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April 13, 2007

RE: INDEPENDENT TECHNICAL REVIEW REPORT

Dear Sirs,

Minarco Asia Pacific Pty Limited ("Minarco") has been engaged by China Molybdenum Co., Ltd ("CMOC" or "the Company") to carry out an Independent Technical Review ("ITR") of the assets of CMOC that are to be included in the entity proposed for the Global Offering ("Global Offering") and listing on the Hong Kong Stock Exchange ("HKSE"). The results of the ITR are summarized in the attached Independent Technical Review Report ("ITRR").

The assets reviewed ("Relevant Assets") include a single large scale open-pit mine (Sandaozhuang Mine), six primary ore processing facilities, one tungsten refining facility, one roasting and smelting facility and a refinery, all located in the Luanchuan district of the Province of Henan, People's Republic of China ("China").

The following report (the ITRR) has been prepared by Minarco in connection with the ITR conducted by Minarco on the Relevant Assets. The report sets out the process and conclusions of Minarco's review and Minarco consents to its inclusion as required in CMOC's offer document in relation to its proposed Global Offering.

Minarco has conducted its review and preparation of the report in accordance with the requirements of Chapter 18 of the Listing Rules of the Stock Exchange of Hong Kong Limited, with the exception of the requirements set out in Listing Rule 18.09 item (8) which relates to the provision of a two-year working capital statement. Given CMOC does not carry out any exploration activities nor has any immediate plans to do so on a material basis, Listing Rule 18.09 is not applicable to the Company. However in the interests of completeness, the Company has requested Minarco to comply with all the content requirements set out in Rule 18.09 except item (8) regarding the two-year working capital statement. The report is also in compliance with:

- The "Australasian Code for Reporting Mineral Resources and Ore Reserves" (2004 edition published by the Joint Ore Reserves Committee ("JORC") of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and the Minerals Council of Australia (the "JORC Code"); for determining resources and reserves; and

- The Code and Guidelines for technical assessment and/or valuation of mineral and petroleum assets and mineral and petroleum securities for Independent Expert Reports (the "VALMIN Code").

Minarco carried out a detailed review of both mineral resources and ore reserves and has generated Mineral Resource and Ore Reserve estimates in compliance with the JORC Code. Mineral Resource and Ore Reserve estimates included in this report are stated under the JORC Code. All Mineral Resource and Ore Reserve estimates reported in accordance with the JORC Code have been substantiated by evidence obtained from site visits, exploration data, reports, independent geological modelling, comparative validation and a brief reconciliation of modelled versus actual production. Minarco has also taken account of all relevant information supplied by CMOC's management and the Directors of the Company.

Minarco operates as an independent technical consultant providing resource evaluation, mining engineering and mine valuation services to the resources and financial services industries. This report was prepared on behalf of Minarco by technical specialists, details of whose qualifications and experience are set out in ***Annexure A***.

Minarco has been paid, and has agreed to be paid, professional fees for its preparation of this report. However, none of Minarco or its directors, staff or sub-consultants who contributed to this report has any interest in:

- The Company; or

- The Relevant Assets; or

- The outcome of the Global Offering.

Drafts of this report were provided to the Company, but only for the purpose of confirming the accuracy of factual material and the reasonableness of assumptions relied upon in the report.

The review was based mainly on information provided by CMOC, either directly from the data room or from mine sites and other offices. The report is based on information made available to Minarco before March 9, 2007.

The work undertaken is a technical review of the information provided as well as that obtained during such inspections as Minarco considered appropriate to prepare the report. The report specifically excludes all aspects of legal issues, commercial and financing matters, land titles and agreements, excepting such aspects that may directly influence technical, operational or cost issues. Minarco has not independently forecast sales revenue derived from the assets, and it is understood that this task is being carried out by others.

In Minarco's opinion, the information provided by CMOC was reasonable and nothing discovered during the preparation of the report suggested that there was any significant error or misrepresentation in respect of that information.

Minarco has independently assessed the Relevant Assets by reviewing pertinent data, including Mineral Resources, Ore Reserves, manpower requirements, environmental issues and two year future plans relating to productivity, production, operating costs and capital expenditure. All opinions, findings and conclusions expressed in the report are those of Minarco and its specialist advisors.

Minarco concludes from this review that:

- The primary orebody belonging to Sandaozhuang Mine contains one of the largest defined reserves of molybdenum and the second largest defined reserves of tungsten in the world;

- Molybdenum and tungsten Mineral Resources at the open-pit mine are well defined by exploration and have been previously reported in accordance with the relevant Chinese reporting codes;

- Minarco has prepared new estimates of Mineral Resources and Ore Reserves in accordance with the JORC Code. Based on independent orebody modelling, JORC compliant Mineral Resources totaling 736 Mt at 0.10% grade molybdenum and 0.09% tungsten have been estimated. The corresponding JORC compliant Ore Reserve estimates total 467 Mt at 0.11% grade molybdenum and 0.11% grade tungsten. Current Ore Reserve estimates are adequate for a mine life in excess of 46 years assuming constant annual production rates at 2007 projected levels;

- The Sandaozhuang Mine is a large scale modern open-pit mining operation containing substantial high grade molybdenum Ore Reserves. The current mining rate of 30,000 ore tpd is achieved using conventional truck and shovel mining techniques;

- The Sandaozhuang Mine produces approximately 10 Mt per annum of ore, making it the largest molybdenum mine in China and the third largest of its type in the Asia Pacific region;

- The large scale open-pit mining strategy and high ore grades allow the project to benefit from economies of scale and enjoy a favorable operating cost structure. Furthermore the open-pit mining method employed ensures a much higher rate of resource recovery than previous underground operations targeting the same deposit;

- CMOC has the largest molybdenum ore processing and flotation facilities in China with current infrastructure capable of receiving over 30,000 ore tpd;

- CMOC completed commissioning of a western style, large scale primary ore processing facility in April 2006. This facility is largely automated and can be operated with minimal manning requirements. The sophistication of this facility demonstrates the Company's commitment to continual improvement in developing its assets to world class standards;

- Efficiency of ore handling is ensured by utilizing a number of automated in pit underground conveyor systems which transport around 50% of the ore direct from the main pit crushers to the primary processing facilities. The rest of the ore is trucked to the processing facilities;

- The operations of CMOC function as a fully integrated system with ore demand of 30,000 tpd from the primary processing facilities satisfied entirely by the open-pit mine;

- The current deposit is well defined by exploration however there is some potential for further exploration to increase the resources particularly in areas where drilling indicated the deposit is still open in some directions. The extension of mineralization may be of no benefit to CMOC, however, because the mineralization extends outside the current lease area;

- The Company has used modern sophisticated western geological modelling software (SURPAC) to model Geological Resources and develop the final mine plans. Minarco has worked with CMOC to upgrade the previous geological and mine planning models to ensure that they are sufficiently robust to report Mineral Resources and Ore Reserves under the JORC Code;

- Minarco finds that the approach adopted for grade modelling and mine planning is highly advanced in comparison with other similar Chinese operations;

- The Company's current life of mine plan is based on the optimum pit which has been developed using appropriate and contemporary software packages;

- The Company's life of mine plan is well founded in terms of development and construction schedules, forecast production levels, yields, operating costs and capital costs;

- Forecasts presented by CMOC are based upon adequate geological and geotechnical data taking proper account of mining conditions. The assumptions used in estimating production volumes, yields, operating costs and capital costs are appropriate and reasonable;

- The mine and associated processing, refining and smelting facilities are well managed by effective and capable management teams that understand the relevant production processes, key drivers and operational risks;

- CMOC's mining equipment (either in place or planned), is suited to its mine plan and supports the production levels forecast;

- Ore processing plants, refineries' smelting facilities and other infrastructure are capable of supplying appropriate quality products to satisfy the current markets at the forecast volumes;

- The current orebody contains small amounts of other metals including Rhenium. No assessment of the potential extraction or economic value of these minerals has been undertaken at this stage;

- Minarco considers that these other metals may represent an opportunity for the group to further 'value add' existing operations;

- The Company has occupational health and safety programs in place at each of its operations; and

- Environmental issues are satisfactorily managed and there are no issues that should significantly impede production.

