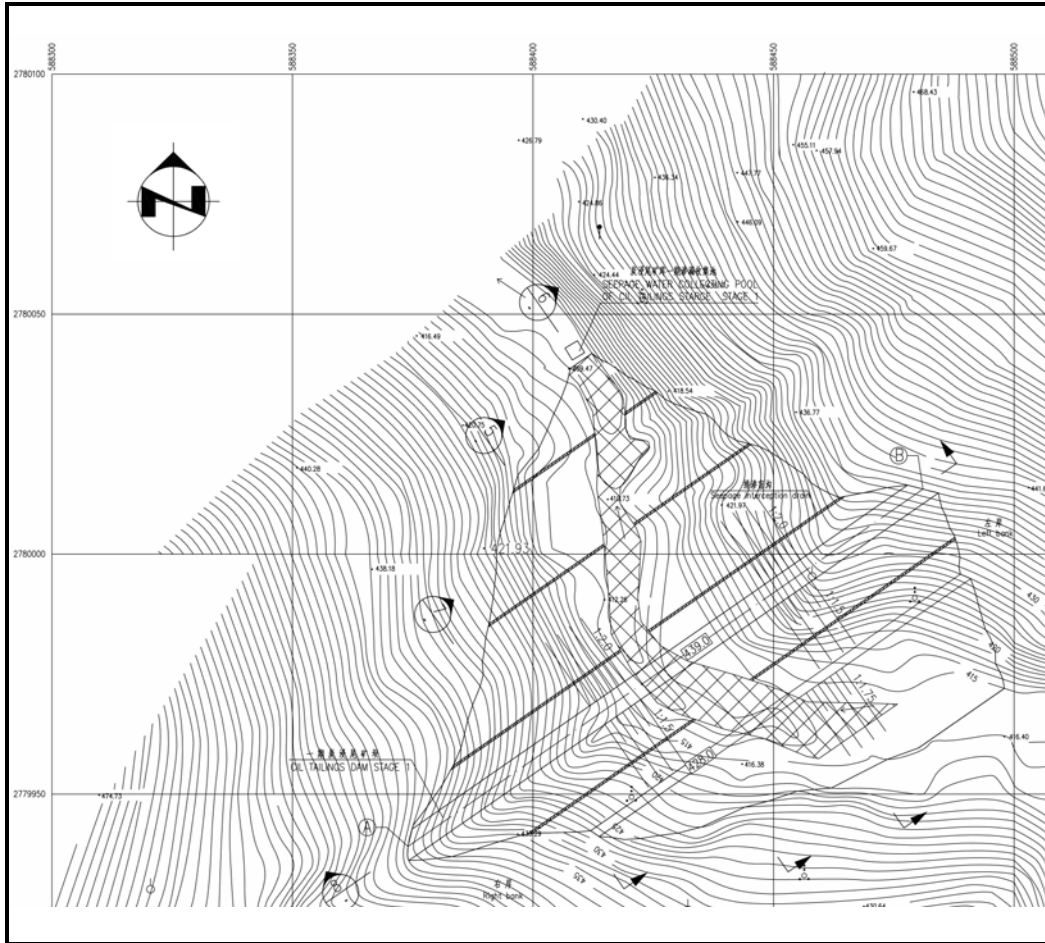


Figure 17-19: CIL Tailings Storage Embankment (NERIN, June 2005)

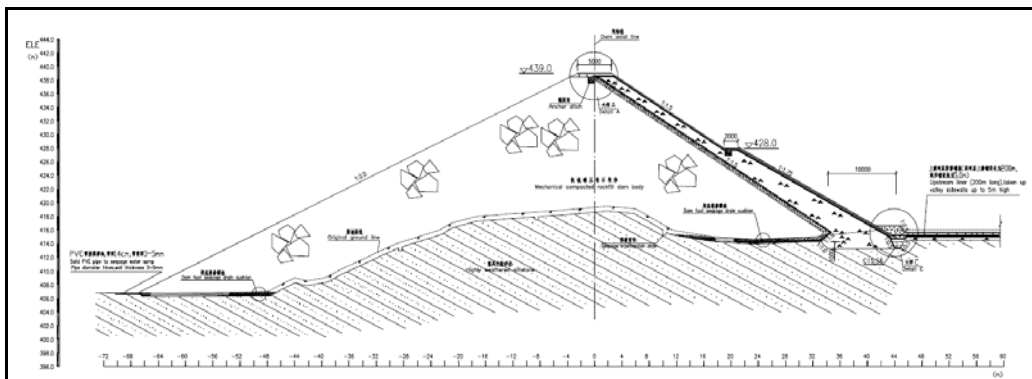


Figure 17-20: Section through CIL Tailings Storage Embankment (NERIN, June 2005)

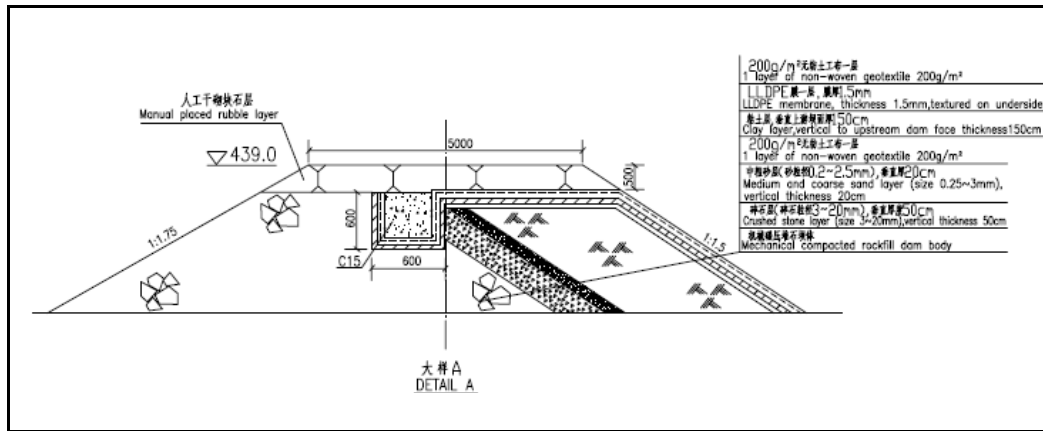


Figure 17-21: CIL Embankment Construction Detail (NERIN, June 2005)

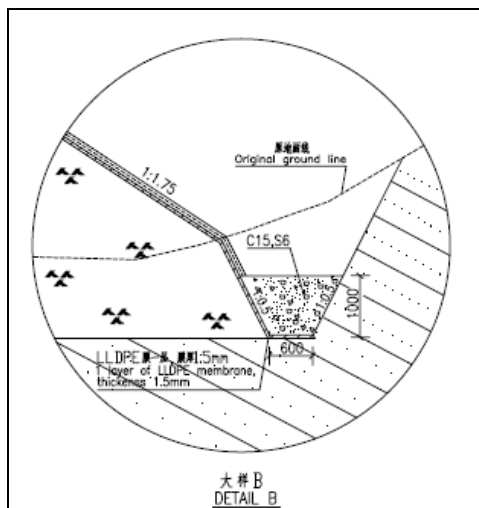


Figure 17-22: CIL Embankment Upstream Toe-drain Detail (NERIN, June 2005)

The embankment design drawings that were sighted by SRK included detailed notes to describe the construction requirements. These notes included requirements for foundation preparation, material properties, geotextiles, drain formation and compaction. They were judged to be consistent with good geotechnical practices.

Golder (2005) has made an assessment of the liner requirements for the CIL TSF. This review concluded that a clay/HDPE liner should be installed on the river bed in the tailings storage basin.

At the time of the SRK site visit the foundation for the CIL TSF had been partially prepared as shown in Figure 17-23. There was no construction in progress.



Figure 17-23: CIL Embankment Construction, 15 October 2006

17.8 Water Retention Facilities

Effective catchment run-off management is to be achieved by constructing a clean surface water diversion drain upstream of the flotation TSF, thereby allowing the TSF's to operate in accordance with their design.

The CIL TSF is to be protected from anticipated water level increases resulting from the planned Longtan Hydroelectric Dam by a flood levee that is designed for a 200 year average recurrence interval storm event. Seepage will be controlled by a vertical drain within the embankment and a horizontal blanket drain.

Both dams are to be equipped with a decant weir and a bypass channel to pass flows from the design storm events without overtopping the embankment. The design spillway capacity under this configuration is the 200-year Average Recurrence Interval storm event. The minimum allowable operating freeboard for both the flotation tailings dam and the CIL tailings dam will be 3m – normal operating freeboard will be substantially higher.

Golder (2005) has carried out a geotechnical assessment for the above CIL TSF water retention facility. The conceptual design for the downstream flood protection structure is shown in Figure 17-24.

SRK is of the opinion that the schemes described above are practical from a geotechnical perspective. However, it is anticipated that there may be a requirement to prevent seepage through the foundation rock. Sino has confirmed that monitoring bores will be operated and these results will be used to determine if any remedial action is warranted.

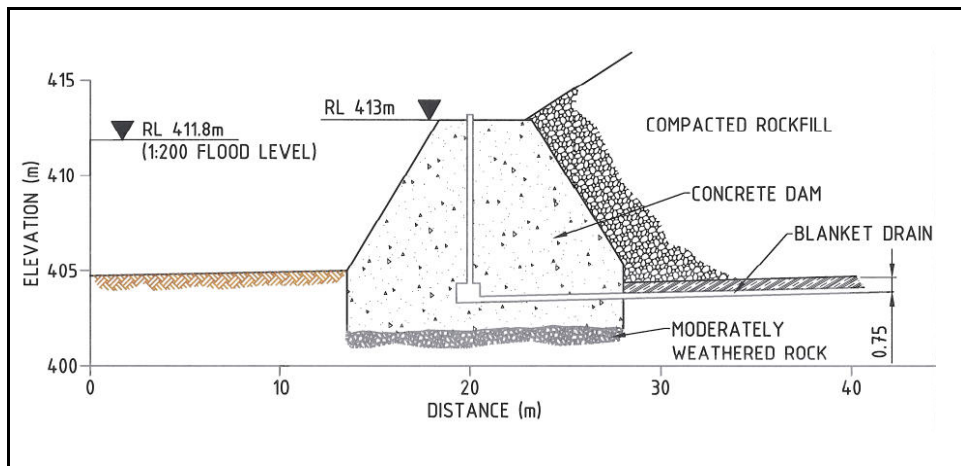


Figure 17-24: CIL Downstream Flood Protection (Golder, 2005)

17.9 Waste Rock Disposal

Over the LOM, with the current resource evaluation, some 90 million tonnes of waste rock will be produced.

The mine design has provided for a single waste rock dump that will be located in Huangchangguo valley, within an existing creek bed. It is anticipated that the dump height will be approximately 160m above the creek bed, and the maximum length of the waste dump will be around 1,400m. Waste rock will be dumped by a haul truck and a bulldozer will be used to push dumped waste rock to conform to the waste dump design parameters. A grader will be used for shaping dump faces and drain lines.

Golder (2004) has assessed the waste dump stability, and provided geotechnical recommendations for the construction of the dump. These recommendations have been incorporated into the design prepared by Sino. SRK do not anticipate any significant geotechnical issues with the waste dump and consider this to be of low risk.

