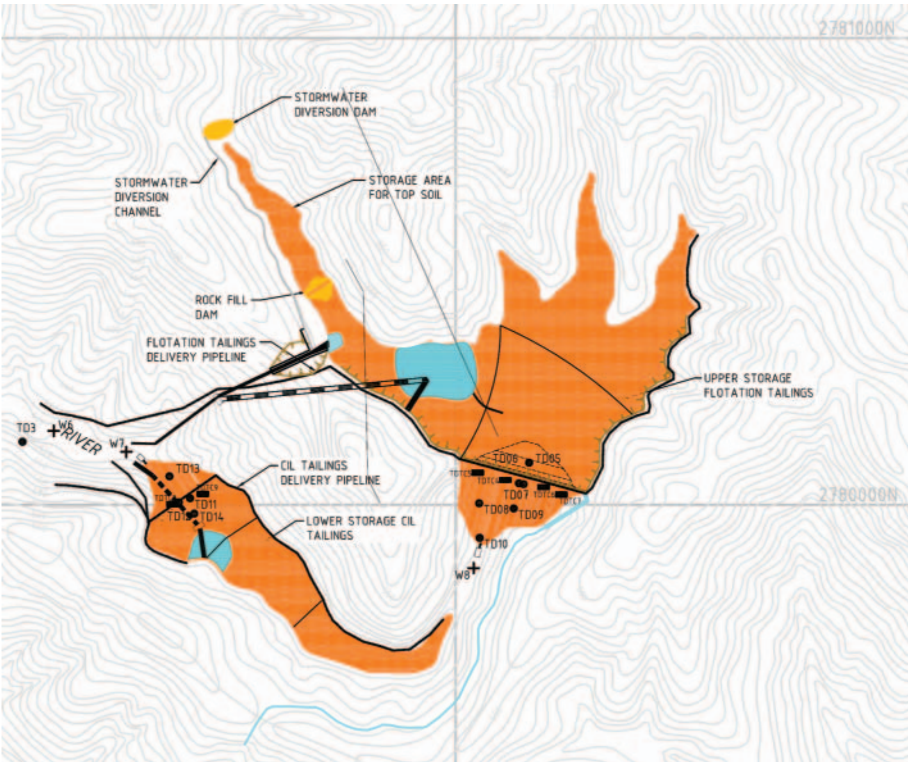

Figure 5-16: TSF Layout (Golder, 2004)

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 5-17.

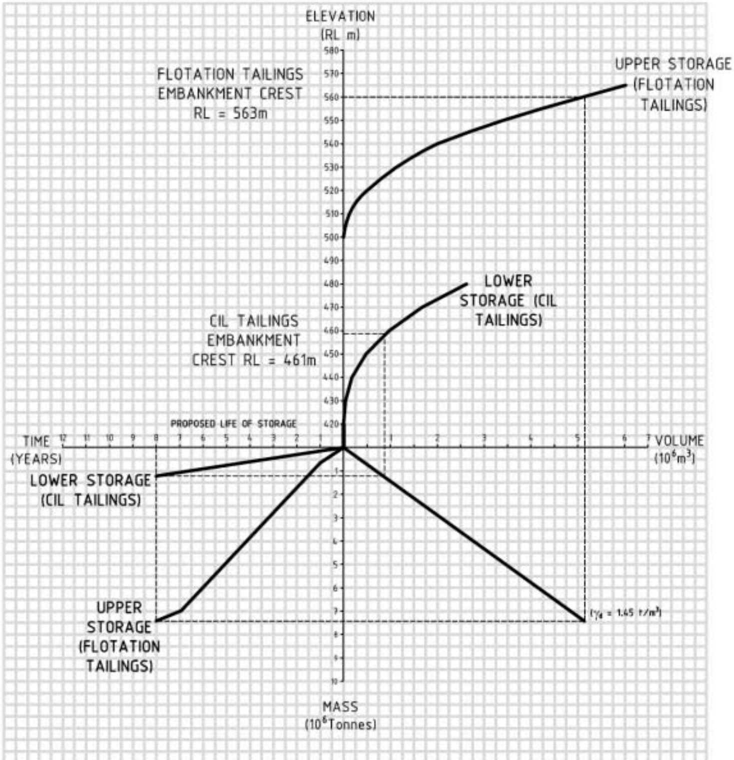

Figure 5-17: TSF Storage Capacity (Golder, 2004)

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.

Golder (2004) have identified that loss of seepage water from the tailings could occur through the embankment, abutments or foundation. Design has been carried out to reduce the potential for loss of seepage water. Golder (2004) has also recommended the installation of three groundwater monitoring wells in the Lannigou River Valley downstream of the TSF's. From discussions with site personnel it is understood that Sino intends to develop a groundwater monitoring program.

SRK is not aware of any intention to instrument the embankments to monitor their geotechnical performance. SRK considers that, given the height of the embankments and the site conditions, there is considerable merit to install geotechnical instrumentation to monitor deformation and porewater pressures. This type of instrumentation would contribute to reducing the risks associated with a TSF.

5.4.3 *Flotation Tailings Facility*

The layout of the Floatation TSF embankment is shown in Figure 5-18. Typical embankment design details are shown in Figure 5-19 and Figure 5-20. The TSF drainage system design is shown in Figure 5-21.