Minarco is satisfied that the Company has a good management team that has developed and is operating a project at a very high standard in comparison to other Chinese mining projects of similar nature. The Mineral Resource is well understood and is a sound foundation for the mine planning. The processing facilities are suited to their purpose and should continue to support management's forecast product volumes and qualities. The risks identified are consistent with mining operations of this type, and Minarco considers that no risks have been identified for these assets which set them apart from other similar mining operations.

Yours faithfully
David Meldrum
Managing Director
Minarco Asia Pacific Pty Limited

1. OVERVIEW

The orebody belonging to Sandaozhuang Mine contains one of the largest reserves of molybdenum and the second largest reserves of tungsten in the world. CMOC is one of the largest molybdenum producers in China with world class integrated mining and processing facilities in Henan which currently produces 9.9 Mt per annum of ore containing high grade molybdenum and tungsten concentrations. Molybdenum is the primary product extracted from the Company's mineral resources at the Sandaozhuang Mine. Reference to the Company's mineral resources as 'high-grade' has been made having regard to the contained grade of other major molybdenum deposits globally.

Molybdenum mineralization is found in three types of base metal porphyry deposits globally; porphyry copper deposits, which are the most common and have grades typically ranging from 0.02% Mo to 0.08% Mo (although lower grades are possible); porphyry molybdenum deposits; and climax molybdenum ores, which are the less prevalent but typically contain higher molybdenum grades ranging from 0.2% Mo to 0.5% Mo. A review of major molybdenum deposits world-wide (particularly within the five largest producing regions of United States, Chile, China, Peru and Canada), indicates that CMOC's molybdenum resources (at an average grade of 0.10% Mo) are higher grade than the majority of global major molybdenum deposits.

In the past three years, CMOC has embarked on a strategy of major expansion of its operations achieving a three fold increase in raw ore production from the mine and at the same time doubling raw throughput capacity at its processing facilities. The management of CMOC is committed to further operational and efficiency improvements in the coming years, with an aggressive expansion strategy based on further acquisitions.

Minarco is satisfied that CMOC's management has established a capable management team at both the mine and the associated processing facilities. Minarco found that management understood the key drivers and risks at both the mines and associated processing facilities and has developed plans that address these drivers and risks. Although projected results are subject to variances in accuracy and risks typically associated with mining and processing, the Life of Mine plans ("LOM plans") are based on reliable ore reserves, sound technology, supportable production levels and adequate infrastructure (both in place and planned). Minarco found nothing during the preparation of this ITRR which would have a material impact upon the LOM forecast production or capital or operating costs at any of the Relevant Assets.

1.1 Description of Assets

Mining of the Sandaozhuang deposit officially commenced in 1972 primarily targeting mineral resources using underground mining methods. Since then the mine has undergone numerous expansions with the operation having recently completed a production upgrade to 30,000 ore tpd (Sandaozhuang Mine). As part of the most recent production upgrade, all underground mining operations have been stopped with last production in May 2005. All ore material produced by the single open-pit mining operation is sent to one of the Company's six primary ore processing facilities where the material is processed using conventional grinding and flotation techniques to liberate the molybdenum metal from the ore rock. A summary of the Relevant Assets as at December 31, 2006 is given in ***Table 1.1***. Minarco understands that all the assets in ***Table 1.1*** are currently fully utilized.

The geology of the Sandaozhuang orebody is well understood, and the current open-pit mining technique employed to exploit the resource is straight forward, uses simple technology and has a planned mine life exceeding 46 years.

The Relevant assets are all located in Luanchuan County, Luoyang City, of Henan Province in central China. Luanchuan County is a mineral rich area which hosts one of the world's largest exploited primary molybdenum orebodies. Luanchuan County is located approximately 200 km west south/west of Henan's capital city Zhengzhou. The location of the Relevant assets is shown in ***Figure 1.1***.

Table 1.1 — Description of Key Assets (as of December 31, 2006)

Description	CMOC Interest	Date Commenced Operations	Production Capacity (Ore tpd)	2006 Output Grade (% Mo)	Grade (% WO_3)	Recovery (% Mo)	Process
Sandaozhuang Mine[1]	100%	1972	30,000	0.131	0.055		Open-pit mining
Primary Processing Plants							
No. 1 Process Plant[2]	100%	1985	4,000	51		82	Grind/3 Stage Flotation
No. 2 Process Plant[3]	100%	1985	15,000	47–51		85	Grind/3 Stage Flotation
No. 3 Process Plant	100%	1998	3,200	47–51		82	Grind/3 Stage Flotation
Sanqiang Process Plant[4]	51%	2003	3,000	47		78	Grind/3 Stage Flotation
Dadongpo Process Plant[5]	51%	2003	3,200	47–50		82	Grind/3 Stage Flotation
Jiuyang Process Plant[6]	51%	2003	1,600	47		80	Grind/3 Stage Flotation
Total			**30,000**				
Secondary Processing Plants							
Tungsten Recovery Plant[7]	40%	2002	15,000		30–65		3 Stage Flotation
Roasting and Smelting Plant[8]	100%	2002	18,000 t/year Molybdenum Oxide	51–57		97	Roasting in Rotary Kiln/ Smelting
			11,000 t/year Ferromolybdenum	60–67		98	
Downstream Processing Plants							
Dachuan Material (Refinery)	75%	2003	Currently under expansion 1,000 t/year ammonium molybdate; 500 t/y molybdenum powder				Pyro Refining Mechanical Fabrication
Luoyang High Technology Plant	100%	2005	1,600 t/year value-added molybdenum and tungsten downstream products, such as molybdenum trioxide, powder, thread, strip, rod, board, etc				Pyro Refining Mechanical Fabrication

Note 1: The mine originally commenced production as a small scale underground mine. Substantial daily production (greater than 5,000 tpd) was only achieved after an expansion in 1998.

Note 2: Major upgrade to 4,000 tpd completed in 2002.

Note 3: Major upgrade to 15,000 tpd (construction of a new 10,000 tpd ore flotation plant) completed in April 2006.

Note 4: Acquired by the Company in January 2006.