17.10 Plant Area

At the time of the SRK site visit the plant area was under construction (Figure 17-25). The plant area has been developed on a cut and fill platform, and at the time of the site visit the platform had been prepared and all foundations completed. From discussion with site personnel it is understood that all structures are founded on in-situ material that was considered to be competent. This was confirmed by the Construction Supervising Agency (Zhengye) who were able to provide example records and photographs of foundations prior to the concrete being poured.

Golder (2003) prepared a report that described the foundation conditions in the vicinity of the plant area, and provided recommendations for geotechnical design. Geotechnical investigation and design has also been done by MGMR (2005) who are a licensed design institute. Construction monitoring has been carried out, as required by the Chinese Regulations for Quality Control of Construction Projects, by the Zhengye group.

SRK do not anticipate any significant geotechnical issues associated with the plant infrastructure.



Figure 17-25: Photograph Showing General Plant Layout, April 2007

At the time of the SRK site visit an embankment failure was observed at the plant site (Figure 17-26). SRK are of the opinion that this is a superficial failure that was caused by inadequate stormwater drainage. Sino has also identified the presence of a freshwater spring behind the failed ground and consider that this contributed to the failure. Sino has advised that dewatering wells will be installed as a measure to improve stability. When this failure was discussed with site personnel they advised that drainage and dewatering measures were to be installed and that the failure was to be reinstated prior to loading of the embankment toe (ahead of the planned waste dump progression). Provided adequate surface water drainage measures are installed, SRK anticipates that this failure will not present a risk to the plant area.



Figure 17-26: Photograph Showing Plant Site Embankment Failure, 15 October 2006

17.11 Office and Accommodation Area

At the time of the SRK site visit the office/accommodation area was under construction. The area has been developed on a series of cut and fill platforms, and at the time of the site visit all foundations and superstructure had been completed. From discussion with site personnel it is understood that all structures are founded on in-situ material that was considered to be competent. This was confirmed by the Construction Supervising Agency (Zhengye).

Geotechnical investigation and design has been done by MGMR (2005) who are a licensed design institute. Construction monitoring has been carried out, as required by the Chinese Regulations for Quality Control of Construction Projects, by a group named Zhengye.

17.12 Geotechnical Risks

A summary of interpreted geotechnical risks is given in Table 17-10. The risk rating system used is derived from the Australian Standard (AS-NZS 4360 1999) in which risks can range from Low to Extreme. The action required to address each category is shown in Table 17-9.

Table 17-9: Australian Standard Risk Rating

Risk Rating	Action Required
Extreme	Immediate action required
High	Senior management attention needed
Moderate	Management responsibility must be specified
Low	Manage by routine procedures

SRK notes that none of the risk ratings in Table 17-10 is “Extreme”. The ratings suggest that senior management action is required in several instances but all other areas should be able to be handled by relevant management taking responsibility to do so or by routine procedures.

Table 17-10: Geotechnical Risk Assessment

Risk Item	Likelihood	Consequence	Risk Rating
Earthquake greater than Richter 5	Possible	Significant	Low
Landslide/failure of access road cutting or embankment slopes.	Possible	Minor to Moderate	Medium to High
Failure of tailings discharge and water return pipeline	Possible	Moderate	High
Failure of Mine Plant Infrastructure Foundations	Unlikely	Minor	Low
Failure of Mine Office/Accommodation Foundations	Unlikely	Moderate	Low
Failure of Floatation TSF Embankment	Unlikely	Significant	Low
Failure of CIL TSF Embankment	Unlikely	Significant	Low
Failure of TSF Storm Water Diversion	Unlikely	Significant	Low
Waste Dump/Ore Stockpile failure	Possible	Minor	Medium
Bench Scale Slope Failure.	Possible	Minor	High
Rockfall from Bench Face	Possible	Minor	High
Overall Pit Slope or Inter-ramp Failure	Possible	Significant	Medium
Failure at Decline Portal	Possible	Moderate	Medium
Failures in Decline	Possible	Minor	Medium
Stope and/or Access Failure	Possible	Moderate	Medium
Shaft/Raise Failure	Unlikely	Significant	Low

17.13 Mining Assessment

17.13.1 Introduction and Mine Description

Sino completed a BFS on the Jinfeng project in April 2004. Subsequent reviews of the BFS showed several areas where improvements could be implemented to produce a more favourable financial outcome. Sino commissioned a mining study which covered the planning of an open pit mine and an underground mine to extract ore from the Huangchanggou and Rongban Deposits. The study assessed the mining methods, which are applicable to the deposits in light of geological, geotechnical and other factors. The mine plan for the extraction of ore includes scheduling, specification and

selection of equipment, and other capital items. The development of a new resource model made parts of the BFS redundant so additional work has been undertaken in several areas, including:

- Underground mining methods
- Sub-optimal open pit mining schedule
- Optimal pit depth
- Haul road inefficiencies
- Open pit mine design parameters (pit slopes, haul road design and locations)
- Equipment selection
- Underground production rates
- Underground Geotechnical constraints

The results of the technical and economic studies were reported by Sino in July 2004 and this report presented a mine plan with schedules and costs that reflected the latest information available at the time and incorporated modifications and improvements that were identified since the release of the BFS. In early 2006, Sino commissioned SRK's Perth office to complete a review to determine the optimum transition between the open pit and underground mines. Each of the above aspects is reviewed in the following section of this report.

17.14 Mine Access

17.14.1 Open Pit

Access to the open pit mine is provided by existing unpaved roads. As the mine develops, ramps and benches will be formed to provide access for the mining equipment to access the mining areas. A haul road sloping at a rate of 1 in 10 will be formed to provide access to the lower benches as the mine deepens. Turnouts from the haul road at each mining level will provide access to the mining benches.

17.14.2 Underground Mine

The access to the underground mine is by a decline tunnel which starts at a portal between the Run of Mine (ROM) crusher and the mining equipment workshop. The zig-zag decline is located in the FW of the deposit. This design has allowed the decline to be close to the bulk of the main 300 and 320 orebodies without intersecting the F3 and F20 faults.

The access and ventilation layout for the underground mine is shown in Figure 17-27.

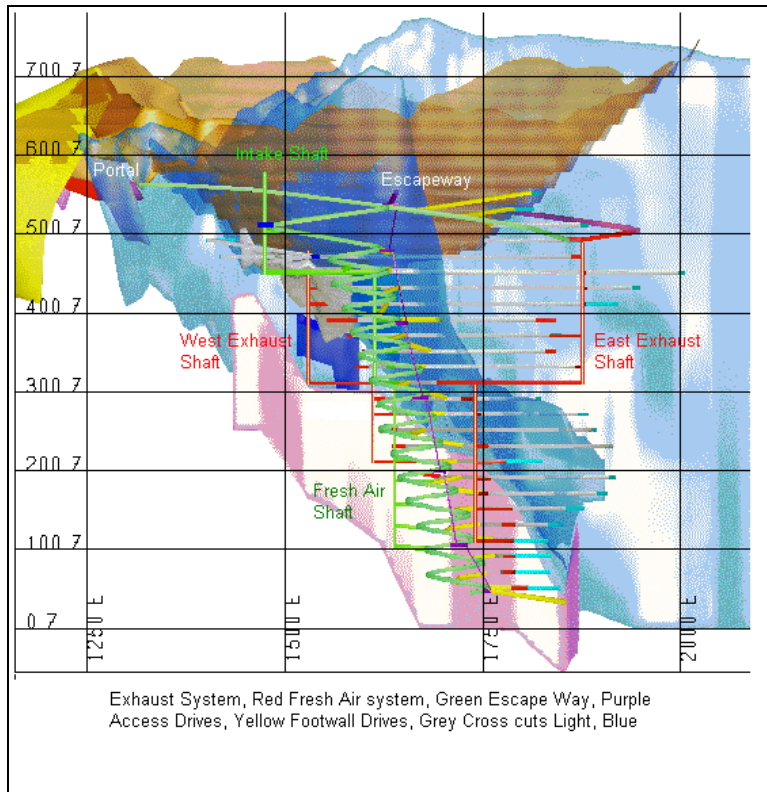


Figure 17-27: Jinfeng Underground Mine Access and Ventilation Layout

17.15 Mining Method

Sino propose to use standard truck and shovel mining methods in the open pit mine and the CAF method in the underground mine.

For the open-pit mine, Sino propose to mine on 5m benches for ore and 10m benches for bulk waste. In areas of narrow ore zones Sino will be able to selectively mine ore on 2.5m benches. In areas where “bulk waste” exists, i.e. no ore in the area, Sino will be able to mine with the largest equipment on site and with no day-to-day geological control required. These bulk waste strategies will increase total waste movements and allow costs to be minimised.

In the underground mine, Sino propose to use narrow mining equipment in areas of orebody width as low as 2m. Sino also propose to trial the SLOS method in areas where the orebody has sufficient width and rock strength. The SLOS method is generally a lower cost method than CAF. SRK agrees that the selected mining methods are appropriate for the orebody dimensions and the known rock strengths.

17.16 Mine Optimisation and Design

Design parameters for the Jinfeng open-pit and underground mines were developed between Sino, independent consultants based in Australia and NERIN, a Chinese design institute. Sino commissioned mining consultants from Australia in 2004 to complete optimisation calculations for the Jinfeng deposit.

The software used was Whittle 4D and the results provided a range of pits to allow the company to choose the pit that best meets the corporate objectives. Sino commissioned SRK in March 2006 to review the optimisation calculations and again Whittle software was used. The open-pit wall angles recommended by an independent geotechnical engineering company were used as guides for the pit optimisation and are shown in Table 17-11.

Table 17-11: Pit Wall Design Angles, Actual vs Recommended

Position in the Pit	Actual Design Angle	Recommend Wall Angle
South Wall	28° to 47°	21° to 48°
West Wall	43°	45°
North Wall – Stage 1	45.2°	50°
North Wall – Stage 2	44.2°	45°
East Wall	42.0°	45°

The low angles in the east and west walls are due to additional catch benches being incorporated to follow ore zones.

The haulage ramp design parameters used included a width of 20m and gradient at 1:10. The access road from RL580 to RL700 is based on 12m width with a gradient of 1:10. The batter angles and bench widths used for the open-pit design are shown in Table 17-12.

Table 17-12: Jinfeng open-pit batter angle and bench width ranges

Batter Angle (Below RL580)	Catch Bench Width (Below RL580)	Batter Angle (Above RL580)	Catch Bench Width (Above RL580)
65 degrees	4m to 10m	60 to 65 degrees	11m to 20m

Sino used the Surpac mine design software package to complete the detailed design of both the open-pit and underground mines at Jinfeng. The resulting pit design is shown in Figure 17-28.