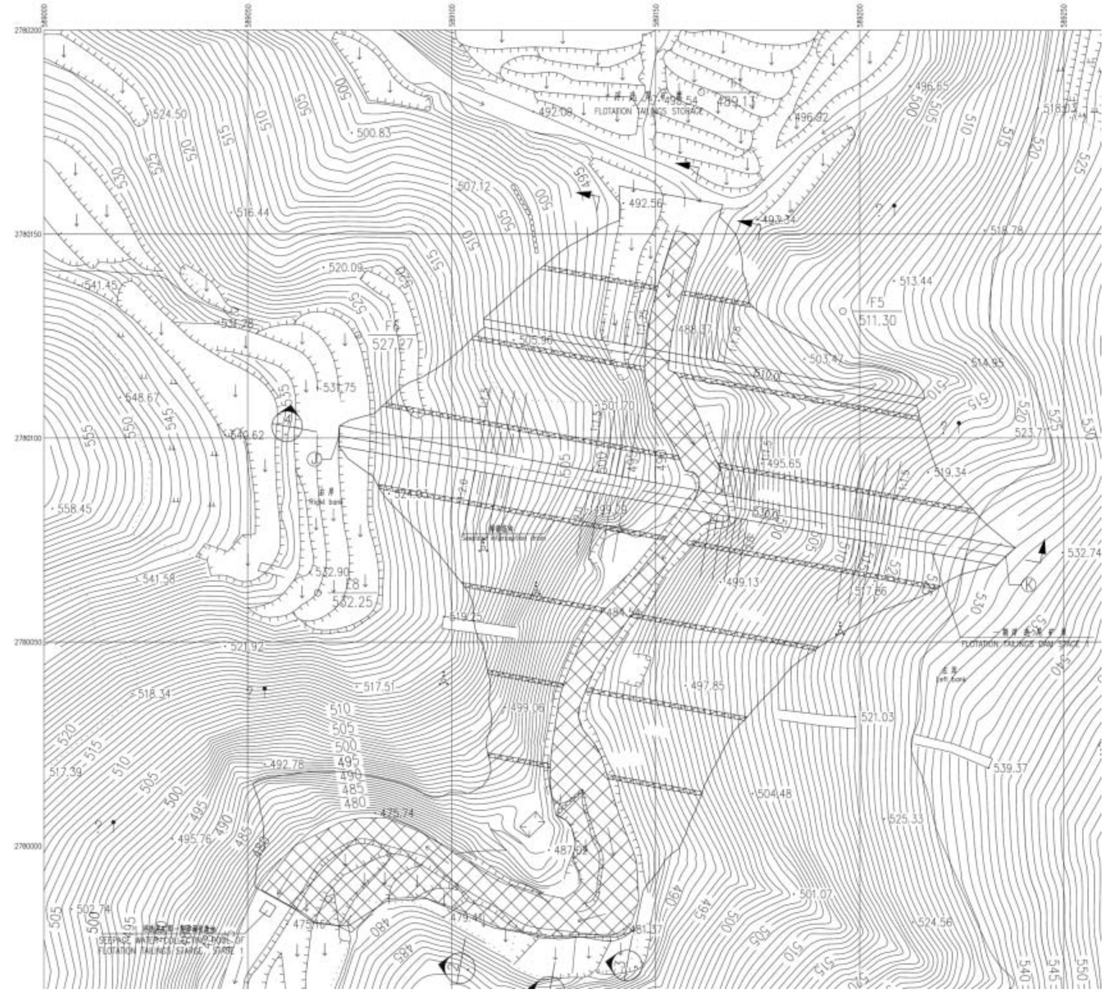

Figure 5-18: Flotation Tailings Storage Embankment (NERIN, June 2005)

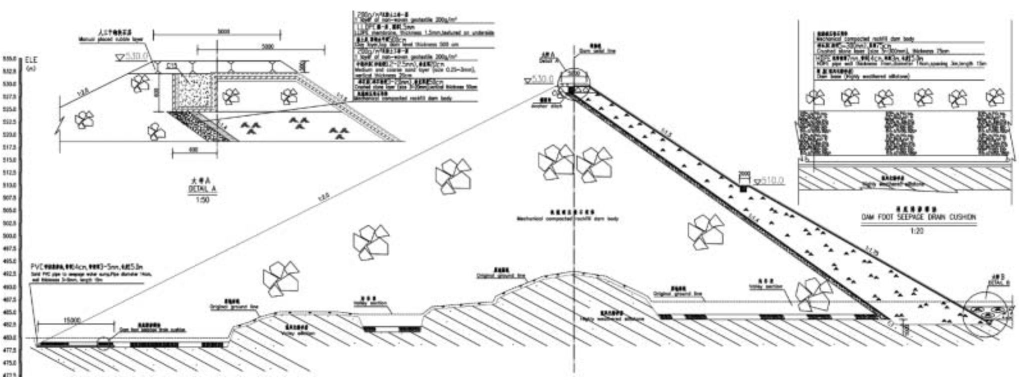

Figure 5-19: Section Through Flotation Storage Embankment (NERIN, June 2005)

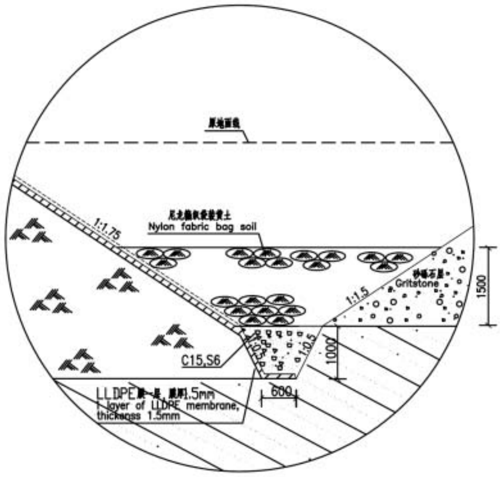

Figure 5-20: Upstream Toe Detail (NERIN, June 2005)

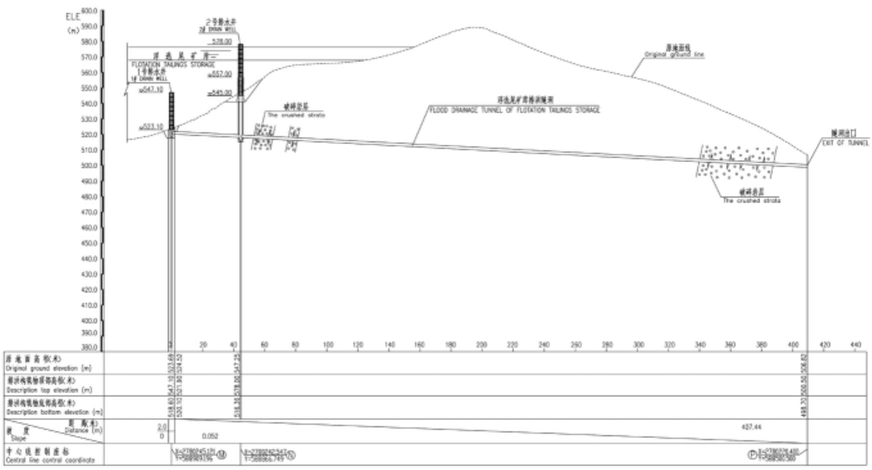

Figure 5-21: Flotation TSF Flood Drainage System (NERIN, June 2005)

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 Floatation 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 the SRK site visit remedial measures had been implemented and construction at the Floatation Tailings Storage Embankment was in progress (Figure 5-22). The construction schedule had however been severely impacted on. According to site personnel the Floatation Tailings Storage Embankment is expected to be completed by January 2007 to a height of 60m, and this will provide sufficient capacity for 18 months production. The overall design height is 90m.