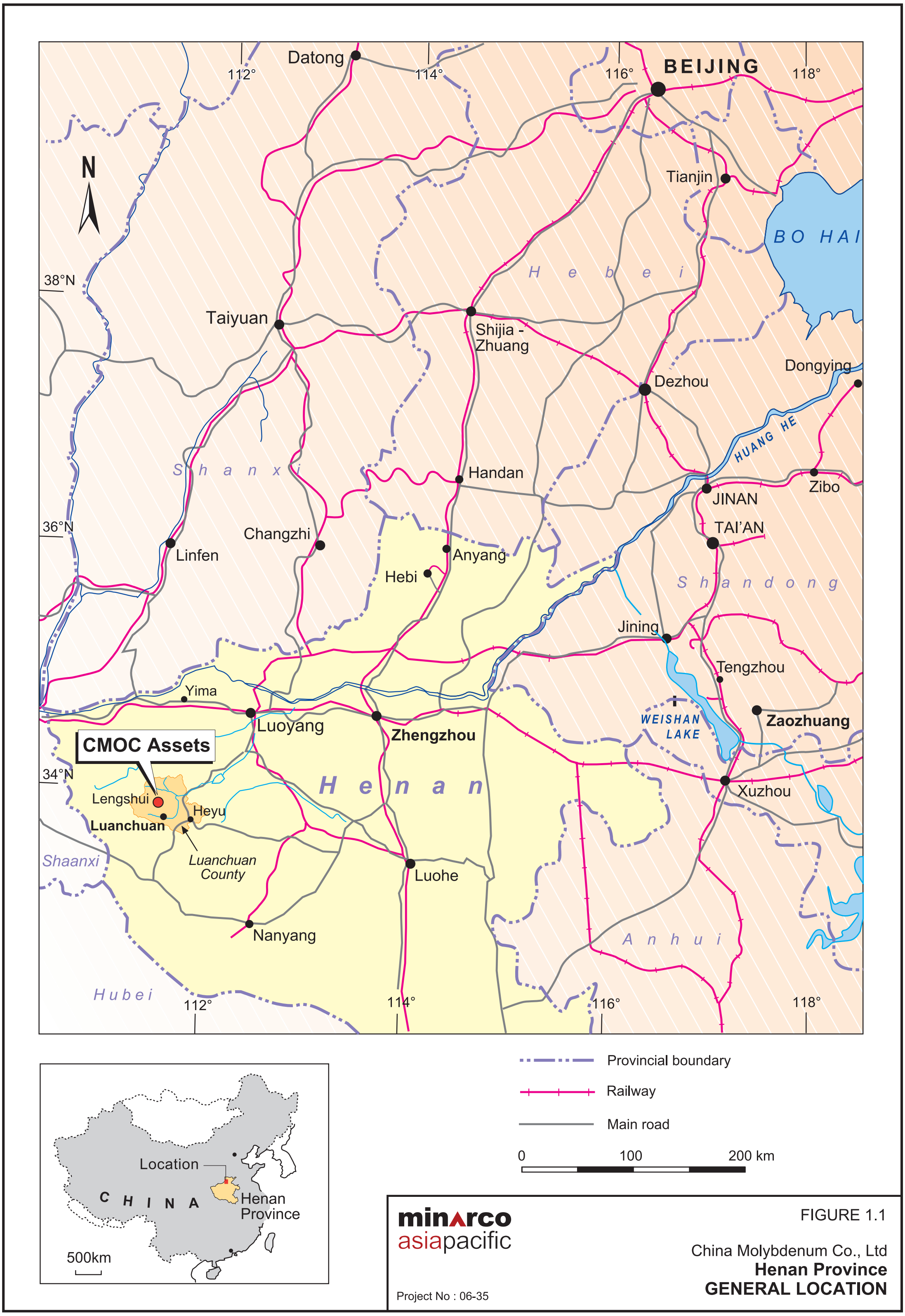
Note 5: Acquired by the Company in February 2006.

Note 6: Acquired by the Company in March 2006.

Note 7: Tailings sent to the Tungsten Recovery Plant for subsequent reprocessing. The plant underwent a major upgrade in June 2006 increasing its capacity from 5,000 tonnes per annum.

Note 8: Expansion of molybdenum oxide (18,000 tonnes per annum) and ferromolybdenum (8,000 tonnes per annum) capacity was completed in August 2006. The molybdenum oxide production capacity is expected to increase to 20,000 tonnes per annum in 2008 as a result of further expansion. In November 2006, the production capacity of ferromolybdenum was further increased to 11,000 tonnes per annum with further plans to increase this to 12,000 tonnes per annum around mid 2007.

Figure 1.1 — Asset Location Plan



1.2 Summary of Resources and Reserves

In this report, Minarco has reported Mineral Resources and Ore Reserves using the JORC Code only. Resources and Reserves were not reported under the Chinese Code because the early estimates prepared under the Chinese Code were prepared without considering the value of the contained Tungsten (i.e. they only considered the value of the Molybdenum). Minarco has prepared new JORC compliant Resource and Reserve statements for the Sandaozhuang Deposit. A more detailed description of the Mineral Resources and Ore Reserves is given in ***Annexure C***.

Mineral Resources

The results for the JORC compliant Mineral Resource estimate prepared by Minarco are reported in ***Table 1.2***. Total JORC Mineral Resources as at December 31 2006, were 736 Mt at an average grade of 0.10% molybdenum and 0.09% tungsten. Included in this total Mineral Resource estimate is 405 Mt which can be classified as Measured Resource (the highest level of confidence that can be ascribed to a Mineral Resource estimate).

Table 1.2 — Mineral Resource Statement — JORC (as at December 31, 2006)

Total (Mt)	Measured (Mt)	Indicated (Mt)	Inferred (Mt)	Mo%	WO_3%
736	405	317	15	0.10	0.09

Note 1: Based on a cut off grade of 0.03% molybdenum.

Note 2: Mineral Resource estimates are measured for the insitu orebody within the boundary of CMOC's mining lease.

Note 3: Grades are expressed to two decimals only to reflect the order of accuracy associated with the results.

Note 4: Values may not add due to rounding.

Note 5: A default density of 3.2 tonnes/bcm was applied for Mineral Resources.

Note 6: Mineral Resources are inclusive of Ore Reserves.

Ore Reserves

Minarco has prepared a new JORC compliant Ore Reserve estimate for the Sandaozhuang orebody. The results for the JORC compliant Ore Reserves estimate prepared by Minarco are reported in ***Table 1.3***.

Table 1.3 — JORC Compliant Ore Reserves (as at December 31, 2006)

Total (Mt)	Proved Reserves (Mt)	Probable Reserves (Mt)	Mo%	WO_3%	Contained Molybdenum Metal (Kt)	Contained Tungsten Metal (Kt)
467	303	163	0.11	0.11	498	506

Note 1: Ore Reserve estimates are measured for the insitu orebody within the boundary of CMOC's mining lease.

Note 2: Grades are expressed to two decimals only to reflect the order of accuracy associated with the results.

Note 3: Values may not add due to rounding.

Note 4: A default density of 3.2 tonnes/bcm was applied for Ore Reserves.