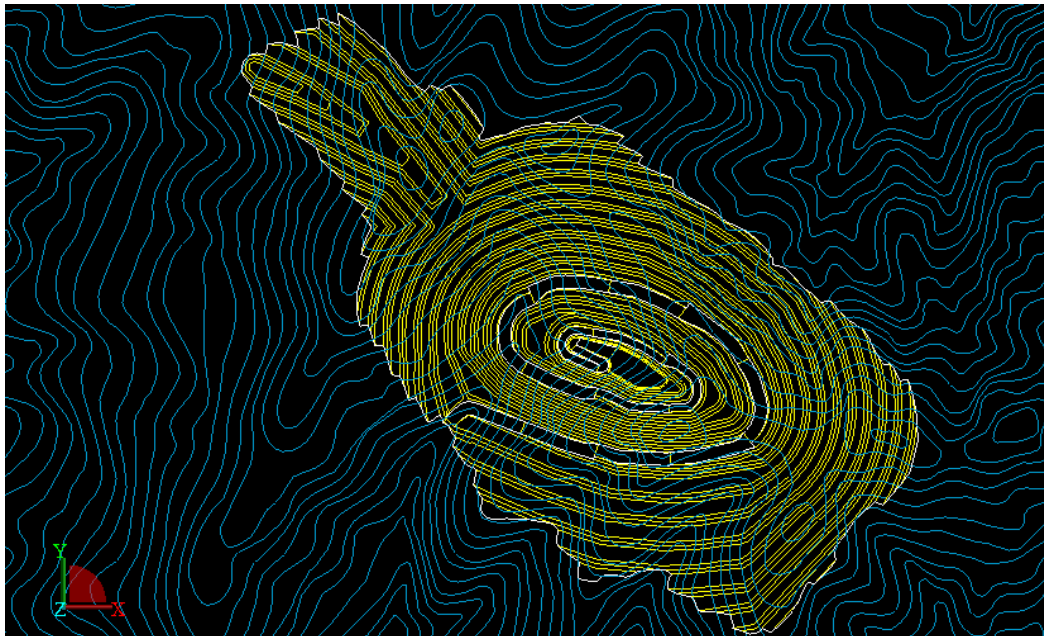


Figure 17-28 Plan View of the Jinfeng Open-Pit Design

SRK recognises that the current pit design has improved since the previous design in the BFS. The improved pit design is forecast to reduce the truck haulage distance and time, compared to the previous design. The recent design has eliminated a number of internal access ramps and will allow easier management of the open-pit.

17.16.1 Waste Dump Design

Optimisation work completed in early 2006 recommended an open-pit with a total tonnage of 91.87Mt and total waste of 86.08Mt. The overall pit design therefore had a strip ratio (waste to ore ratio) of 14.8. Sino have correctly observed that the waste dump has a significant role in designing an optimum project and the ability to dump close to the pit exit allows for significant haul cycle reduction with subsequent cost savings. For this reason, the waste dump has been brought closer to the pit exit and higher up the Huangchangguo valley. The top of the waste dump is proposed to be at

RL560 and will fill the valley immediately south of the ROM pad. The final dump height above the valley floor will be in excess of 150m at the southern most point. The construction dump height is limited to 40m per bench in the current design.

Sino propose to adopt a dumping procedure which will ensure adequate compaction and minimise water flow through the dump. The surface of the dump will be graded to ensure surface water will run off and not pool. SRK endorses Sino's intention but has yet to see sufficient detail to understand if the proposal is likely to be successful.

Some samples of waste rock from the pit have been tested at Guizhou Institute of Environmental Science and Design using facilities set up by Geo-Environmental Management Pty Ltd for acid generation. The conclusion drawn from the testwork was that the waste rock was free of acid generating rocks and that some rocks had acid neutralizing capacity.

SRK questions this result as some material was shown to be acid generating and the selective placement of that material may be required to ensure that the whole dump is neutral in terms of acid generation. There are several issues regarding the waste dump design including:

- 1) a relatively small number of samples of waste material from which to characterise the material properties of the waste
- 2) a poorly defined waste placement schedule and
- 3) the potential for metal leaching (e.g. arsenic) from the waste dump is poorly understood. Sino engaged two international consultants to assess the acid-generation potential and enable planning of the waste dump to counteract it. Sino stated that it has acted upon all of their recommendations.

Sino indicate that it may:

- 1) restrict the dump height to 40m to allow direct tipping over the tip head in a safe manner or
- 2) a dump and doze philosophy could be employed where the truck will tip 20m short of the tip head and the waste is then dozed over the edge.

No details of compaction methods or levels that may be achieved have been provided to SRK. Sino propose to have on-going consultancy applied to this issue as a feature of its operating plan.

17.16.2 Underground Mine Design

The underground mine has been designed in considerable detail including the portal and decline tunnel from the surface, the access tunnels for each extraction level, the alternative access connections and the ventilation shafts. The design parameters for the decline are:

- Cross section 5.5m by 5.5m (for both straights and curves)
- Gradient of 1 in 7 for straights and curves
- Level access at 20m intervals
- Centreline radius on curves is reduced from the 25m in the BFS to approximately 22m, i.e. one full loop per sublevel. This will reduce level access requirement
- The first 20m of the new decline inclines at 1 in 20 gradient up which will provide protection from flooding.

The mine design has undergone several changes since the BFS including a Sino study in 2004 which resulted in:

- An increase in the concurrent production levels to improve the underground production capacity to 1.2Mtpa
- A larger production round to improve the stope size and the economy of scale for the CAF method
- Large drive size and larger equipment to reduce operating cost
- An increase in the level interval to 20m to reduce the mine development requirement
- Reduced intervals among the production fronts to defer capital expenditures for decline and other mine infrastructure
- Use of ejector trucks to place dry fill directly into stopes
- A separate second egress to reduce the size of the intake air shaft

- New fan locations to eliminate the needs for fan silencers and to reduce operating cost
- New backfill plant location to eliminate the needs for the re-handling of fill material and to better utilizing the mill primary jaw crusher
- Estimates of cycle times to better define equipment productivities and utilizations
- A reduction in the use of the underhand CAF method to reduce cement usage in backfill
- Additional cable-bolting and shotcreting machine to improve underground safety

A common strategy in a mine design is to target high-metal and high-grade zones as soon as possible within the development and capital constraints. This strategy has been adopted in the current design.

The layout of the development and ventilation connections for the underground mine is shown in Figure 17-29. Both FW and HW access has been studied in some detail. Sino currently propose to develop the mine using FW development as it is expected to remain more stable than the HW as mining progresses.

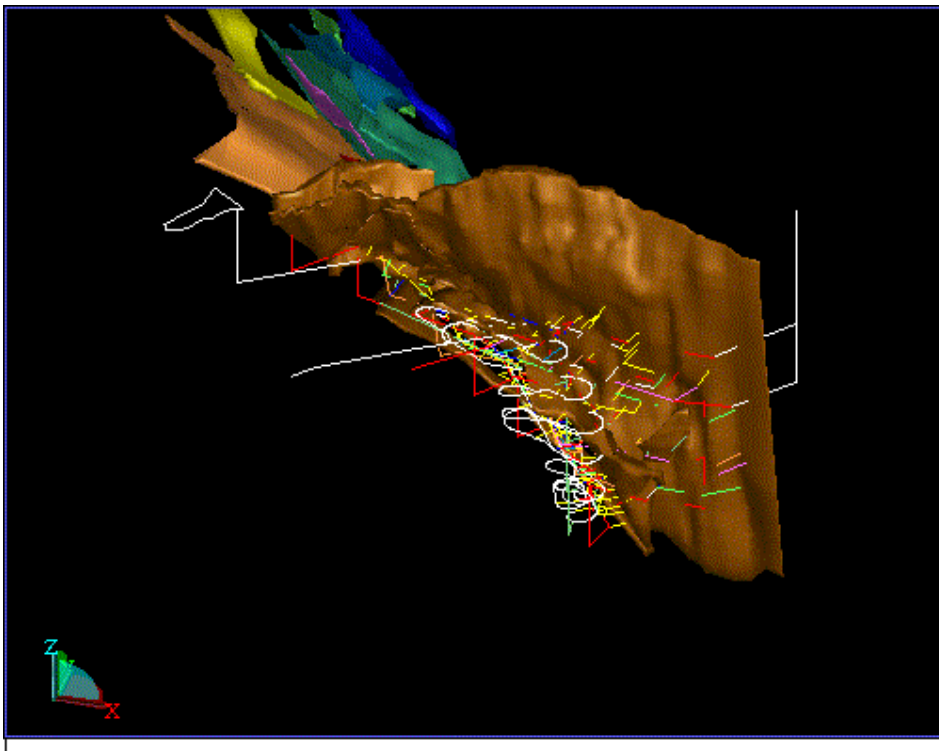


Figure 17-29: Proposed Jinfeng Underground Mine FW Development

17.17 Equipment Selection

Sino completed a number of studies to define the type of mining equipment that was needed to achieve the mining schedules. Equipment types, sizes, fleet numbers and production capacity were defined. For the open pit mine, Sino was then able to indicate to the mining contractor the type and number of the equipment required.

17.17.1 Open-pit Mine Equipment

The open-pit mining contractor (China Railway 19 Bureau Group Corporation) has purchased new equipment to fulfil the current mining schedule and proposes to add to the equipment fleet as the mining schedule requires additional production. Due to delays in completing the processing plant construction, the open-pit mine is ahead of schedule and has been slowed down so that stockpiled material does not exceed the space available.

The major items in the mining equipment fleet that are expected to be operating on site at the end of 2006 are shown in Table 17-13. A further six dump trucks and one additional 6.7m³ excavator are proposed to be added to the fleet as production demand increases.

Table 17-13: Jinfeng Open-pit Mining Fleet Details

Equipment type	Equipment Model and capacity	Number in fleet
Dump Truck	Komatsu HD605-7 63t	14
Excavator	Komatsu PC 1250SP-7 6.7m ³	2
Excavator	Komatsu PC400 1.8m ³	2
Bull Dozer	Liebherr PR751 430HP	1
Bull Dozer	ZTL210	1
Front-end Loader	Komatsu WA600 6m ³	1
Front-end Loader	Komatsu WA380 2.7m ³	1
Grader	PY16 5C-5	1
Roller	YZD18	1
Water Truck	EQ1141 G7D2	2
Fuel Truck	GYG531	2

Figure 17-30 shows some of the mining fleet which has started production at the open-pit mine. Other mining equipment was being re-assembled in the workshop. SRK believes that the type and quality of the mining equipment that is on site at Jinfeng will provide good availability and will be suitable for the duties required.



Figure 17-30: Jinfeng Mining Equipment

The drilling contractor, Guizhou Construction Company, will drill 115mm diameter holes in ore on 5m benches and 165mm diameter holes in waste on 10m benches.

17.17.2 Underground Mine Equipment

Sino propose to use modern electric hydraulic drill jumbo for the underground mine development and production drilling. Blasted ore and waste will be loaded by LHD's into mine trucks

The underground mine equipment fleet is proposed to consist of the following main units. Additional equipment will include explosives delivery vehicles, rock bolt installation vehicles, service vehicles and man-hauling vehicles.

Table 17-14: Proposed Jinfeng Underground Mining Equipment

Item	Capacity	Number
Decline development Jumbo	Twin boom	2
Ground support Jumbo	Twin boom	2
Stoping Jumbo	Twin boom	4
Narrow orebody jumbo	Single boom	1
LHD	17t	2
LHD	14t	2
LHD	3.5t	1
Mine trucks	45t	5

17.18 Manpower and Productivity

Mine workforce numbers as proposed by Sino in a typical production year are as shown in Table 17-15. Sino propose to use two 12 hour shifts per day. SRK accepts that the workforce numbers shown should provide sufficient personnel for the equipment size and production rates planned. The open pit mining will be completed by contractor, except that the charging of explosives into the drill holes will be conducted by a Sino team to ensure quality control.