Figure 5-22: Construction of Floatation TSF Embankment, October 2006

SRK considers that the construction fleet at the Floatation TSF Embankment is sufficient to meet the revised construction schedule provided there is no inclement weather. It is also judged that the design compaction requirements can be achieved with the compaction equipment that was on site. This judgement was confirmed with the sample compaction test records that were sighted.

Whilst on site, SRK did discuss a number of concerns with Sino site personnel. These included:

Abutment Preparation: Loose debris was observed to be present on the abutments at the time of the site visit. Site personnel advised that during the early phases of the project large areas of the abutment had been cleared and cleaned, and this was found to be ineffective due to erosion and degradation. Eroded and degraded areas were properly cleaned prior to placing and compacting the embankment material in the embankment. Current practice requires localised areas to be cleared and an effective "key" to be formed immediately prior to placing and compacting embankment fill. SRK was satisfied that supervising staff understood the requirements for this.

Abutment Permeability: SRK was concerned that the in-situ abutment rock mass may allow seepage. Site personnel advised that the design consultants consider the in-situ foundation materials to be of sufficiently low permeability. ***SRK are of the opinion that it is likely that measures will be required to prevent or minimise seepage through the embankment abutments. This is likely to require grouting to form an effective barrier against seepage. SRK understands that tests are currently being conducted to determine abutment permeability, as required by the independent reviewer of the designs (URS). The results of these tests will allow appropriate decisions with regards to the need for measures to reduce permeability to be made.***

Material Durability: SRK understood that waste rock fill material for the embankment construction was being sourced from the open-pit excavation, and was concerned about the durability of the weathered siltstones and mudstones that had been observed in the open-pit. Site personnel confirmed that selected rock waste materials were being sourced from the open-pit. SRK were satisfied that supervising personnel had an understanding of the requirements.

5.4.4 *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 5-23. Typical embankment design details are shown in Figure 5-23, Figure 5-24, Figure 5-25 and Figure 5-26.

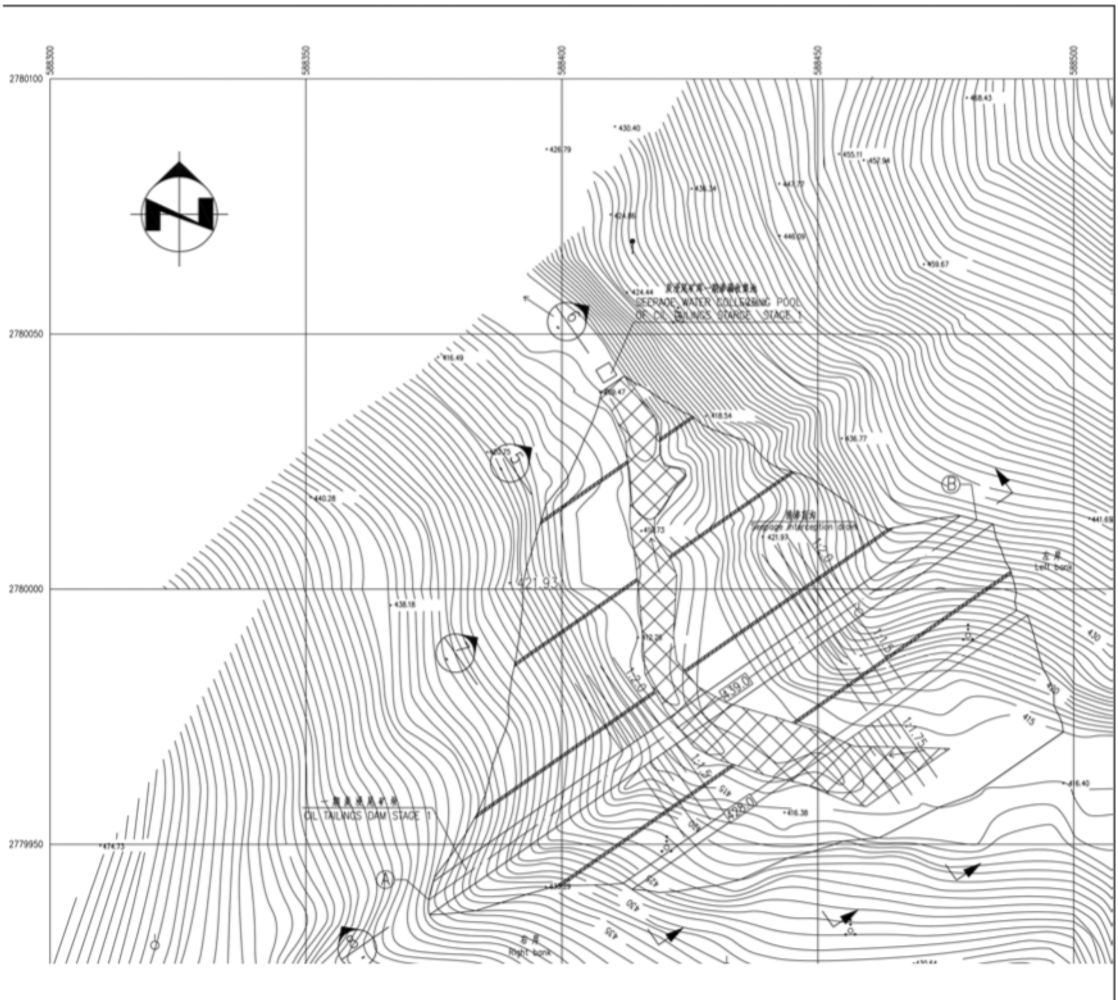

Figure 5-23: CIL Tailings Storage Embankment (NERIN, June 2005)