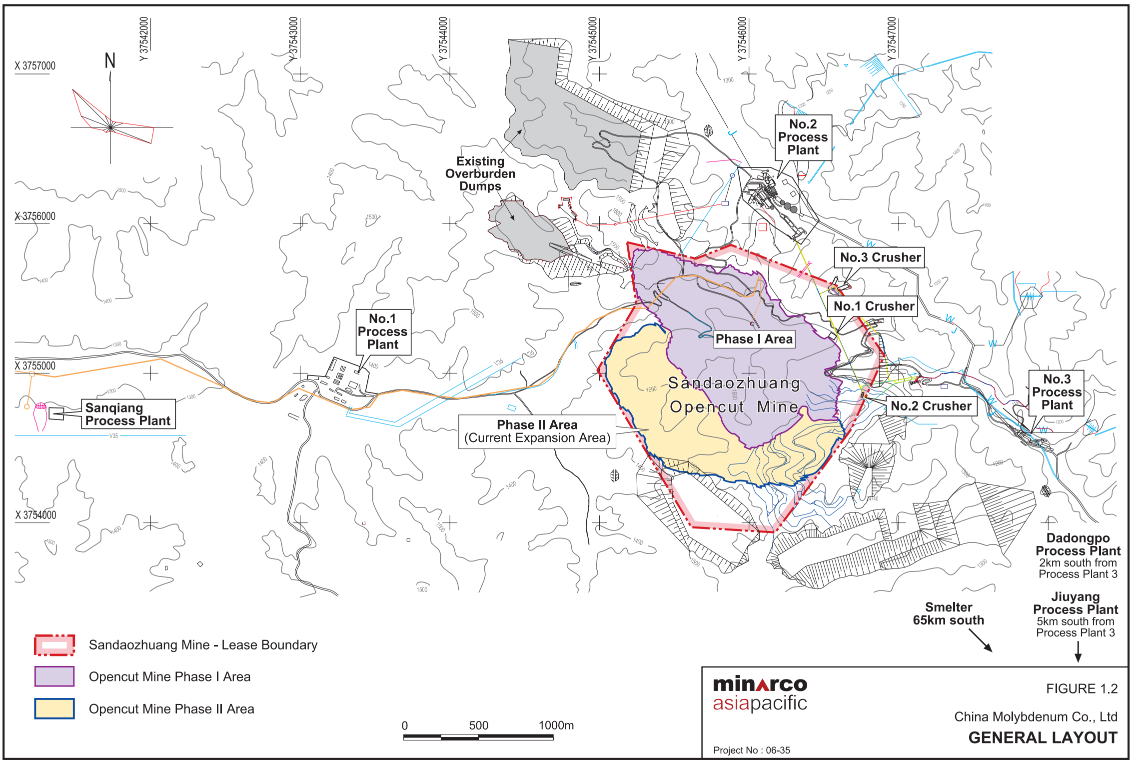
1.3 Sandaozhuang Open-Pit Mining Operation

The Sandaozhuang open-pit mining operation is a large-scale single pit design which utilizes conventional truck and shovel mining techniques to achieve a mining rate of approximately 30,000 tpd. Minarco inspected the operation and observed that, by Chinese standards, the mine uses well maintained, modern mining equipment as well as technology and mining methods typical for advanced Chinese operations.

The typical site topography and pit layout is shown in ***Figure 1.2***.

The open-pit mining method employed at Sandaozhuang has proved to be both highly efficient in achieving the target production output as well as enjoying a favorable cost structure. The open-pit mining method further offers lower exposure to mining and production risks compared with mining methods employed in previous underground workings. CMOC has also engaged a number of contractors to effectively outsource some of the labor intensive tasks with lower technological sophistication. These tasks include drilling and blasting, ore and waste loading and transportation, which have resulted in substantially lower capital expenditure requirements for mobile fleet. The mining branch Company of CMOC remains responsible for both the quality of the products and safety of the production process with respect to all outsourced tasks.

Figure 1.2 — General Site Topography and Current Working Area Layout



Both waste and ore material are mined and transported using a large, highly mobile fleet of small-scale truck and shovel mining equipment. The historic and forecast ore and waste production levels are given in ***Table 1.4***.

Table 1.4 — Sandaozhuang Mine Historic and Forecast Production

Sandaozhuang Mine	2003 (A)	2004 (A)	2005 (A)	2006 (A)	2007 (F)	2008 (F)
Ore Production —						
Open-Pit (Mt)	2.75	3.67	6.29	9.46	9.90	9.90
Ore Production —						
Underground (Mt)	1.60	1.31	0.30	—	—	—
Waste Production (Mt)	6.02	7.57	8.97	14.19	11.88	11.88
Total Material Moved (Mt)	**8.77**	**11.24**	**15.26**	**23.65**	**21.78**	**21.78**
Open-Pit Stripping Ratio	2.19	2.06	1.43	1.50	1.20	1.20
Average Grade Mo (%)	**0.151**	**0.138**	**0.132**	**0.131**	**0.155**	**0.180**
Average Grade WO_3 (%)	**N/M**	**N/M**	**N/M**	**0.055**	**0.068**	**0.074**

Note 1: There are no statistics for tungsten grades available from 2003 to 2005 as the statistics available are not meaningful given the low levels of tungsten processing during this time.

During the preparation of the new Ore Reserve estimates, Minarco prepared a conceptual production schedule. This production schedule was developed using Whittle 4D software which resulted in higher grade material being targeted in the earlier years (compared with the original schedule developed by the company). Following this, the mine has decided to develop a more detailed production schedule (in line with Minarco's conceptual production schedule) to target this higher grade material. This new production schedule will result in the higher grades in 2008 (as shown in ***Table 1.4***) to be achieved.

The longer term forecast grades for the optimised mining schedule (until 2014) for molybdenum are given in ***Table 1.5***.

The original schedule (prior to optimisation) is substantially similar to the results in ***Table 1.5***, with the exception of the higher grade achieved in 2008.

Table 1.5 — Long Term Forecast Ore Grades

Forecast Ore Grade	2008	2009	2010	2011	2012	2013	2014
Average Grade Mo (%) . .	0.18	0.16	0.14	0.14	0.15	0.14	0.14

Note 1: If the existing mining plan is not modified, the higher grade of 0.18% Molybdenum targeted for 2008 will not be able to be achieved, and a molybdenum grade closer to 0.155% will be achieved.

Note 2: Beyond 2008, the current mining schedule assumes that the molybdenum grade will fluctuate between 0.13% and 0.16% until 2023 whereafter it will decrease gradually to a level closer to 0.10%. Tungsten grade increases from current levels to 0.12% over the same period. Beyond 2023, tungsten grades fluctuate between 0.10% and 0.14%.

1.4 Processing Facilities

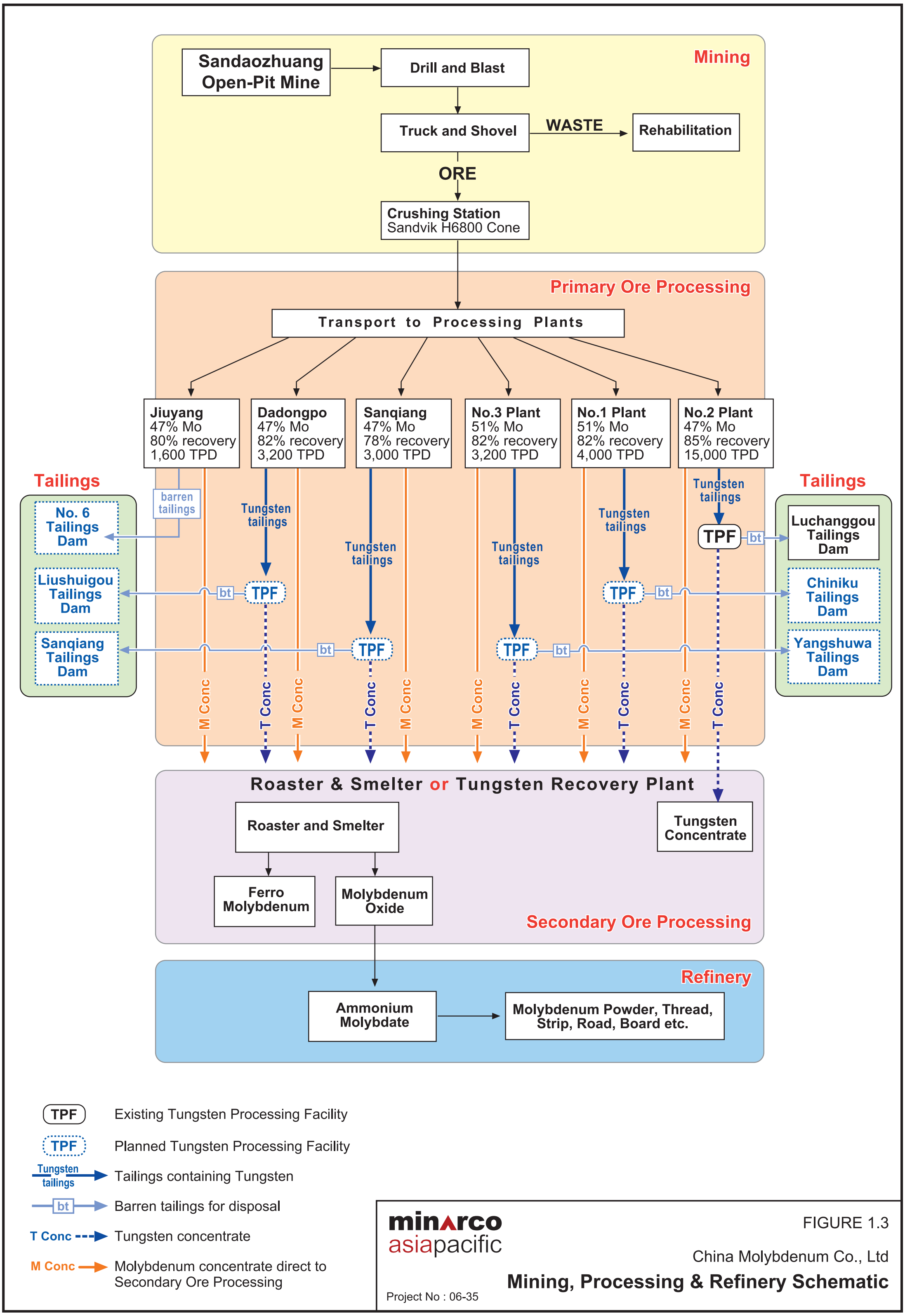
Ore processing is carried out in three separate stages. The first stage treats all of the raw ore in one of six processing plants. This involves primary crushing and fine grinding followed by froth flotation to recover molybdenum in a concentrate containing between 47% and 51% molybdenum grade. The majority of this concentrate is then sent to a roasting and smelting facility (second stage) where it is further processed to produce either molybdenum oxide or ferromolybdenum.