Table 17-15: Typical workforce numbers proposed for Jinfeng

Workforce Category	Open Pit	Underground
Mine supervision and management	9	21
Operators	13 + contractors	198
Geology	12	19
Mine surveyors	7	9
Mine equipment maintenance	contractors	58
Total Mine Workforce	41	305

For the open-pit mining equipment, Sino’s productivity calculations were based on 85% availability and 85% utilisation over 329 days per year which provides 5,705 production hours per year. Sino has estimated that 36 days each year would be non-production days due to wet weather and unforeseen stoppages.

Sino allowed for work breaks, meal breaks and shift handovers, to calculate the potential to operate the equipment for 10 hours each 12 hour shift. Allowing for maintenance and breakdowns, an average 8.7 production hours could be achieved. Sino also state there is potential to “hot seat” operation during meal breaks and shift change-overs however this has not been factored into the schedule. SRK accepts the manpower and productivity estimates are based on reasonable assumptions and calculated using standard industry methods.

17.19 Mine Planning

17.19.1 Cut-off Grade, Ore Recovery and Dilution Assumptions

The cut off grades applied by Sino to the Ore Reserves estimates were 1.9g/t Au for the open pit and 2.9g/t Au for the Rongban and HCG orebodies in the underground mine. The dilution and recovery factors that Sino applied to the open pit were 5% dilution at 0.5g/t Au with 100% recovery of the ore. The overall dilution and ore loss factors for the underground mine are 13.5% dilution and 12.9% ore loss.

SRK reviewed the methodology used by Sino to calculate cut-off grade, ore recovery and dilution and accepts the methods used and the resulting factors as reasonable. The cut-off grade used a gold price of US\$500/oz and a metallurgical recovery of 87.5%, both of which SRK believes are conservative.

Sino has completed a number of studies including a tonnage and grade curve for the section of the Jinfeng deposit planned to be mined by open pit. The tonnage / grade curve for the Jinfeng deposit, based on Measured, Indicated and Inferred tonnes, is shown in Figure 17-31.

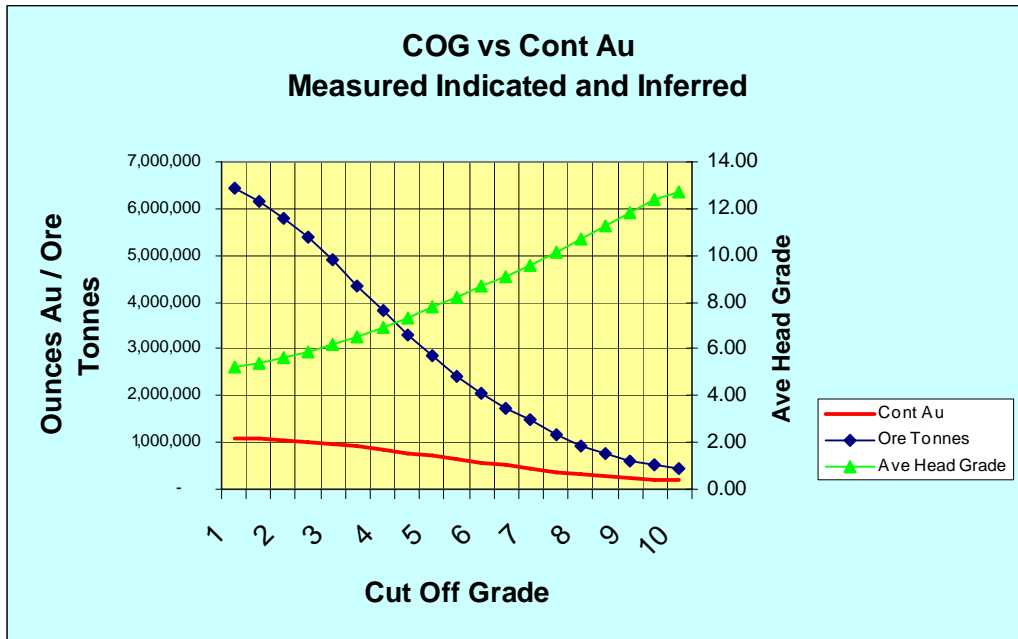


Figure 17-31: Jinfeng Grade / Tonnage Curve

Sino has studied the location of gold grade in the Jinfeng deposit and its relationship with strip ratio and depth below surface. The results of this study are shown in Figure 17-32. From this information, Sino has been able to schedule mining phases to maximise gold production while still stripping waste to allow later years to produce gold in the most efficient sequence.

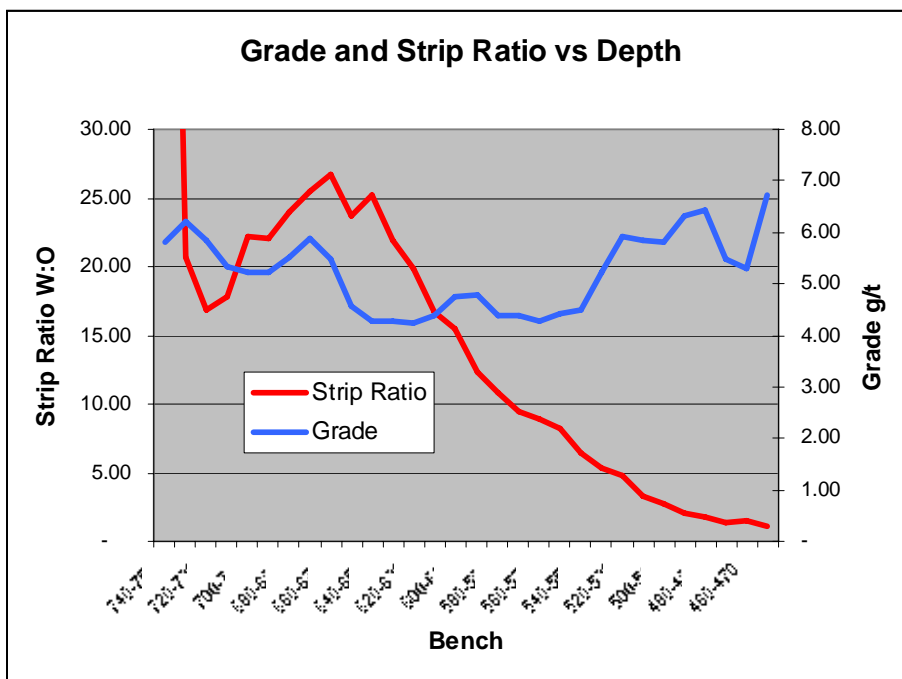


Figure 17-32: Jinfeng Open-Pit Grade and Strip Ratio with Depth

In early 2006 Sino requested SRK's Perth office to use a dilution factor of 12% and an underground mining recovery of 95% to update an optimisation study which produced a recommendation for an open-pit which had the properties shown in Table 17-16.

Table 17-16: Jinfeng Open-Pit Optimisation Results, 2006

Item	Units	Amount
Total tonnage	(Mt)	91.87
Waste tonnage	(Mt)	86.08
Ore tonnage	(Mt)	5.79
Ore grade	(g/t gold)	5.79
Strip Ratio	(Waste t / Ore t)	14.8
Contained gold	(M ounces)	1.076
Base of Pit	(mRL)	420

This open-pit will be well positioned for both efficient operation of the open-pit mine and for the underground mine.

17.20 Grade Control Procedures

Grade control was commenced last year at Jinfeng using blast hole sampling to define the ore zone after an independent consultant had initially recommended this method. Early results showed that this method could not accurately pick the ore boundaries and was underestimating the grade. Based on trial drilling and studies, which were independently reviewed, it was decided to change to a method using angled RC drilling and the early results of this show a less than 1% difference in the gold ounces estimated between the grade control model and the reserve model.

17.21 Surveying and Sampling

Modern surveying techniques are planned to be used by Sino to allow precise positioning of drill holes and mining equipment. SRK agrees that good survey control is necessary in modern mine management and will allow Sino to correlate mining results to the orebody model to provide improved prediction of the mining benches below.

17.22 Water Management

Chinese and Australian consultants have collected and reviewed data regarding the water in the rocks in the area of the open-pit mine and underground mine. The consultants concluded that the main Triassic clastic rock unit has low permeability and resulting low water flows. This conclusion has been confirmed by the existence of a number of exploration adits under the proposed mining area which show water flow rates lower than 2 litres per second. The consultants concluded that *"flow rates of this magnitude from adits excavated over lengths of many hundreds of metres indicate the rock mass has a low hydraulic conductivity."*

Dewatering the open-pit will be limited to controlling surface water accumulating in the pit by use of temporary sumps and directing the water to the south of the pit to enter into the silt trap system.

17.23 Underground Mining Services

17.23.1 Underground Mine Ventilation

The Jinfeng underground mine will be ventilated using electric exhaust fans which will draw fresh air into the mine via fresh air intake adits and shafts. The Fresh Air Shaft system will be located in the FW of the orebodies and in close proximity to the FW drives. Fresh air connection between the FW drive and the shaft are planned for each of the main production levels.

The ventilation standards applied by Sino are the higher of the Australian or Chinese standards or recommendations by Mine Ventilation Australia.

The exhaust fans should have a noise level not exceeding 85 decibels (dB) according to Chinese fan manufacture standards. No silencers are planned. The installed mine exhaust capacity is estimated at over 600m³/second at a static pressure of 1550 Pascal (Pa). This ventilation system and associated

infrastructure will permit mine management to ensure all ventilation statutory requirements are adequately met.

17.23.2 Power, Water and Compressed Air

The connection of services including electrical power, water and compressed air will be reticulated to the Jinfeng underground mine via the decline tunnel from the surface. As other connections from underground to the surface are established, such as ventilation shafts, services and supply lines can be duplicated or replaced.

17.24 Production

17.24.1 Ore and Waste Production Schedule

The open pit mining schedule was re-calculated in June 2006. The waste and ore mining schedule proposed at that time is shown in Figure 17-33. The ore tonnes and ore grade is shown in Figure 17-34.

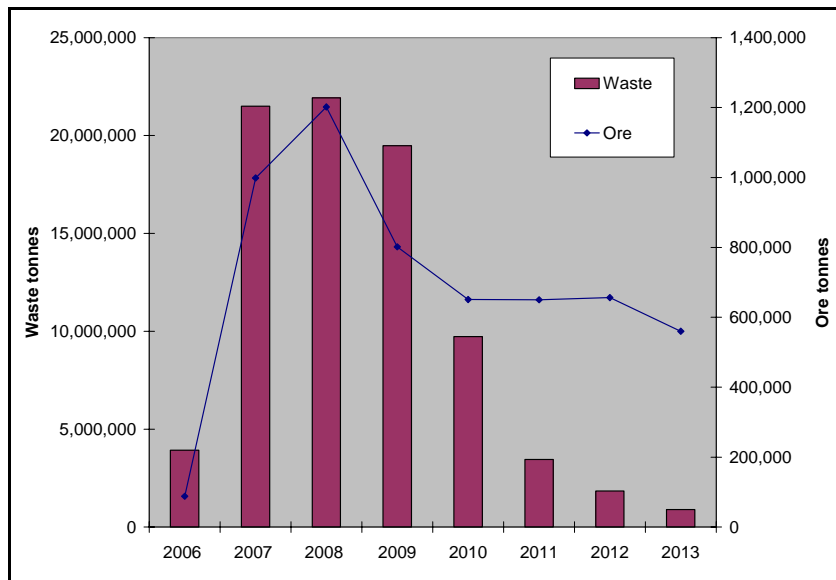


Figure 17-33: Forecast Jinfeng Open-Pit Waste and Ore Mining Schedule



Figure 17-34: Forecast Jinfeng Open-Pit Ore Tonnes and Grade

The mining schedule proposed by Sino in June 2006 is shown in Figure 17-35.