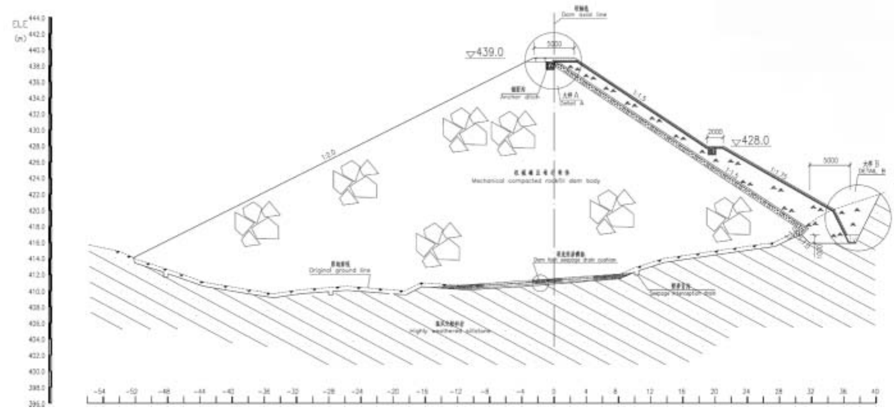

Figure 5-24: Section through CIL Tailings Storage Embankment (NERIN, June 2005)

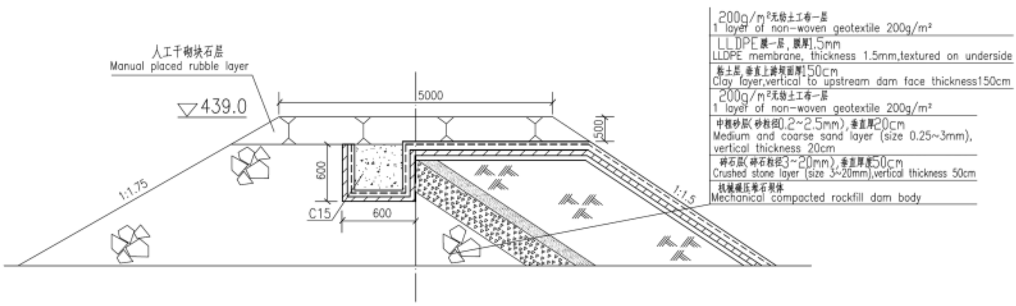

Figure 5-25: CIL Embankment Construction Detail (NERIN, June 2005)

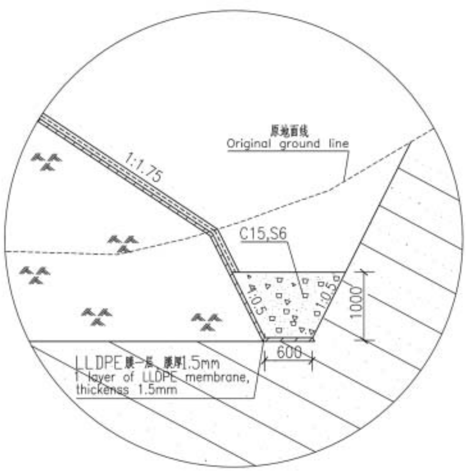

Figure 5-26: CIL Embankment Upstream Toe-drain Detail (NERIN, June 2005)

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 5-27. There was no construction in progress.

Figure 5-27: CIL Embankment Construction, 15 October 2006

According to site personnel the flooding and inclement weather has had an impact on the CIL TSF Embankment construction schedule. Contractor performance has also contributed to construction delays. The construction schedule has been revised and additional contractor resources are expected to be assigned for embankment construction to achieve completion of the embankment in February 2007. SRK are of the opinion that it will be difficult to meet this target and this was discussed briefly with site personnel. Site personnel have advised that they will be managing and monitoring construction progress closely.

Site personnel were concerned about the availability of low permeability materials for the clay layers. Priority has therefore been assigned to sourcing appropriate materials in order not to incur additional delay to construction.

Whilst on site, SRK did discuss a number of concerns with Sino site personnel. These included:

Abutment Preparation: Loose debris was observed to be present on the abutments at the time of the site visit. Site personnel advised that large areas of the abutment had been cleared and cleaned, and this was found to be ineffective due to erosion and degradation. Eroded and degraded areas will be properly cleaned prior to placing and compacting the embankment material in the embankment. Current practice requires localised areas to be cleared and an effective "key" to be formed immediately prior to placing and compacting embankment fill. SRK was satisfied that supervising staff understood the requirements for this.

Abutment Permeability: SRK was concerned that the in-situ abutment rock mass may allow seepage. Site personnel advised that the design consultants consider the in-situ foundation materials to be of sufficiently low permeability. ***SRK are of the opinion that it is likely that measures will be required to prevent or minimise seepage through the embankment abutments. This is likely to require grouting to form an effective barrier against seepage.***

Material Durability: SRK understood that waste rock fill material for the embankment construction was being sourced from the open-pit excavation, and was concerned about the durability of the weathered siltstones and mudstones that had been observed in the open-pit. Site personnel confirmed that selected rock waste materials were being sourced from the open-pit. SRK were satisfied that supervising personnel had an understanding of the requirements.

5.5 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 5-28.

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 by construction of a grout curtain. The need for a grout curtain will need to be assessed during the early stages of the operating LOM when the performance of the CIL Embankment has been determined. Sino Gold has confirmed that monitoring bores will be operated and these results will be used to determine if any remedial action is warranted.

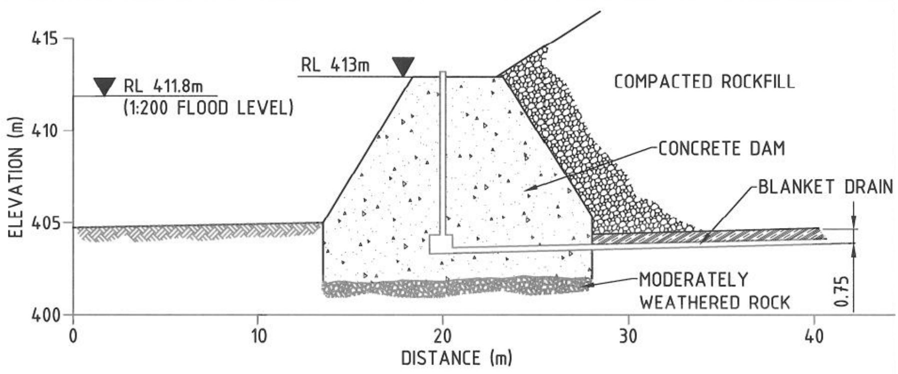

Figure 5-28: CIL Downstream Flood Protection (Golder, 2005)

5.6 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.