The Company's tungsten processing facility takes tailings from the largest primary processing plant (No. 2 Processing Plant) for reprocessing to recover the tungsten. This reprocessing process produces a concentrate of between 30% and 65% tungsten (WO_3).

The third stage of processing involves some of the molybdenum concentrate and molybdenum oxide (produced in the first and second stage of processing) being sent to the Company's refinery facilities where they are further processed to produce either molybdenum powder, ammonium molybdate or 99.9% pure molybdenum metal and other products such as molybdenum thread, strip, rod, etc. Management are considering the expansion of the existing refinery facilities to further enhance downstream production.

A schematic is provided in ***Figure 1.3*** which shows the material flow from the open-pit through to each stage of processing.

Figure 1.3 — Mining Processing and Refining Schematic



1.5 Production Levels

Minarco reviewed the CMOC production forecast for both the mine and each of the processing facilities. These forecasts are based on historic performance with increased production included only where clearly defined and realistic operating improvements or expansions have been identified and implemented. Minarco's review indicates that the overall production from the Sandaozhuang Mine will remain unchanged over the life of the project (remain at 30,000 tpd), however further upgrades to the ore processing facilities should be completed to achieve greater efficiency and higher economic return by further processing of material onsite. This increase will be achieved primarily by construction of additional processing facilities.

Minarco is satisfied that CMOC's production forecasts are both realistic and achievable.

1.6 Environmental Issues and Management

The open-pit mine and associated processing facilities are all located in steep mountainous terrain that forms part of the catchment area for the Yangtze River. The mine has in place environmental controls and management systems which have ensured historic compliance with the relevant environmental regulatory requirements. Minarco finds that the site operations deal with the key environmental issues relating to the site with particular focus given to the orderly construction of stable waste rock (slag) dumps. Minarco considers the rehabilitation techniques that have been employed to be first class in China, and comparable with rehabilitation techniques employed in similar mines in countries such as Australia.

1.7 Health and Safety

Minarco considers that safety standards at CMOC's operations are above average by Chinese standards and noted that all the operations had in place the evidence of an approved safety management plan. The success of this plan is evidenced by the fact that there has been no fatalities at the mine (or any of the associated processing facilities) in the past five years.

Given that the mine is a large scale open-pit operation utilizing truck and shovel techniques (as opposed to more dangerous underground mining techniques), Minarco considers the chance of a catastrophic safety event occurring to be low.

1.8 Statutory Authorisations

The existing Mining Licence covers an area of 2.5091 km^2 and is valid until June 2021 at a mining rate of 9.9 Mt per annum of ore (the mine is operating at its current licensed production capacity). The mining right fees have been paid for a period of 30 years therefore allowing extension of the licence until September 2036 once the existing licence expires. The Mining Licence number is 100000012088 and was issued by the People's Republic of China Land and Resources Ministry. Management indicated that another company holds a valid Mining Lease for the component of the defined orebody which extends outside the Company's existing mining lease area. Minarco considers that unless the Company is able to purchase this Mining Lease from the other party, there is limited potential for the existing Mining Lease to be extended to include Mineral Resources lying adjacent to the existing Company's Mining Lease area.

Minarco understands from discussions with management that the existing Mining Licence in place is specifically for molybdenum. For tungsten production and sales, Minarco understands that the total tungsten production volume is controlled by the Government under a quota system. Management however indicated that based on their recent discussions with the relevant Government authority, it will not be difficult for the Company to obtain the quota for future tungsten sales since the recovery of tungsten from the tailings is treated as a recycling activity and therefore is strongly encouraged and supported by the Government.

Management provided copies of relevant documents indicating that the necessary approvals for the continued operation of the processing facilities were in place.

Minarco understands that the Company's legal due diligence team have reviewed in detail the relevant statutory authorisations for the mines and processing facilities.

1.9 Operating and Capital Costs

Open-Pit Mine

Historic and forecast operating and capital cost information has been reviewed by Minarco. Minarco considers that the mine enjoys a favorable cost structure due to the large scale of its operations. Management indicated that the Company intends to gradually introduce larger scale equipment into the open-pit to further increase productivity and efficiency. The forecast operating costs have not been updated to reflect the proposed changes in mining equipment but Minarco considers that any changes relating to employment of larger scale equipment will most likely result in a reduction in unit operating costs.

Processing Facilities

The major capital expenditure planned relates to the construction of four additional tungsten recovery plants. These additional four plants should ensure that all other tailings from the existing primary processing plants (except from No. 2 Processing Plant and Jiuyang Processing Plant) can be reprocessed to recover the tungsten. Management indicated that the No. 2 Processing Plant (which already has an associated tungsten recovery plant) will undergo a technical improvement program which will involve further automation and process control improvements.

Historic and forecast operating costs for the mine and primary processing plants are summarized in ***Table 1.6***.

Table 1.6 — Historic and Forecast Operating Costs

(RMB/t/ore feed)	2003 (A)	2004 (A)	2005 (A)	2006 (A)	2007 (F)	2008 (F)
Operating Costs						
Mining Cost	17.03	23.72	23.42	25.44	24.93	25.47
Primary Processing Costs	42.53	50.85	50.67	65.42	57.38	59.53
Total Cost of Molybdenum Concentrate	59.55	74.58	74.09	90.86	82.31	85.00
Depreciation						
Mining	NA	NA	NA	3.47	6.55	6.55
Primary Processing	NA	NA	NA	4.20	6.50	7.20
Total Depreciation	NA	NA	NA	7.67	13.05	13.75

Note 1: All historic operating costs are provided on a nominal basis, while forecasts are provided on a real basis.