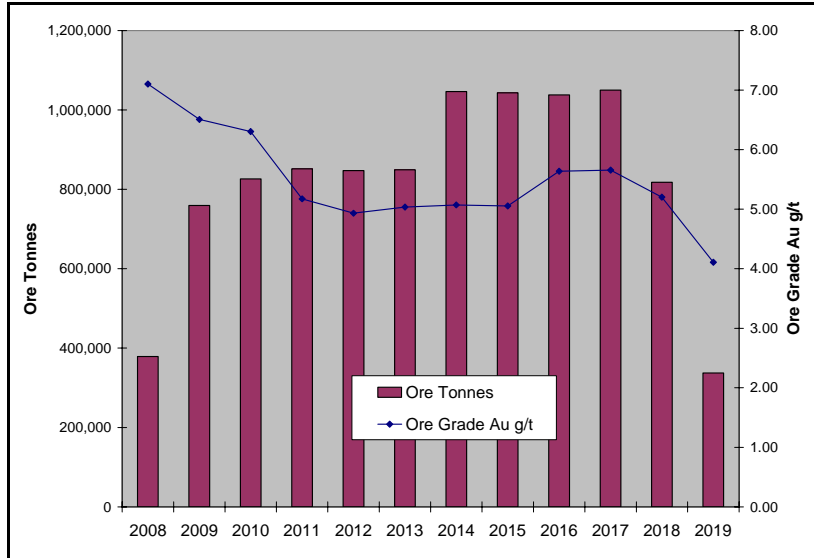


Figure 17-35: Jinfeng Underground Mine Mining Schedule

Due to the delayed commissioning of the processing plant, the open pit reduced its production rate for the period leading up to the plant commissioning. The schedules above are being updated to account for the impact on the plant commissioning and production ramp-up by rainfall across southern China in late June 2007, the late underground development approvals granted by relevant authorities, and better than scheduled productivities achieved by the open pit mining contractors.

At 30 June 2007, ore stockpiles totalled 276,728 tonnes. This large stockpile will allow the deferral of the underground production start-up date without affecting the plant throughputs.

The production schedule in the optimisation study from 2005 assumed a total production of 1.2Mtpa. Sino has reviewed the possibility of the processing plant handling a throughput of 1.5Mtpa and reviewed the mining schedules. In this higher production case the combined production from both the open-pit mine and the underground mine may be approximately 1.5Mtpa for the years 2008 to 2012, if the schedule proposed by Sino is able to be achieved, as shown in Figure 17-36.

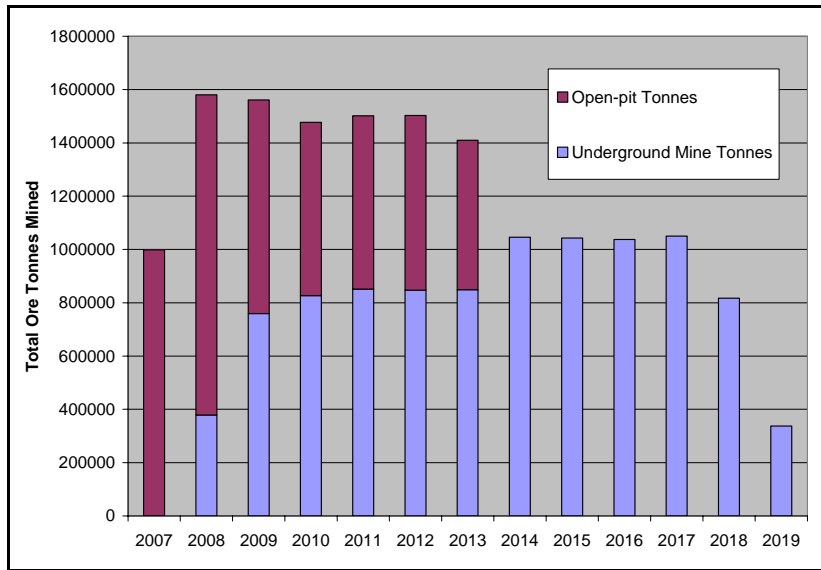


Figure 17-36: Open-pit and Underground Ore Production of 1.5Mtpa

17.24.2 Backfill System

Once the underground mine commences ore production, the backfill system will be required to provide sandfill and cement mixtures to fill the mined section of the cut-and-fill stopes. The backfill plant will utilise open pit waste which will be trucked to the crushing and grinding plant to produce artificial “sand” which will be used as an underground hydraulic fill material. The backfill plant is designed to have a capacity of 1,600 tonnes per day.

17.24.3 Forecast Gold Production

Once the ramp-up of production is complete, Sino forecast the Jinfeng operation to initially provide gold production of 180,000 ounces per annum.

17.24.4 Indicative Mine Life

Based on the Proved and Probable Ore Reserves only, which total 16.4Mt of ore as shown above, and a mining and processing rate of 1.2Mtpa of ore, the indicative mine life for the combined open-pit and underground mine is 13.7 years. If the 1.5Mtpa production rate can be achieved for the years 2008 to 2012 as shown above, the combined life of the mine is indicated at 11 years.

17.25 Major Contracts

17.25.1 Jinfeng BIOX® Licence Agreement and Process Guarantee

Sino entered into an agreement with Minsaco BIOX® Pty Limited (“Minsaco”) on 23 June 2004. Minsaco is a wholly owned subsidiary of Gold Fields Limited, a company listed on the Johannesburg stock exchange. Under the agreement Sino has agreed to engage Minsaco to provide to Sino a licence to use the BIOX® process in the Jinfeng processing plant, a process design package, consulting services, design certification, inoculum, ongoing and updated information, improvements and developments on the BIOX® Process and plant commissioning and training.

The agreement with Minsaco provides a “guaranteed” minimum percentage pyritic sulphur removal from Jinfeng Material of 94% from “Concentrate of Feedstock Quality”. This performance is based on 95% availability of the plant and a throughput of 65.8 tonnes of sulphide sulphur per day. The agreement defines the chemical quality of the material which Minsaco guarantees will be processed and defines the maximum acceptable levels of trace elements.

Gold Fields Limited has provided Sino with a letter of support in relation to the Jinfeng BIOX[®] agreement, in which Gold Fields commits to provide Minsaco with sufficient technical and human resources support “to ensure that Minsaco performs its obligations and meets its liabilities under the licence agreement”.

17.25.2 Mining Contract

Sino has entered into a contract with No.19 China Railway & Construction Company for the open pit mining at Jinfeng. The contractor has taken delivery of a fleet of new Komatsu equipment, including three PC1250 Excavators, twenty HD605 65t Dump Trucks, a dozer, water truck and a grader.

Drilling and blasting: Sino has appointed Guizhou Construction Company as the drilling contractor for Jinfeng. The contractor will utilise three new Atlas Copco L8 drill rigs to complete all drilling for mining purposes.

Explosives will be supplied under contract but placement of the explosives in the drill holes will be completed by Sino employees. SRK endorses this method as it allows Sino to control a critical component of the mining process.

17.25.3 Supply Agreements

Electrical Power and Water Supply

Sino has agreed a Combined Infrastructure Deal which was negotiated with the County. For electrical power supply, the 110KV line connected to the Provincial electrical grid has been extended 42km from Zhenfeng. The forecast demand from the Jinfeng site is approximately 22MW. A backup 3MW diesel set is on site to provide power if the grid connection is interrupted. Electrical power cost for the Jinfeng site is forecast by Sino at US\$0.05 per kWhr.

Water requirements are estimated at 7,200m³/day which will be sourced from the Luofan River and pumped to the process plant via a 3km pipeline.

Diesel Fuel Supply

Diesel fuel will be supplied to the Jinfeng site by road tanker and is part of the open-pit mining contract. Sino will purchase diesel from the open-pit contract as required for any underground mine equipment which is powered by diesel engines.

Explosives Supply

Sino has awarded the explosives supply contract to Chongqing Gezhoubal Explosive Chemical Company Limited (EXPL) who have considerable experience at the Three Gorges Dam project. EXPL have built a production plant on site. EXPL will supply both Ammonium Nitrate–fuel oil (ANFO) and emulsion explosives. Sino have also made arrangements to be supplied with Orca detonators and other blasting accessories.

17.26 Organisation Chart and Workforce

17.26.1 Organisation Chart

Sino has a quite flat organisational structure as shown by the organisation chart depicted in Figure 17-37. The General Manager has ten department managers reporting to him, with each department responsible for a defined component of the site functions.

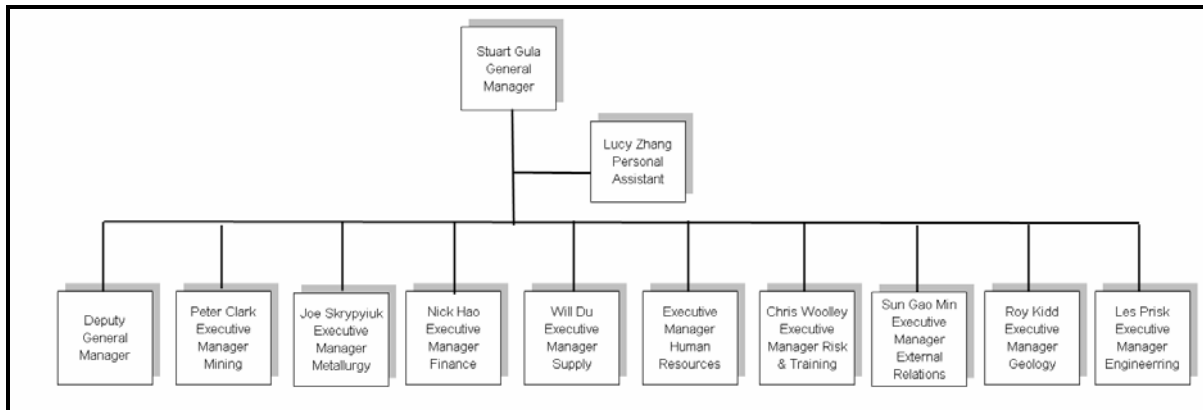


Figure 17-37: Sino Organisation Chart as at November 2006

17.26.2 Planned Total Employees

The forecast workforce throughout 2007 is shown in Table 17-17.