5.7 Plant Area

At the time of the SRK site visit the plant area was under construction (Figure 5-29). 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 5-29: Photograph Showing General Plant Layout, 15 October 2006

At the time of the SRK site visit an embankment failure was observed at the plant site (Figure 5-30). SRK are of the opinion that this is a superficial failure that was caused by inadequate stormwater drainage. Sino Gold 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 5-30: Photograph Showing Plant Site Embankment Failure, 15 October 2006

5.8 Office and Accommodation Area

At the time of the SRK site visit the office/accommodation area was under construction (Figure 5-31). 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).

Figure 5-31: Photograph Showing Office and Accommodation Area, 15 October 2006

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.

On the basis of the information that has been made available, and a brief site visit, SRK do not anticipate any significant geotechnical issues associated with the office/accommodation infrastructure.

5.9 Geotechnical Risks

A summary of interpreted geotechnical risks is given in Table 5-12. 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 5-11.

Table 5-11: 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 5-12 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 5-12: 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

6. MINING ASSESSMENT

6.1 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.

6.2 Mining Licence

The mining licence for both the open-pit and underground mine was granted in May 2005 and details are provided in Table 6-1. In China it is normal to include the vertical dimension as part of the mining licence. The Jinfeng mining licence currently states that Sino is licensed to mine between 250m and 750m above sea level. Sino will need to apply to mine outside of these levels.

Table 6-1: Jinfeng Mine Licence

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

6.3 Ore Reserves Estimate

An Ore Reserve estimate was released by Sino in April 2006. As the basis for this updated reserve estimate and for the purposes of mine planning, as well as a check on the 2006 Sino resource estimate, SRK Consulting were retained to estimate:

- a "recoverable resource" above 420m RL using the Uniform Conditioning method as a basis for estimating open-pit reserves; and
- a "recoverable resource" below 440m RL using the Conditional Simulation method as a basis for estimating underground reserves.

The underground reserves were calculated by AMC Consultants and Dr John Chen. The Ore Reserves statement for both the open-pit mine and for the underground mine as at April 2006 and using a gold price of US$425/oz is shown in Table 6-2.

Table 6-2: Open-pit Ore Reserve Estimates as at April 2006

Mine Type and Category	Tonnes	Grade	Gold Ounces
	'000	*g/t Au*	*'000*
Open-pit Mine			
Proved	5,352	5.7	986
Probable	377	4.2	51
Sub-total Open-pit Ore Reserves	5,729	5.6	1,037
Underground Mine			
Proved	5,698	5.5	1,005
Probable	4,954	5.2	821
Sub-total Underground Ore Reserves	10,652	5.3	1,826
Sub-total Proved Ore Reserves	11,050	5.6	1,991
Sub-total Probable Ore Reserves	5,331	5.1	872
Total Ore Reserves	16,381	5.4	2,863

* Reported in accordance with the 2004 edition of the JORC Code using a cut-off grade of 1.9g/t Au for the open-pit and 2.7g/t Au and 2.9g/t Au for the underground mine.

* The open-pit ore reserve includes 5% dilution at a diluting grade of 0.5g/t Au. The underground mines assumes ore loss of 9.7% and dilution of 10.7%

* Ore Reserves are included in the Mineral Resource estimate

* Mr Sjoerd Duim takes responsibility for the information relating to the open-pit Ore Reserve estimate. He is Principal Mining Consultant (Open-pit Mining) and full-time employee of SRK Consulting and a Member of The Australasian Institute of Mining and Metallurgy. Mr Duim is an independent consultant under Listing Rule 18.04

* The information relating to the underground Ore Reserve estimate is based on information compiled by Dr John Chen. Dr John Chen is a full-time employee of Sino Gold Limited and a Member of The Australasian institute of Mining and Metallurgy. SRK has, as part of its review carried out in preparing this Independent Technical Expert's Report, completed an independent review of the basis for Dr John Chen's findings in relation to the underground Ore Reserve estimate, and has satisfied itself that, having regard to JORC Code requirements, reasonable parameters have been applied concerning the calculation of the underground Ore Reserve.

* AMC is an independent consultant under Listing Rule 18.04.

6.4 Mine Access

6.4.1 *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.

6.4.2 *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 6-1.

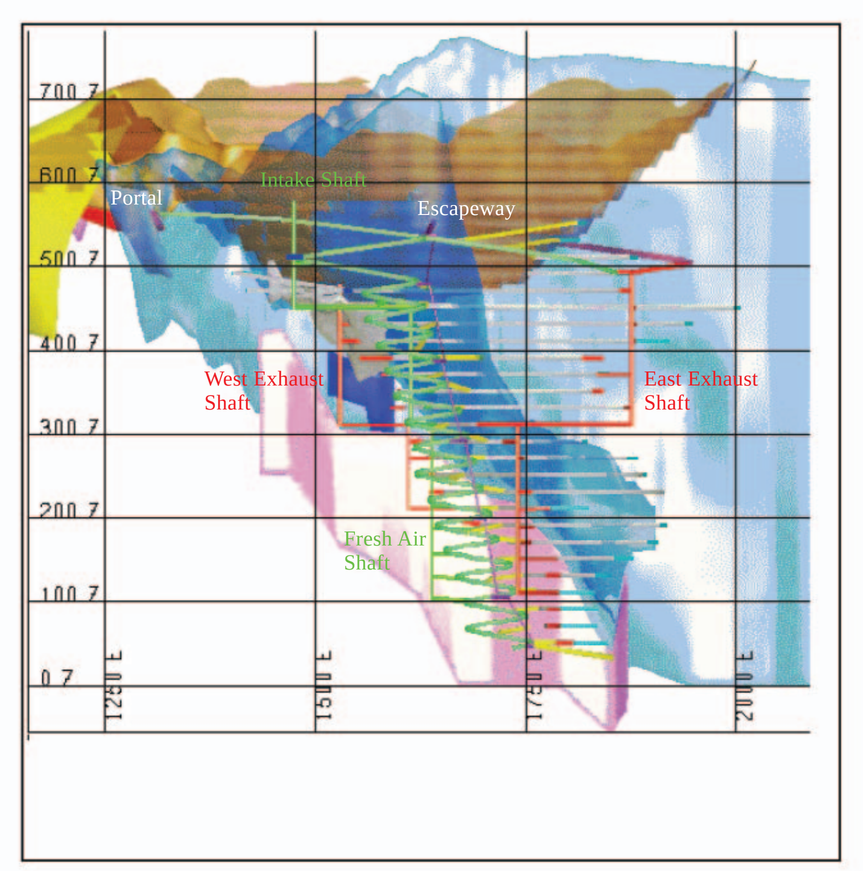

Figure 6-1: Jinfeng Underground Mine Access and Ventilation Layout

6.5 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 aggress that the selected mining methods are appropriate for the orebody dimensions and the known rock strengths.