Note 2: Mining costs do not include resource tax, amortization of the mining rights, mineral resource compensation fee, urban construction tax and educational surcharge, etc.

Note 3: During 2003 to 2005, the Company did not incorporate the cost of underground mining into the overall mining cost, but included it in the processing cost. Therefore, the historic depreciation costs for each stage of mining and processing could not be accurately determined.

Note 4: The depreciation expense in 2007 increases significantly from 2006 because of the substantial capital expenditure associated with the production capacity upgrade to 30,000 ore tpd.

This historic and forecast cost information is presented on a USD/lb of concentrate basis in ***Table 1.7***.

Table 1.7 — Historic and Forecast Operating Costs (USD/lb of Mo in Concentrate)

Operating Costs (USD/lb/Mo in concentrate)	2003	2004	2005	2006	2007	2008
Exchange Rate	8.27	8.27	8.11	7.95	7.80	7.80
Operating Costs						
Mining Cost	0.75	1.15	1.21	1.28	1.09	0.92
Primary Processing Costs	1.88	2.47	2.62	3.29	2.50	2.16
Total Cost of Molybdenum in Concentrate	2.63	3.62	3.84	4.57	3.59	3.09
Depreciation						
Mining	NA	NA	NA	0.17	0.29	0.24
Primary Processing	NA	NA	NA	0.22	0.28	0.26
Total Depreciation	NA	NA	NA	0.39	0.57	0.50

Note 1: The comments associated with ***Table 1.6*** apply the same with ***Table 1.7***.

Forecast capital costs are provided in ***Table 1.8***.

Table 1.8 — Forecast Capital Costs

Project	**Forecast Cost (M RMB)**	**Timing**
4,000 tpd Tungsten Recovery Plant construction (To process tailings from the No. 1 primary processing plant)	54	Planned completion end of 2007
5,000 tpd Expansion and Tungsten Recovery Plant construction (Including expansion of the existing No. 3 primary processing plant from 3,200 tpd as well as installation of new tungsten recovery circuits)	199	Planned completion July 2007
3,000 tpd Tungsten Recovery Plant construction (To process tailings from the Sanqiang primary processing plant)	55	Planned completion end of 2007
3,200 tpd Tungsten Recovery Plant construction (To process tailings from the Dadongpo primary processing plant)	58	Planned completion end of 2007
	366	
Molybdenum tungsten metal products 1,500 t/year (Refinery)	422	Planned completion end of 2008
Total (All Assets)	**788**	

Note 1: The Company has plans to purchase larger scale mining equipment, but at this stage these plans are not yet finalized, and no capital allowance has been made.

Note 2: The Company currently has no plan to construct a Tungsten Recovery Plant at the Jiuyang Processing Plant.

1.10 Management

During this review, Minarco's project team members were in regular contact and have held regular discussions with all levels of CMOC's management team. Based on this contact, Minarco is satisfied that:

- CMOC has established a management culture focused on improving productivity; and

- The senior management team have an aggressive expansion strategy (particularly through further acquisitions) and have demonstrated their competence through their performance at the Sandaozhuang Mine and associated processing facilities.

2. SANDAOZHUANG OPEN PIT MINE

2.1 General Description And Overview

The main Mining Lease boundary encompasses approximately 2.5 km^2 of ground over most of the mine and resource development area. The current planned mining pit is constrained by the current lease. The terrain around the mine is generally rugged and the topographic surface ranges from approximately 1,100 to 1,600 meters above sea level.

The Sandaozhuang mining operation consists of the following functions:

- Site Preparation — the open-pit, waste dump and laydown areas are cleared of all vegetation. There is little topsoil to be stockpiled;
- Road building — all internal and external roads are designed for trucks of up to 32 tonnes and are 10 to 13 meters in width and generally at a grade (decline angle) of 10%;
- Dewatering — dewatering is generally not an issue at Luanchuan. The water table is deep as the underground operation has effectively dewatered in advance of open-pit operations;
- Drill and Blast — All material is drilled and blasted using a combination of 8 electric rotary drills and a large fleet of air track drills. Both fleets drill 14.0 meter deep holes allowing 2.0 meters for sub drill, with the main difference being the hole diameter which is 250 mm for the rotary drills and 150 mm for the airtrack drills. Modern drilling and blasting techniques are implemented to ensure a high level of efficiency in rock breakage;
- Grade control — grade control uses blast hole sampling, with a single composite taken over the entire length of the hole by sampling the drill cuttings;
- Load and haul — all material is mined using a mixed load and haul fleet with the following equipment being used:
    - 1 m^3 hydraulic excavators loading both 20 tonne and 15 tonne rear dumping trucks; and
    - 4 m^3 electric face shovels, loading both 32 tonne and 20 tonne rear dumping trucks.
- Crushing — All ore is hauled to one of three crusher stations located strategically around the open-pit. All waste is hauled to one of two dumps, both of which are located on the southern margins of the open-pit.

2.2 Mining Operations

The original life of mine schedule was developed by the Changsha Design Institute and was based on a bench by bench schedule using two stages to produce 9.9 Mt per annum, or 30,000 tpd, of ore at an average strip ratio of 1.2:1 over the life of the operation. This mine plan continues to produce at a constant production rate of 9.9 Mt per annum over the life of the project with molybdenum grades expected to gradually reduce. On the other hand the average tungsten grade tends to increase over the mine life.

The mine design and feasibility target a total of 330 working days per year, with a 3 x 8 hour shifts per day roster system. This working schedule is typical in both Chinese operations as well as international mining operations.

CMOC is currently operating the mine at close to the designed capacity of 9.9 Mt per annum with this rate being achieved by efficient utilization of a large number of relatively small rear dumping trucks and excavators. Given that the mine uses small scale equipment, the planned production rate requires a substantial amount of equipment operating within the pit. Management indicated that it is currently examining the possibility of changing out the existing load and haul fleet for a larger truck/shovel fleet which should be better suited to the planned production rate. Management indicated that 10 m^3 face shovels, and 100 tonne capacity haul trucks are being considered by the Company. This will reduce the load and haul fleet numbers dramatically.

All waste material is currently dumped on a single large out of pit stockpile. Ore is transported to one of three crushing stations where it is crushed to minus 200 mm using a cone crusher before being sent by underground conveyor or truck to one of the six primary processing facilities. Having multiple large scale crushing stations ensures that the effects of downtime at any one particular crushing station are minimized.

2.3 Exploration and Mining History

Exploration of the Luanchuan Deposit

The main Luanchuan deposit, referred to as the Sandaozhuang Molybdenum Mining Area, was discovered by the Qinling District Exploration Team in 1956. Following this discovery, the former Yu01 Team of Henan Provincial Geology Bureau engaged in a general site investigation and assessment during the period from October 1957 to March 1959. This assessment was initially to determine the industrial value of this mining district through the use of surface trench and drill-hole exploration techniques. From April 1970 to December 1971, the No. 3 Geology Investigation Team of the Henan Provincial Geology Bureau carried out the initial exploration on this mining area and then submitted a formal geology and exploration report on the molybdenum occurrence and further mine development proposals of Sandaozhuang deposit at Luanchuan. By August 1972, after the initial exploration and mapping of the stratum and structure, the general geological features of the deposit were well understood.

From April 1974 to September 1979, the No. 1 Geology Investigation Team of Henan Provincial Geology Bureau completed a further detailed exploration review of the Sandaozhuang Mining Area, and then submitted a detailed exploration and geology report for the molybdenum tungsten orebody. The report was approved by the Henan Ore Reserve Committee in July 1984.