Table 17-17: Forecast Workforce Numbers

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SUMMARY (JF EMPLOYEE ONLY)												
GM	7	7	7	7	7	7	7	7	7	7	7	7
SUPPLY	36	36	40	42	43	43	43	43	43	43	43	43
CATERING	3	3	3	3	3	3	4	4	4	4	4	4
SAFETY	13	13	13	13	13	13	13	13	13	13	13	13
CLINIC												
C/RELATION - SITE	10	10	11	11	11	11	11	11	11	11	11	11
TRAINING	23	23	23	22	22	22	22	22	22	22	22	22
FINANCE	11	11	11	12	13	13	13	13	13	13	13	13
H/RESOURCE	6	6	6	6	6	6	6	6	6	6	6	6
E/RELATION - GUIYANG	7	7	7	7	7	7	7	7	7	7	7	7
ENVIRONMENT	13	13	13	13	13	13	13	13	13	13	13	13
SECURITY	3	3	3	3	3	3	3	3	3	3	3	3
MINING	37	37	39	39	39	40	40	40	40	40	40	40
MINE GEOLOGY	42	43	43	43	43	43	43	43	43	43	43	43
PROCESSING	87	101	101	101	101	101	101	101	101	101	101	101
ENGINEERING	91	101	118	114	118	123	131	139	141	151	153	153
TOTAL	389	414	438	436	442	448	457	465	467	477	479	479
EXPAT/NATIONAL												
EXPAT	11	11	11	10	10	10	10	10	10	10	10	10
NATIONAL	378	403	427	426	432	438	447	455	457	467	469	469
TOTAL	389	414	438	436	442	448	457	465	467	477	479	479

SRK notes that the percentage of expatriate workers is less than 3%, so that 97% of the workforce is intended to be Chinese. Sino has a target that 50% of the employees will be drawn from the local area and proposes to give preference to workers from Guizhou Province.

17.26.3 Assessment of Local Labour Force

China has a well established mining contractor skill base. The mining contractor at Jinfeng has experience at a wide range of civil construction and earthmoving projects and is a subsidiary of one of the top ranking construction companies in China. The underground mining workforce will be based around experience underground miners from Sino's previous mine at Jinchialing. The process plant operators will be drawn from a range of reasonable well experienced workers, many of whom have qualifications in chemical engineering and metallurgy. There are few operators in China with experience in BIOX[®] but the skills will initially be provided by expatriates who will provide training to the Chinese employees. Maintenance skills are readily available in China, as are administrative and accounting skills.

17.27 Safety

17.27.1 Historical Safety Records

Sino has established a strong safety culture on site during the exploration and construction period. The following table shows a very low number of lost time injuries and a low Lost Time Injury

Frequency Rate. The Medical Treated Injury Frequency Rate and the Significant Incident Frequency Rate are also both quite low considering the number of manhours worked. It is commendable that both the Sino employees and those of the Engineering, Procurement and Construction Manager (EPCM) contractor are demonstrating a strong safety performance.

Table 17-18: Jinfeng Safety Performance Statistics

	Total Project	EPCM Project
Manhours Worked	3,923,865	1,652,697
Lost Time Injuries	4	1
Lost Time Injury Frequency Rate	1.0	0.6
Medical Treated Injury Frequency Rate	5.9	n.a.
Significant Incident Frequency Rate	4.9	n.a.

17.27.2 Safety Procedures and Monitoring

Occupational health protective equipment and clothing generally appears to be available and is being enforced for all Sino employees. Safety provisions for surface plant, such as unsafe areas being clearly demarcated, moving machinery parts being appropriately guarded, and guard railings are being installed on all gantries. The site has a safety induction system for site visitors and new employees, and trained emergency response teams are maintained on-site.

During operations a work permit system will be established that will assist in the control of health, safety and environment (HSE) hazards and risks for some higher risks activities or where there is not a recognised work procedure or where non routine dangerous equipment is being used. The permit system will also ensure that potential hazards are communicated to the appropriate personnel.

The project is committed to providing quality personal protective equipment (PPE) for use when other measures fail to control risks adequately. Areas and tasks will be reviewed to identify their PPE requirements and mechanisms will be in place to approve all PPE and to ensure that only approved PPE is purchased. Signs will be placed in areas to alert people to the PPE requirements.

Sino has committed establishing HSE monitoring programs to address legal requirements and sampling methods. The programs will cover the following areas:

- Environment Monitoring:
 - Air emissions, stacks and vents
 - Air emissions, ambient air
 - Water sampling, surface
 - Water sampling, potable water
 - Water Sampling, underground
 - Water sampling, tailings dams (CIL and Flotation)
 - Water discharges, CIL tailings dam and sedimentation dam
 - Process liquids
 - Noise, facility boundaries
- Occupational Hygiene Monitoring:
 - Air emission, underground and surface wherever dust, fumes, vapours are generated
 - Noise, occupational exposures
 - Noise, machinery and equipment as identified.
- Health Monitoring:
 - Pre-employment medicals
 - Health checks for blood pressure, heart, lung, blood, abdomen and liver.
 - Mercury and arsenic levels in blood
 - Lung function
 - Hearing

17.28 Operating and Capital Costs

17.28.1 Operating Costs – Forecast

Sino's forecast of average Life of Mine (LOM) operating costs, based on average gold production, is approximately US\$220/oz of gold produced. Variations can be expected during shorter time periods, as both operating costs and gold production may vary during that period.

17.28.2 Capital Costs – Forecast

In August 2005 Sino issued a forecast capital cost of US\$70 million (M) for the Jinfeng project to achieve first gold production. Due to changes in equipment and a delay in completion of the construction phase, Sino's forecast in October 2006 that the capital costs was expected to be in the range of US\$90 to US\$95M.

The pre-production capital cost of the Jinfeng underground mine has been forecast by Sino at US\$20M to achieve the first underground ore production by the first quarter of 2008. Sino has estimated the total capital costs for the underground mine, as shown in the following table.

Table 17-19: Sino's Forecast of Jinfeng Underground Mine Capital Cost

Capital Items	US\$M
Decline and portal	3.7
Horizontal development	0.9
Shafts	3.8
UG communication & substations	2.3
Mine services	0.3
Mobile equipment	13.7
Ventilation	1.0
Mine main substation	0.3
Backfill plant & UG fill pipelines	1.9
Capitalized UG Mining Admin	1.9
UG EPCM	0.7
UG contingency	2.8
Purchase of JCL equipment	0.9
Total Underground Mine Capital	34.1

As described in the Environmental section of this report, SRK has identified that a capital costs in the range of US\$18 to US\$20M may be required for ongoing rehabilitation and eventual closure of the site.

17.29 Infrastructure

17.29.1 Road Access

The Jinfeng mine is connected to the Provincial road system. From Guiyang, the capital city of Guizhou Province, a sealed four lane highway is in construction to connect to Kunming, the capital city of Yunnan Province. In October 2006 this highway was completed to Huangguoshu where a major suspension bridge is being constructed to span the gorge. When completed this bridge will make a significant reduction in the travel distance and time required to drive to Jinfeng. From Zhenfeng county town (Mingu) the road to Jinfeng reverts to 43km of unsealed road through the mountainous region. Sino has constructed 12km of sealed access road to Chinese Class 4 standard from Wei Li to the mine site entrance. The County has recently agreed to seal the remaining 43km section of the access road.

17.29.2 Accommodation

At the Jinfeng minesite, Sino has constructed housing units for managers and senior staff and terrace units for the bulk of the workforce. Sino's aim is for 50% of the workforce to be locals who commute daily by bus from their village or town. In October 2006 the Jinfeng camp included workers from Ausenco Limited, the Australian company who is managing the construction of the process plant. The camp included a kitchen and dining room serving both Chinese and western food. The camp has a nominal capacity of 250 persons but due to the volume of construction activity was accommodating 340 workers in October 2006. New accommodation and kitchen facilities were constructed in 2006 and provide facilities for the operational workforce.

17.29.3 Electrical Power

The 110kV line connected to the Provincial electrical grid has been extended 42km from Zhenfeng. The forecast demand from the Jinfeng site is approximately 22MW. A backup 1.2MW diesel set is on site to provide power if the grid connection is interrupted. Electrical power cost for the Jinfeng site is forecast by Sino at US\$0.05 per KWHr. Sino expressed some concern that the local power authority may not be able to meet the full demand of the region if several other future users come on line. The problem has been partly resolved by adding an extra feeder (currently in construction) in the first segment of the supply line to Xingren which reduces the impact of the overloading at the far end of the feeder, near the generation plants. In the longer term Sino has agitated for an additional feeder line to be constructed from Ceheng. The capital cost of such a project is estimated at 6M RMB (US\$800,000) to construct approximately 22km line plus a breaker and other switching equipment at Ceheng. The line design has been completed and the construction time is estimated at 3 months. Sino has made a contingency provision in the 2007 Capital Budget for this expenditure.

17.29.4 Water Supply and Reticulation

Water requirements are estimated at 7,200m³/day which will be sourced from the Luofan River and pumped to the process plant via a 3km pipeline.

The Datian hydroelectric scheme normally draws water from upstream Luofan and discharges it into Beipan River, bypassing Jinfeng's raw water extraction point. The Datian scheme has a regulatory requirement to control draw-off so that a minimum residual flow in the Luofan River of 1,300L/s is always maintained which easily exceeds Jinfeng's required take-off volume. There is a slight possibility that the Datian scheme may ignore the regulation and draw off more water for power generation and leave Jinfeng with insufficient water flow. Sino has studied several alternatives, including 1) a very large aquifer under the Laizishan limestone dome which can be accessed from shallow bores and 2) the Beipan River is about 6km from Jinfeng and some water supply may be available. Flows in the Beipan River are 20-50 times those in the Luofan River. SRK believes Sino has made adequate provisions to ensure a reliable and sufficient water is available to the project.

17.29.5 Diesel Fuel

Diesel fuel will be supplied to the Jinfeng site by road tankers which will pump supplies of diesel fuel into storage tank onsite.

17.29.6 Explosives Handling and Storage

A secure storage magazine for explosives has been constructed several kilometres from the mine. The location is removed from site activities and is accessed from the road to the tailing storage facilities.

17.29.7 Workshop Facilities

The workshop for maintenance of mining equipment has been constructed and is being used to assemble the mining equipment fleet. Workshops are also currently located within temporary facilities adjacent to the processing plant which is under construction.

17.29.8 Transport

Jinfeng has adequate road transport facilities to allow completion of the site construction and to supply the needs of the mine once it is operational. The County has recently agreed to seal the remaining 72km section of the access road.

17.29.9 Environmental Risks

The issues and concerns identified by SRK that are considered to remain potential environmental risks, or may impact on the ability of Sino to operate the processing plant uninterrupted include:

- CIL Tailings Facility Water Management
- Waste Rock Characterization, Metal Leachability and Water Management Strategy
- Co-disposal of process treatment solids with flotation tailings
- Soil Balance and Closure

The following subsections briefly summarise these issues.

CIL Tailings Water Management

As noted previously, should the proposed effluent standards be achieved it is likely that potential impacts from the treated CIL discharge is likely to be acceptable. We note that Sino has consistently operated its cyanide destruction plant at its other gold mine at Jianchaling to achieve 0.3-0.5 ppm for an 8 year period. Testing to date however has indicated that the BIOX[®] CIL tailings response may be different to conventional CIL tailings. Also, the effectiveness of the proposed polishing treatment strategy has not been demonstrated.