6.6 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 commission 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 6-3.

Table 6-3: 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 6-4.

Table 6-4: 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 6-2.

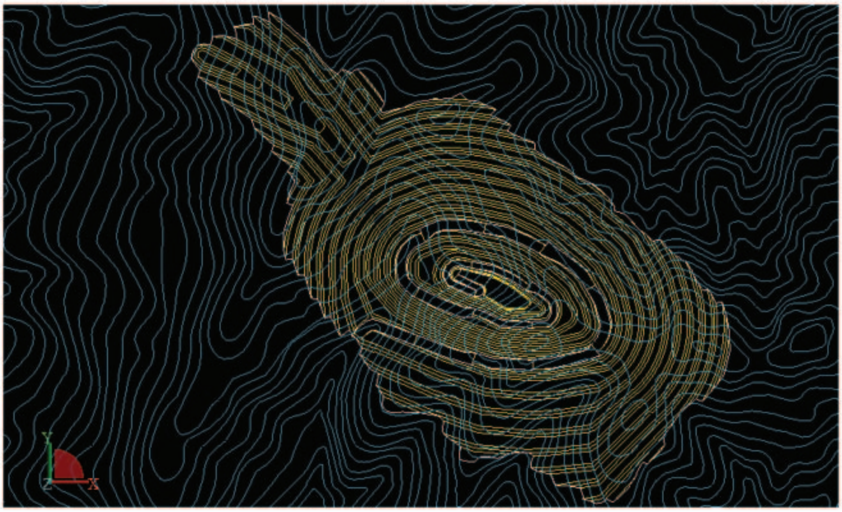

Figure 6-2: Plan View of the Jinfeng Open-pit Design

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.

6.6.1 *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.

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. 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.

6.6.2 ***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 5.0m wide x 5.2m high for straights, 5.6m wide x 5.2m high for 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 6-3. 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 progress.

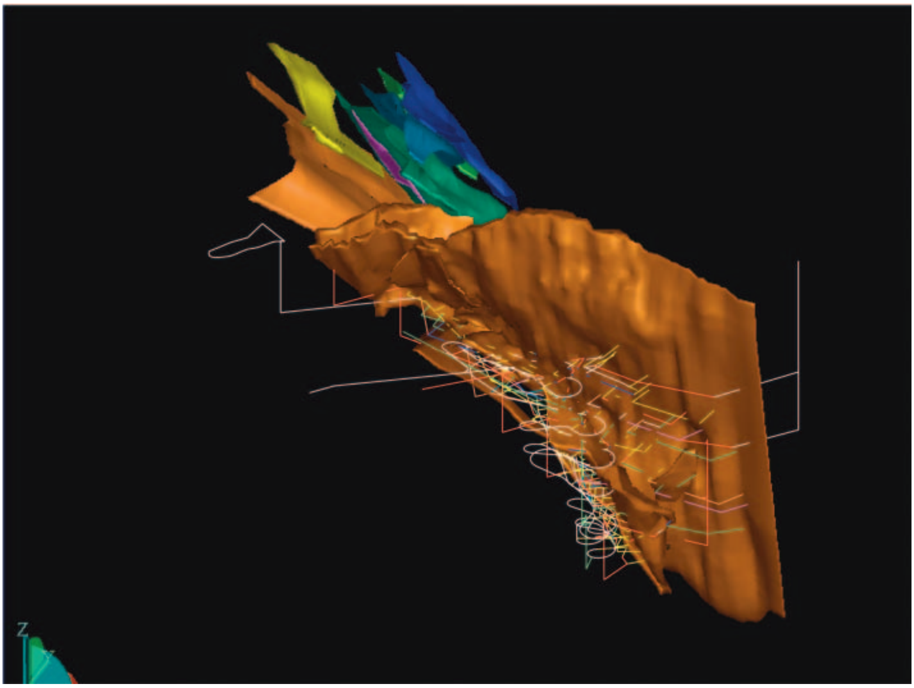

Figure 6-3: Proposed Jinfeng Underground Mine FW Development

6.7 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.

6.7.1 *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 6-5. A further six dump trucks and one additional 6.7m^3 excavator are proposed to be added to the fleet as production demand increases.

Table 6-5: 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 6-4 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 6-4: 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.

6.7.2 *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 6-6: 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

6.8 Manpower and Productivity

Mine workforce numbers as proposed by Sino in a typical production year are as shown in Table 6-7. 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 6-7: 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.

6.9 Mine Planning

6.9.1 *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 2.7g/t Au and 2.9g/t Au for the Rongban and HCG orebodies respectively in the underground mine. The dilution and recovery factors that Sino applied to the open-pit were 5% dilution at 0.5 gpt Au with 100% recovery of the ore. The overall dilution, ore loss and recovery factors for the underground mine were 10.7% dilution, 9.7% ore loss and a mining recovery of 95%.

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$425/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 6-5.