From 1981 to 1984, the No. 1 Geology Investigation Team of the Henan Provincial Bureau carried out another detailed exploration assessment, and submitted a further general investigation geology report for the Nannihu Molybdenum (tungsten) deposit at Luanchuan. This report received approval from the Henan Provincial Geology Bureau in June 1986.

Historic Underground Mining Operations

Since the beginning of the 1970s, extensive underground exploration and development has been carried out in Sandaozhuang Molybdenum Mining Area resulting in a continuous mining history of more than 30 years, Sandaozhuang Mine commenced operation from 1972. Prior to June 1998, the Company's predecessors carried on the underground mining activities and all the mineral resources were from Sandaozhuang Mine. There has been to date an estimated stoped volume of approximately 12 million m^3 mainly distributed from elevation 1,160 meters to 1,364 meters. Most of the production was from the Maquan Underground Mine which had a production of approximately 4,500 tpd.

This underground development used medium to deep hole multi-stepped and staged room and pillar mining methods. The estimate of retained reserves as at the end of 2002 was 14.5 Mt. The actual recovery ratio was estimated at approximately 60% and the depletion ratio was similarly estimated at 8%. Production from the underground mine ceased in May 2005.

From the middle 1980s to the early 1990s the mine development potential was intensively reviewed. Further extensive exploration confirmed that there were other superposed layers of ore bearing material below the current workings. Subsequently the Sandaozhuang 5,000 tpd open-pit mining construction and expansion program commenced in 1991. Production from the open-pit mining operations commenced in June 1998, with the initial output targeted at 5,000 tpd. Ore production reached 8,000 tpd by the end of 2001. The mine expanded again in 2003 to reach a capacity of 15,000 tpd in 2004. This expansion corresponded with an increase in the price of molybdenum. Historic capacity and production is summarized in ***Table 2.1***.

Table 2.1 — Sandaozhuang Orebody Historic Capacity and Production

Sandaozhuang Mine (mt/year)	2003 (A)	2004 (A)	2005 (A)	2006 (A)
Mining Capacity				
Open-pit	3.00	4.00	6.60	9.90
Underground	1.60	1.50	0.33	0.00
Total Mining Capacity	**4.60**	**5.50**	**6.93**	**9.90**
Actual Production				
Open-pit	2.75	3.67	6.29	9.46
Underground	1.60	1.31	0.30	0.00
Total Ore Production (Mine Production)	**4.35**	**4.98**	**6.59**	**9.46**

2.4 Geology

The mining district of Luanchuan is situated within the Qinling trend, oriented NW-SE and seen to be a part of the limb of the Sanchuan-Luanchuan Fold Belt. The exposed strata within the mine area are the Sanchuan, Nannihu and the Meiyaogou Formations, which are all contained within the Shangluanchuan group which is in turn part of the Jixian Series from the Middle Proterozoic Subera.

Most of the mining area is comprised of rock from the Sanchuan Formation which is generally divided into upper and lower sections, as briefly described below.

- The Lower Section of Sanchuan Formation is mostly comprised of metamorphic sandstones (quartzite) sometimes hosting interbedded phyllite units, and where metamorphism is intense, often forming hornfels units, that are generally characterized as quartz/biotite hornfels units. Within these units there are often quartz/carbonate vein developments. Some hornfels units may have thicknesses of above 140 meters. The hornfels units within this stratum contain the bulk of the molybdenite mineralization, generally associated with the quartz/carbonate veining and associated vein in-fill along joint or fracture surfaces; and

- The Upper Sanchuan Formation is dominated by marble hosting thin calcareous schist units and various units of calcareous silicate hornfels which has often been affected by metasomatic activity and in some places intense folding and contact metamorphism. In these areas the calcareous silicate hornfels may display diopside and garnet skarn mineral assemblages. It is the skarn mineralization areas that tend to carry the greatest molybdenum concentrations.

The typical mine cross sections use further material type definitions that are typically characterized and defined by diamond drilling and also from additional information gained through subsequent underground and open-pit mine development and the consequent better geologic understanding that flowed from this. The major material types generally displayed are five subsets of both the Lower and Upper Sanchuan Formations. These are juxtaposed in a sequence that is often defined and interpreted as follows:

- Quartz/Biotite Hornfels unit (uppermost);

- Diopside/Plagioclase Hornfels unit;

- Marble (Skarn) Unit — Calcite/Wollastonite (And Molybdenite);

- Hornfels unit — (often folded and displaying Intense Metamorphism); and

- Granite/Seyenite — (Serecite Schist) — (some Gabbro).

Mineralization

The molybdenum and tungsten mineralization at the Luanchuan Mine area is extensive and quite well understood, however it is noted in some places the local geological complexity causes some disruption to the generally predictable nature of the molybdenum tungsten distribution. In general the mineralization is developed relatively continuously over a strike length of 1,800 meters with a general strike orientation grid

NW-SE and an approximate bearing of 300 degrees. The main mineralized host rocks are comprised of a sequence of hornfels and marble (skarn) units that contain semi-continuous mineralization sequences with respect to molybdenum and tungsten and can be generally defined as being approximately 100 to 200 meters thick, and in places up to 250 meters thick.

The mineralized zones tend to be quite extensive and massive in nature. Some of the mineralization contacts appear to be offset at irregular intervals by high intensity folding and some associated faulting, particularly in the vicinity of the lowermost hornfels unit and the granite/syenite units. Some other observed oblique angle faulting within the upper geological units exposed by mining in the Luanchuan pit confirm the persistence of mineralization across these structures which suggest that the shear zones have not been particularly active for a significant period.

2.5 Employment and Safety

Approximately 700 people are employed at the open-pit mine, with 550 of these employed in production, and the remainder employed in technical services, logistics and other activities. Recent detailed safety and injury statistics were not available for analysis. However, a Safety Plan prepared in January 2006 indicated that the target safety performance involved nil fatalities and a low injury rate. Monthly inspections of safety are undertaken in accordance with the Company's Safety and Environmental Protection Inspection System. A range of safety risks and issues are well known to occur with open-pit mining operations. These include:

- risk of vehicular accidents from large mobile equipment (especially at night and in wet weather);
- operation of fixed plant including crushers;
- electrical risks;
- geotechnical stability, particularly of benches and dumps;
- hazards during loading, dumping and dozing operations (especially at night);
- drilling and blasting;
- chemicals and hazardous goods storage and handling, including fuels and oils;
- manual handling, slips and trips; and
- noise and dust.

Observations during site inspections indicated limited use of personal protective equipment, limited use of physical traffic management controls (such as safety bunds) and further opportunity for mechanically-assisted operations in maintenance activities. However, the safe operations of the significant vehicular traffic appeared to be assisted by the slow vehicular speeds and good visibility at the mine site. Drilling and blasting preparation activities involved significant manual handling as is typical in the Chinese mining industry.

Certain safety risk factors were noted to be the subject of relevant technical mine planning and engineering design, such as dump ("slag") emplacements and open-pit mine slope angles.

2.6 Operating and Capital Costs

Typical current mining costs as provided by the Company are given in ***Table 2.2***.

Table 2.2 — Historic and Forecast Mining Costs

Mining Costs (RMB/t)	2003 (A)	2004 (A)	2005 (A)	2006 (A)	2007 (F)	2008 (F)
Total Cost — Per Ore Feed Tonne	**17.03**	**23.72**	**23.42**	**25.44**	**24.93**	**25.47**

Note: The significant cost increase from 2003 to 2004 was due to both across the board increases in costs for raw materials and labor, as well as the introduction of the large scale use of contractors.