While the proposed polishing treatment processes (i.e. peroxide with copper catalyst, ferric chloride co-precipitation and neutralization) have not been fully demonstrated for the CIL tailings water, it is considered that some combination of unit treatment operations will likely achieve concentrations within the effluent discharge limits. However, the proposed treatment strategy to recycle water to the CIL pond poses a high risk.

First, we note that the proposed treatment process does not include a unit operation to remove the precipitates that will be formed; rather it is assumed that the solids will settle from solution within the pond. When the combined effects of the suspended solids generated within the recycle and that contained in the treated CIL discharge to the pond are considered it is unlikely that sufficient retention time will be available to allow effective settling, especially when the size of the pond diminishes during discharge to the Luofan River. There is therefore a high risk that elevated loadings of suspended solids will be released. The suspended solids will be characterized by elevated metals which may preclude achieving discharge limits and will pose a risk to the receiving environment.

Second, we believe the pond dynamics and the concentration reduction that may be achieved with a proposed 100L/s recycle rate has been underestimated. To illustrate this, a series of calculations have been completed with the simplifying assumption that the net inflow during the average dry season enters at a unit concentration. It is further assumed that treatment commences when the pond contains 10,000m³ of supernatant (i.e. at 50% of its maximum allowable volume), also at unit concentration. The recycle is assumed to be at 100L/s, and it is assumed that the treatment step removes 100% of the contaminant (i.e. the concentration in the treated recycle is zero). As illustrated in the first diagram (a) shown in Figure 17-, the concentration in the pond will decrease over time while the pond fills. Once the pond reaches the maximum capacity in about 140 hours or about 5.8 days (i.e. when the CIL may be shut down if the concentration limits are exceeded), the concentration will only be about 20% of the initial concentration. Even if the initial pond was at zero concentration, the concentration in the pond will increase over time to be asymptotic at about 18% of the influent concentration. This means that, for example, to achieve the discharge limit of 0.5mg/l for total cyanide (CN-T), the maximum CN-T concentration in the influent cannot be higher than about 2.9.

The next diagram (b) in Figure 17- illustrates the effect on pond volume and contaminant concentration should discharge commences (at the proposed 4,000m³/day) and treatment ceases at 100 hours (4 days) when the pond reaches 85% of the maximum capacity and the concentration in pond had decreased to the 20% of the initial concentration. The immediate effect, due to ongoing CIL tailings inflow to the pond is that the concentration increases while the pond level drops. Since

the pond size diminishes the concentration increases more rapidly. By the time the pond has decreased to 50% of capacity, the concentration in the pond is at about 80% of the influent concentration. The risk that the proposed strategy will lead to exceedances of effluent limits is high and will likely lead to operational stoppages based on Sino's current commitments. It is likely that continuous treatment will be required rather than intermittent, and the proposed frequency of discharge may not be possible. Furthermore, it will be necessary to revise the proposed monitoring frequency to correspond to actual performance.

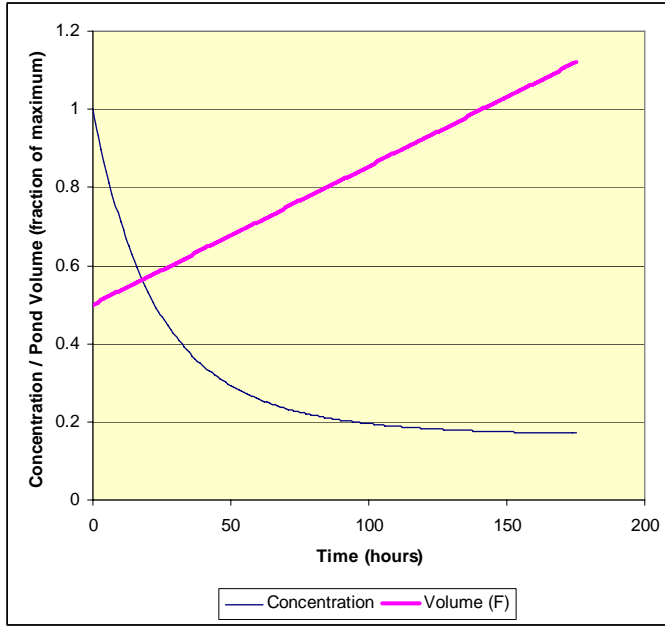


Figure 17-38(a): Dynamics of Proposed CIL Pond Treatment Strategy on Pond Volume and Concentration

(a) 100L/s treated recycle; complete removal of contaminant; pond volume shown as a fraction of maximum

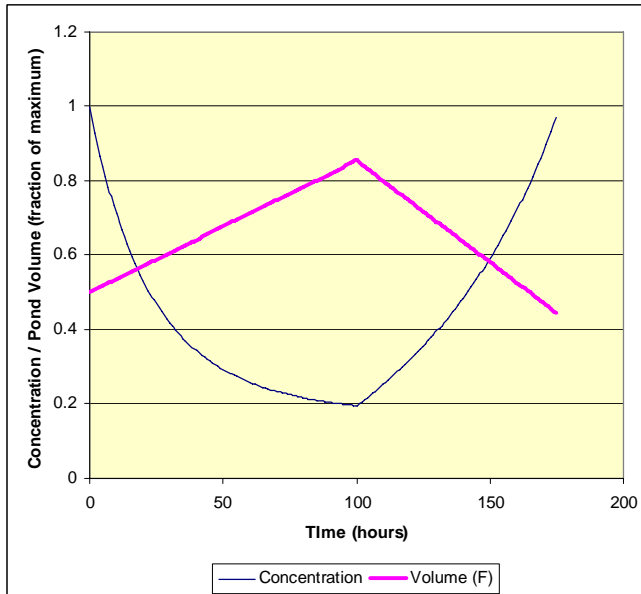


Figure 17-43(b): Dynamics of Proposed CIL Pond Treatment Strategy on Pond Volume and Concentration

(b) Discharge commences after 100 hours of recycle at 4000 m³/day

It is further noted that the proposed operating strategy for tailings deposition in the CIL tailings facility is not likely to facilitate meeting the treatment discharge concentration limits for the following reasons:

- The proposed CIL tailings treatment strategy prior to deposition includes the precipitation of some metals as metal sulphides using sodium hydro-sulphide (NaHS). These secondary metal sulphides will form as small particles which will have a large surface area, and it is expected that exposure to oxygen (on the beaches) will lead to the rapid oxidation of these phases with the resultant increase in dissolved metal loading to the pond. (We note that weathering tests have not been completed on these tailings.)
- The tailings have been shown to be net acid generating. While in excess of 94% oxidation is guaranteed by Gold Fields for the BIOX[®] process, the CIL tailings are expected to have a residual sulphide content of about 0.5 to 1 % (estimated acid generation potential of 15 to 30 kgH₂SO₄/tonne) with no neutralization buffering capacity since they have been acid leached. Extended exposure of the tailings, as proposed by the beach deposition strategy, could lead to the oxidation of the tailings, acidification and increase metal release to the pond.

In both cases, the appropriate mitigative measure would be sub-aqueous disposal, however, that may inhibit densification of the tailings, and, the larger that will form will affect the performance of the proposed treatment strategy. It is likely that an operational balance will need to be developed to maximise pond volume to limit oxidation of the tailings.

Sino reported in their June 2007 quarterly report that “extensive consultation was undertaken with the environmental authorities in Guizhou Province in relation to the controlled discharge of excess water from Jinfeng’s CIL tailings dam”. Continuous discharge of acceptable effluent (according to the Regulations) has been practised over June, July and August of 2007. As the wet season concludes, the discharge is anticipated to revert to intermittent discharge. This issue is expected to decline in importance with the commissioning of the dry tailings disposal in 2008.

Waste Rock

The current waste rock management plan relies solely on segregation based on sulphur content to identify the potential for net acid generation. However no consideration appears to be given to metal leachability. The available geochemical assessment is based on a limited number of samples that may not adequately address the variability within the waste rock. It is further noted that the leachate concentrations obtained from the column leach tests were compared directly with water quality standards and no attempt was made to scale the leach rates to actual field conditions as they will be in the waste rock dump. In particular, the small scale waste rock column tests have shown a propensity to leach arsenic. Scaled to full scale the cumulative arsenic release rates may be significant and pose a significant environmental concern both during operations and after closure.

The water management plan for the water contained in the sediment pond is to recycle the water and use it as process water during the dry season, based on the modelling of the chemistry of water pooled behind the sediment dam. This would result in compliance with both Class I discharge standards and Class III receiving water standards for all parameters including arsenic. The modelling further indicates that discharge would only occur during the wet season.

The water quality modelling as presented in the technical supporting document (Kingett and Mitchell) is based on the assumption that the flow of seepage from the waste rock will be about 20m³ per day for the life of the project. The size of the waste rock dump will however increase with time to a maximum size of about 65 hectares (ha). The rate of increase in the footprint of the waste rock will be rapid during the earlier stages of the project (high initial strip ratio; narrow head of valley) and will slow toward the end of the project. Assuming a time weighted footprint for the life of project of about 45ha, the assume seepage rate of 20m³/day equates to net infiltration of about 16 mm per year, or about 1% of the annual precipitation. Experience elsewhere has shown that typical infiltration rates for uncovered waste rock dumps range from about 40 to 50% of the annual rainfall.

The assumed seepage rate therefore has been underestimated and the net loadings of metals, in particular for arsenic may as a result have been underestimated by a significant margin.

It is also not clear whether or not the potential effects of the arsenic bearing solution on, for example, the BIOX[®] process has been considered. The proposed strategy may not be feasible at the higher seepage and metal loadings and contingency treatment plant may be required to maintain environmental compliance. It is noted however that arsenic in solution may not be a risk for the BIOX[®] process provided the correct solution parameters are maintained (i.e. elevated redox potential).

It is also noted that a significant proportion of the waste rock toe area may be inundated by the hydroelectric reservoir. This could cause the rapid release of a large volume of soluble products which will be difficult to capture. Sino indicated that the toe area will be protected by a concrete wall, similar to the CIL embankment.

Flotation Tailings and Treatment Solids Co-Disposal

The BIOX[®] process generates an abundance of acidic solution with elevated metal concentrations including iron, arsenic and some base metals. The acidic water will be recovered in a counter current decant system and treated with lime to precipitate the dissolved metals as metal hydroxides and oxy-hydroxides and/or to sorb or co-precipitated some of the dissolved species. No testing has been undertaken to assess the long term stability of the solids that will be deposited in the flotation tailings impoundment.

The precipitates that will be generated by lime treatment are generally produced under oxidizing conditions. Once co-deposited with the flotation tailings, the treatment solids will be inundated within the porespace of the flotation tailings and oxygen will be excluded and the oxidation-reduction potential will change. This may lead to the re-dissolution of some metals as meta-stable phases reform and it is anticipated that arsenic and iron concentrations in the pore water could increase (Robins, 1990) and lead to impacts on the groundwater regime. Seepage in the longer term may impact surface water quality. Sino has indicated that short-term results to August 2007 have as yet not indicated dissolution of secondary minerals.