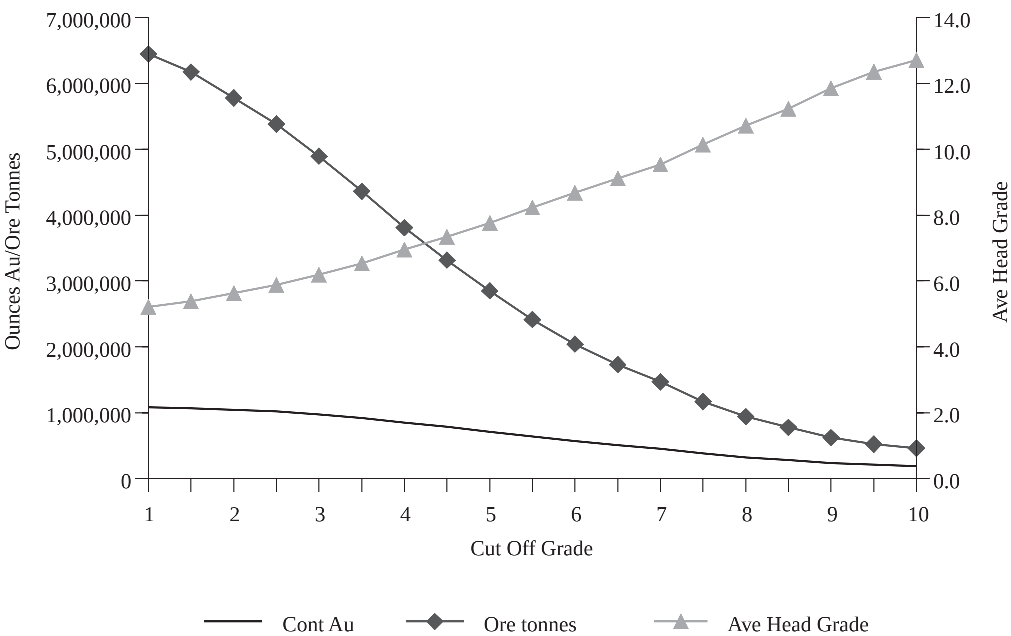

Figure 6-5: Jinfeng Grade/Tonnage Curve

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 6-6. 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.

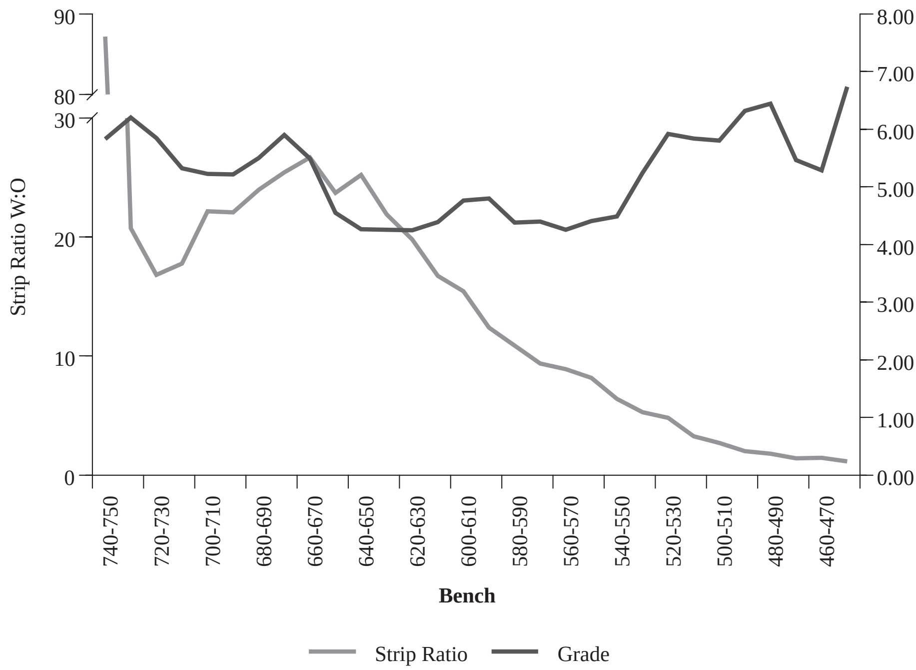

Figure 6-6: Jinfeng Open-pit Grade and Strip Ratio with Depth

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 6-8.

Table 6-8: 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.

6.10 Grade Control Procedures

The grade control program originally proposed for the Jinfeng open-pit includes sampling the blast hole drilling and RC drill holes between blast holes to provide additional coverage of the orebody and the boundary between ore and waste. After additional geostatistical study, Sino now believes that the RC drilling will not be required. Sino propose to modify the grade control procedures as experience with results provides confidence in the geological interpretation.

6.11 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.

6.12 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.

6.13 Underground Mining Services

6.13.1 *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 600m^3/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.

6.13.2 *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 establish, such as ventilation shafts, services and supply lines can be duplicated or replaced.

6.14 Production

6.14.1 *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 6-7. The ore tonnes and ore grade is shown in Figure 6-8.