Soil Inventory and Management

As noted in a later section, the rehabilitation and closure strategy remains conceptual in nature only. An inventory and management strategy for the pre-stripping and storage of the soils will be critical to the success of the proposed conceptual strategy and to achieve the land-use objectives after closure. It is also necessary to demonstrate through a soil inventory assessment that sufficient soil is available to complete the proposed closure strategy. Alternatively, suitable borrow sources will need to be identified that will be readily accessed and cost effective. While Sino indicated that soil will be available from the lower valley area below the waste rock dump to the Luofan River, access to the soil has not yet been negotiated. This land will however be compulsorily acquired by the applicable Chinese government agency during the dam fill stage of the Longtan hydroelectric scheme, which would suggest that Sino should have access to the soil. This will need to be verified by Sino. It is also not clear that haul distance and elevation differences have been factored into closure costs as discussed in the next section. Sino advised that a western consultant has been retained to prepare a more detailed desk-top assessment of these issues.

17.29.10 Rehabilitation Practices and Closure Costs

Key Rehabilitation and Closure Issues

A conceptual cover has been proposed for the CIL tailings area after closure of the mine. It is noted that the CIL tailings will be net acid generating, and as a result of the accumulation of treatment solids, will have a high potential for metals to leach from the tailings if the tailings continued to oxidize. While no weathering tests have been completed on CIL tailings it is anticipated that the metal loadings that may be contained in seepage post closure from the CIL could significantly impact the receiving water quality. No modelling has been undertaken to assess the rate of

infiltration that will result or to estimate the rate of oxidation that results from oxygen diffusion through the cover layer. In our experience the proposed cover may not sufficiently reduce acid generation and an improved cover system will be required.

As noted before, metal leachability has not been scaled to the actual size and composition of the waste rock dump. Consequently, while no details of the proposed cover systems and water management strategies for the waste rock dump have been provided, there may be a significant risk that the current allowances for rehabilitation and closure of the waste rock dump may have been underestimated.

Similarly, no estimates of the potential final void water quality have been prepared. Depending on the flood elevation of the underground workings and open pit, the water quality that may accumulate in the final voids may be of a poor quality and may impact on ground water and surface water quality. Again, no details have been provided on the proposed closure strategies for the final voids.

Budgeted and Expected Costs

While closure planning remains conceptual, Sino has indicated that an initial Closure Plan will be prepared during 2007 which will include commitments to return rehabilitated land at the waste dump to the local villages for distribution for agricultural or other uses as soon as practical. Sino has indicated that notional rehabilitation allowances are currently being provided for at the rate of US\$60,000 per month, with an estimated life of mine expenditure of about US\$8.5 million.

While descriptions have been provided of the works that will be undertaken, the interim allowances may not include allowances for soil handling and storage during prestrip and tailings facility construction.

Using the site specific load haul costs, we estimate that to place a 1 metre cover on all of the tailings and waste rock areas (based on the disturbed areas alone) could amount to about US\$12 million. This does not include any allowances for pre-stripping and storage of topsoil for rehandling later. It also does not include engineering and or water management structures for final closure. Assuming that about 30% of the topsoil will be inventoried for rehabilitation (i.e. rehandled), including an allowance for engineering and a 15% contingency, the estimated total 'life of mine' rehabilitation and closure costs may amount to between US\$18 million and US\$20 million.

17.30 Social Assessment

17.30.1 Social and Community Interaction

Sino report that it has developed good relationships with the local community who are supportive of the Jinfeng mine and associated facilities. Sino has constructed improved local roads and electrical power infrastructure which will benefit the local community, which includes four villages (Bai Ni Tian, Shi Zhu, Tingshan and Niluo) and one township (Shaping). Sino has constructed a meeting hall adjacent to the entrance to the Jinfeng site and this building is used by Sino and the local community to meet and discuss community issues. Sino has an established Community Relations department which will continue to be staffed by Sino employees throughout the life of the Jinfeng mine.

17.30.2 Relationship with Local Government

The local government structure consists of several layers lead by the village Chief, town Mayor, County Mayor, Prefecture Governor and Provincial Governor. Sino report that it has established a good relationship with all levels of the local government.

18 Interpretation and Conclusions

The Jinfeng mine has successfully achieved construction and commissioning and produced 5,800 ounces of gold in the June 2007 quarter. The open pit mine is developing further and the underground mine has commenced development.

SRK accepts that Sino's forecast as stated in the June 2007 quarterly report, is reasonable. The forecast is repeated below.

“Following the slow start to production in July, it is anticipated the plant will ramp-up to design throughput and production levels over the course of the September quarter. Jinfeng's gold production is currently forecast to total 70,000 to 75,000 ounces for calendar 2007. “

Once the ramp-up of production is complete, the Jinfeng operation is forecast to initially comprise gold production of 180,000 ounces per annum.

Exploration at Jinfeng is targeting the continuation of the deposit at depth to extend the known underground Resource down-dip and down-plunge at the intersection of the F3 with the F7, which plunges east-south-east. SRK considers these targets to be reasonably prospective. The review of Sino's exploration program was conducted by Dr Stuart Munroe who was at that time (October 2006) a Principal Geologist with SRK Consulting. Dr Munroe was of the opinion that the character of the Jinfeng property and surrounding exploration tenements were of sufficient merit to justify the program proposed by Sino.

19 Recommendations

19.1 Geotechnical Recommendations

Golder (2003) noted that there were no site specific in-situ stress measurements and estimated stress characteristics from available literature. They recommended that site specific testing was carried out. SRK consider that to reduce the risks associated with underground mining it is appropriate to establish the in-situ stress regime by site specific testing. SRK did not sight any evidence of in-situ stress testing, and it was understood from site personnel that in-situ stress testing has not yet been carried out, but is planned to be completed in the future.

No details of compaction methods or levels that may be achieved have been provided to SRK. SRK recommends that Sino complete more detailed waste placement studies to ensure the waste dump meets the required standards. Sino propose to have on-going consultancy applied to this issue as a feature of its operating plan.

20 References

- AMC Consultants.** Review Of The Geotechnical Assessment By Golder Of The Huangchanggou Deposit, Jinfeng Prospect Peoples Republic Of China (Report No. 03641229) For The Underground Mining Segment. Reference AMC 104036. June 2004.
- Golder Associates.** CIL Tailings Storage Design of Lining System. Jinfeng Gold Project, Guizhou Province China. August 2005.
- Golder Associates.** Conceptual Design for Flotation and CIL Tailings Storages Jinfeng Gold Project, Guizhou Province China. August 2004.
- Golder Associates.** Conceptual Design Tailings Storages. Layout Plans and Stage Capacity Curves. Drawing Number 002F06. December 2004.
- Golder Associates.** Geotechnical Assessment, Huangchanggou Deposit, Jinfeng Prospect, Peoples Republic of China. Reference 03641229. December 2003.
- Golder Associates.** Letter Report. Jinfeng Project: Geotechnical Investigation of Plant Site. Reference 02611006/017a. 31 October 2003.
- Golder Associates.** Letter Report. Jinfeng Project: Review of Tailings Storage Options. Reference 02611006/1. 16 October 2003.
- Golder Associates.** Letter Report. Jinfeng Project: Waste Dump Stability. Reference 04611002-01a. 17 March 2004.
- Golder Associates.** Letter Report. Jinfeng Project: Chemical Testing Of Tailings. 23 April 2004.
- Golder Associates.** Flood Protection Measures. CIL Tailings Storage. Jinfeng Gold Project, Guizhou Province China. August 2005.
- Guizhou Metallurgical Design and Research Institute.** Jinfeng Gold Mine Tailings Storage Project. Investigation Report of Geotechnical Engineering Project Number KC-05-16. September 2005.
- Hatch.** Feasibility Study Framework - Geology & Mining. Reference PR313716.003. August 2003.
- Matrix Consulting.** Environmental and Social Impact Assessment (ESIA). 23 June 2004.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-001. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-002. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-003. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-004. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-005. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-006. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-007. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-008. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-009. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-010. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-011. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-012. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-013. June 2005.
- Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN).** CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-014. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-015. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-016. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). CIL Tailings Dam Stage 1. Drawing Number 1508-1302-CHE-017. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-001. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-002. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-003. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-004. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-005. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-006. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-007. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-008. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-009. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-010. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-011. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-012. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-013. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-014. June 2005.

Nanchang Engineering and Research Institute of Nonferrous Metals P.R. China (NEREN). Flotation Tailings Dam Stage 1. Drawing Number 1508-1301-CHE-015. June 2005.

State Council P.R. China. Regulations for Quality Control of Construction Projects. Document 279. 30 January 2005.

Sino Gold-NERIN. The Jinfeng Project Feasibility Study. Section 7 (Mining). Revision F. 30 March 2003.

No. 2 Engineering Exploration Institute of Geology & Mineral Bureau of Guizhou Province. Contract JF-CC-19A. Geological Hazard Risk Assessment.

No.117 Team of Guizhou MGMR. Geo-Exploration Report of Huangchanggou Portion in Lannigou Gold Mine Zhenfeng County, Guizhou Province. 1993.

SRK Consulting, Jinfeng Mine Preliminary Geotechnical Review for Underground Operation. Reference SIN08. July 2006.

SRK Consulting, Jinfeng Minor Element Estimation 2007, Reference SIN013, October 2007

URS Australia Pty Ltd. Independent Design Review. Tailings Storages. Jinfeng Gold Project. 19 April 2006.

Appendix 1 – Jinfeng Mining License

<p style="text-align: center;">开采黄金矿产 gold deposit mining permit 批准书</p> <p style="text-align: center;">Permit No. National Gold (2006) 086 批准证国金字(2006)第086号</p> <p>According to the "Mine and Resources law of PRC" and "Mining Registration Regulation" gold deposit mining has to be permit by the resource opening registration management method of the state council, any mining activity without the permit by this paper is illegal.</p> <p>经国务院有关主管部门批准,未取得此证而擅自开采者,均为非法开采。</p> <div style="display: flex; justify-content: space-around;">   </div>	<p>企业名称 company name</p> <p>贵州锦丰矿业有限公司 Guizhou Jinfeng Mining Co., Ltd</p>
	<p>矿山地址 Address</p> <p>No.43 Mingu town Zhenfeng county Guizhou 贵州省贞丰县珉谷镇43号 Province</p>
	<p>经济类型 Type of ownership</p> <p>中外合作 Joint Venture</p>
	<p>生产规模 Production scale</p> <p>120万吨/年 1,200,000T/Year</p>
	<p>有效期限 Valid</p> <p>自2006年12月25日至2016年12月25日 Frome 25th Dec. 2006 to 25th Dec. 2016</p>
	<p>Mine zone area 规划 矿区 范围</p> <p>详见申请书范围 refer to application letter</p>
<p style="text-align: center;">This letter was issued by National Development and Reform Commission, lease borrow and sale of this paper are prohibit</p> <p style="text-align: center;">此证由国家发展和改革委员会印制, 严禁私自出借、出租、转让</p>	



People's Republic of China
中华人民共和国
Gold deposit mining Permit
开采黄金矿产批准书

批准证国金字(2006)第086号
No. National Gold (2006) 086

After consideration we permit Guizhou Jinfeng Minging Co., Ltd the right to mine gold deposit with 经审查, 批准 贵州锦丰矿业有限公司 在规定 within the permitting scope by this paper 范围内, 开采黄金矿产, 特发此证。

有效期自 2006 年 12 月 25 日 至 2016 年 12 月 25 日
This paper will be valid from 25th of Dec. 2006 to 25th Dec. 2016




National Development and Reform Commission