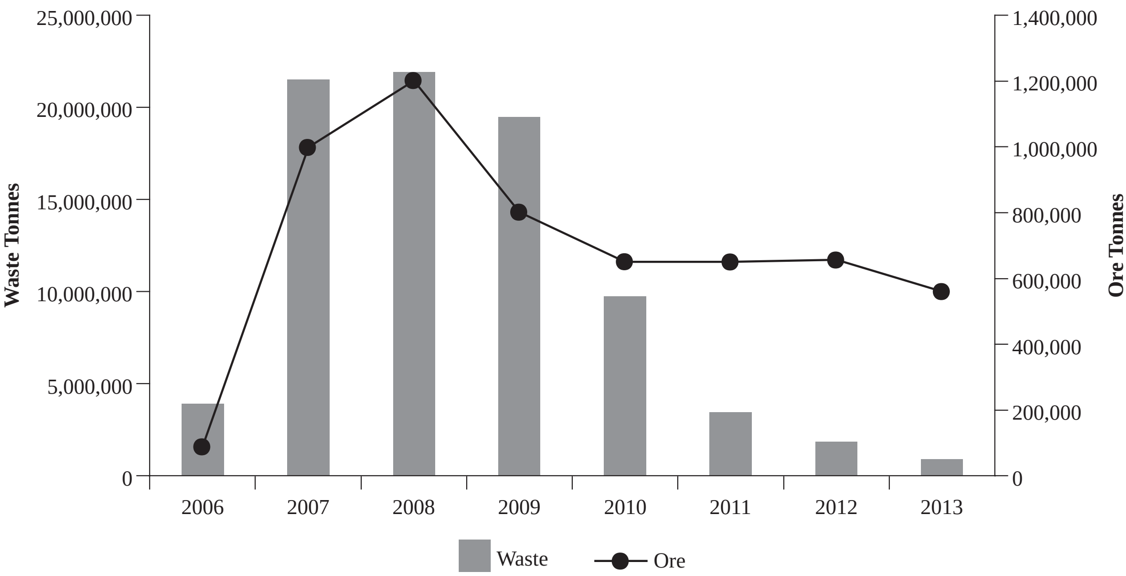

Figure 6-7: Forecast Jinfeng Open-pit Waste and Ore Mining Schedule

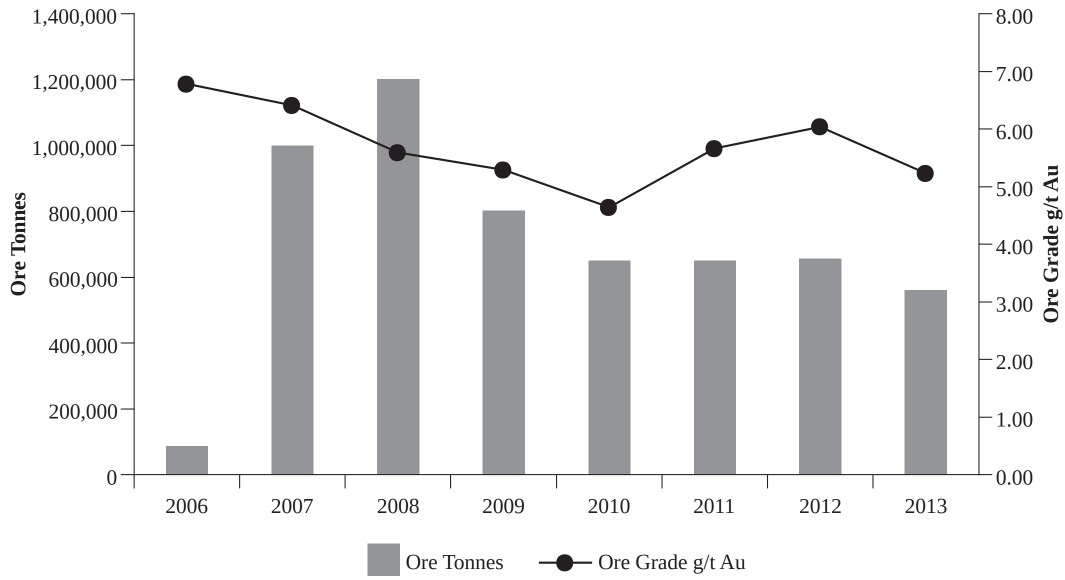

Figure 6-8: Forecast Jinfeng Open-pit Ore Tonnes and Grade

The mining schedule proposed by Sino in June 2006 is shown in Figure 6-9.

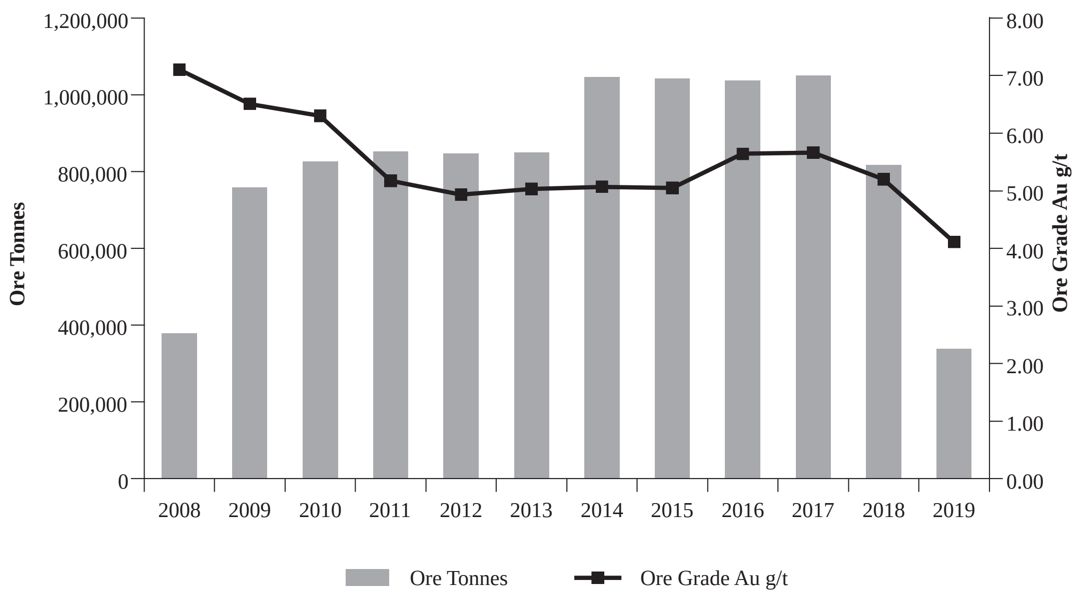

Figure 6-9: Jinfeng Underground Mine Mining Schedule

Due to the delayed commissioning of the processing plant, the open-pit has reduced its production rate for the period leading up to the plant commissioning.

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 6-10.

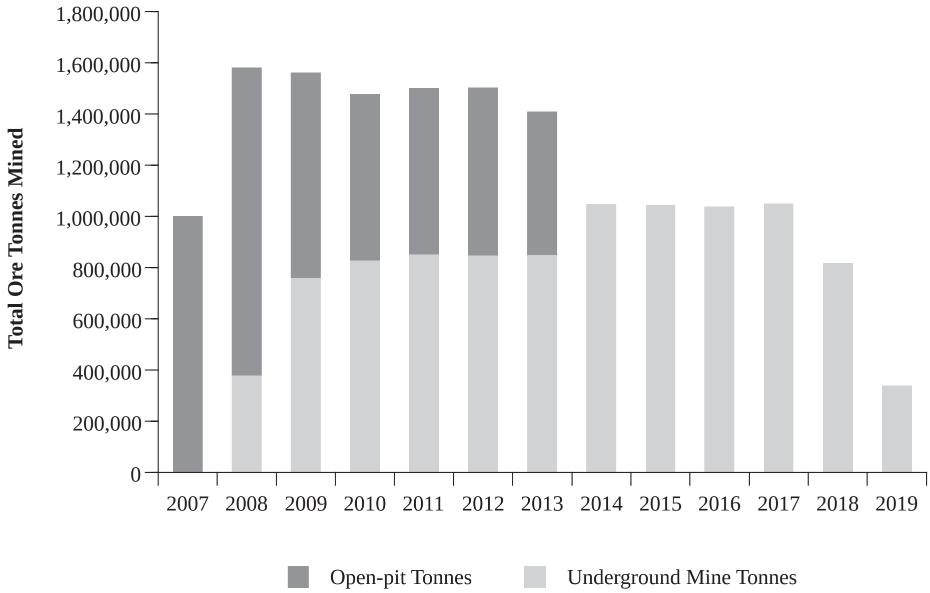

Figure 6-10: Open-pit and Underground Ore Production of 1.5Mtpa

6.14.2 *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.

6.14.3 *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.