The mining costs which were used by the Company to develop the strategic long term plans (as in ***Table 2.2***) appear reasonable and would be comparable with similar sized operations. Minarco considers the actual historic and forecast operating costs are both reasonable and achievable given the current operational strategy. These forecast operating costs assume that the mine continues to use the same mining equipment that it currently uses, and that no major upgrades are completed.

No detailed plans exist for capital expenditure relating to the upgrade of existing mining equipment. Minarco assumes that any future changes to mining equipment would be made for economic reasons, and in this regard would result in an overall improvement in profitability of the mine.

2.7 Environmental Issues

The review of the environmental aspects of the open-pit operations was conducted to assess the status of the operations in relation to potential significant environmental risk. The environmental aspects were assessed against the general requirements for environmental management in the "Equator Principles", used by the IMF/World Bank and environmental impact assessment procedures in international environment protection legislation. The environmental aspects assessed for each of the open-pit operations were:

- land management, including rehabilitation;
- community issues, including relocation and compensation for directly affected communities;
- environmental emissions (air, noise, water, etc);
- water management, water reuse, quality and discharge to the environment;
- noise emissions and sensitive receivers (residences etc); and
- waste rock management.

The open-pit mine area occurs within generally steep, upper slope areas that straddle the catchment divide between the major river systems of the Huang Ho and Yangtze River. The north eastern area of the mine drains to the northeast to the Yi He, then to the Luo He which flows into the Huang Ho (Yellow River). The majority of the mine area drains to the south to the Xiao He which in turn flows into the Lao Guan He. This river flows to the Dan Jiang and ultimately to the Yangtze River.

Late in 2006, the Company completed almost 20 hectares of rehabilitation at the Shuishougou slag dump established adjacent to the current open-pit mine area. This area utilizes sapling and tubestock plantings in formal garden-like pattern in a levelled area of the dump which, as at March 2006, was approximately half way to its planned storage capacity of 16 Mm^3. A soil growing medium has been replaced over the area and the area irrigated during the establishment of the revegetation program that commenced in spring 2005. Ongoing maintenance will assist the success of the program that is planned to be extended to other completed dump surfaces in the open-pit mine in the future.

When available, dependent upon the mining schedule, other surface areas of waste rock emplacements will be similarly rehabilitated. As has been the case with other planned rehabilitation activity undertaken at the Company's mining and processing facilities, a rehabilitation plan has been formulated in accordance with the requirements of the Water and Soil Conservation Law of the People's Republic of China.

Major scree slopes associated with the dump areas are unsuitable for direct planting rehabilitation methods because of poor accessibility and the lack of finer particles to provide a growth medium for plants. However, some volunteer colonization of the slopes is likely over time, as evidenced by various shorter fill slopes and cut batters around the mine area.

The typical waste rock emplacement features long slopes extending down towards the nearby valley floor with a steep angle of repose (in most cases exceeding 40 degrees). The stability of these slopes is mainly afforded by the blocky angular nature of the rock and the lack of fine material matrix. This enables low pore water pressures to be maintained to enhance slope stability. It also restricts the potential for superficial soil erosion to occur, thus limiting the potential impacts of sedimentation on downstream ecology and waterways. It is understood that a sediment control pond is located at the base of the emplacement slopes to control soil erosion, however these were not able to be accessed for inspection.

Little information is currently available on the water balance and water management associated with the open-pit mine. It is understood that the mine does not produce surplus water and little water is available for dust suppression. Run off collection ponds were not sighted and there does not appear to be a comprehensive system for run off collection. However, water is pumped to the rehabilitation area in the uppermost dump area that is being revegetated.

The open-pit mine has the potential to be a major sediment source to local waterways within the upper extremity of the catchments. The effective and active management of the mine's down slope sediment control features, aided by continuation of the mine's rehabilitation and revegetation schemes, should ensure that the contribution of sediment to waterways is minimized. This should enable the mine to demonstrate its good environmental practices and to set a positive example to other land users. The region's waterways were noted to be characterized by high sediment loads from poorly controlled runoff from disturbed rural lands and urbanized areas.

Although minor quantities of pyrite were noted to occur in the geological materials in the mine area, there was no evidence of acid forming activity and no effects on plants or visible effects on waterways. Pyrite is iron sulphide, which when it oxidizes in the presence of water forms sulphuric acid. This can form an acidic leachate which can cause environmental problems. There are numerous ways to deal with this if the problem is identified and acted upon early. These solutions are technically well understood and include such techniques as alkaline treatment and containment. Minarco does not consider the presence of pyrite to be a material risk to the operation.

Hillside adits (tunnels) associated with the former underground mine workings remain largely intact. These adits were constructed for access and ore material transport to a nearby processing plant. Partial rehabilitation of the adits by way of earth filling in the tunnel openings to close off access is recommended for both safety and environmental reasons. Filling of the tunnel opening to prevent access should utilize waste ore slag, allow for water seepage discharge and be stabilized with rock armoring on the fill slope and/or revegetated as appropriate. This will ensure cost-effective site remediation.

The open-pit mine area is typically dusty from vehicular movement over unpaved surfaces, and windblown lift-off from bare surfaces, drilling and blasting and loading/unloading operations. This "nuisance" dust comprises coarse, crustal material that is mainly of relevance to environmental amenity only.

3. PROCESSING FACILITIES

Processing of the ore is conducted through the following key stages:

- Primary Ore Processing (Molybdenum Concentrators);
- Tungsten Recovery (Tungsten Concentrators);
- Roasting and Smelting; and
- Refining.

Primary Ore Processing

The primary ore processing plants take the raw ore from the mine and then through a crushing-grinding-flotation process, produce a molybdenum concentrate (typically containing 47% molybdenum) suitable for further processing in the Company's roasting and smelting facilities or sales direct to customers.

Tungsten Recovery Plant

The tailings produced at the No. 2 Processing Plant is currently being reprocessed by flotation to extract the tungsten. The Company has plans to reprocess tailings from four of the other five processing plants (excluding Jiuyang Plant). This will ensure that the value of the tungsten is recovered and concentrated into a saleable product rather than discarded with the tailings. This reprocessing of tailings to recover the tungsten represents a highly cost effective 'value add' to the core molybdenum production business. The tungsten production facility generally produces a concentrate containing between 30 and 65% tungsten (but typically 40%).

Roasting and Smelting

The smelting process takes the molybdenum concentrate produced in the primary ore processing stage through a process of roasting and smelting which produces two products, molybdenum oxide (roasting) and ferromolybdenum (smelting).

Refining

The refinery facilities take the molybdenum concentrate and the molybdenum oxide as the primary feed products, and via a process of electrolytic reduction produces firstly ammonium molybdate and secondly molybdenum powder which are further processed to produce various metal products such as molybdenum wire, thread, strip, etc.

The historic and forecast production from these facilities is given in ***Table 3.1***.

Table 3.1 — Historic and Forecast Production

Annual Production (t)	2003 (A)	2004 (A)	2005 (A)	2006 (A)	2007 (F)	2008 (F)
Molybdenum Concentrate (47% Grade Mo) . . .	9,694	10,140	10,291	20,818	28,107	33,744
Molybdenum Oxide output (54% Grade Mo) . . .	3,381	5,380	6,950	12,621	18,000	20,000
Ferromolybdenum (60% Grade Mo) . . .	596	1,418	1,599	6,739	11,007	15,000
Tungsten Concentrate (from Yulu Plant) (65% Grade WO_3) . .	—	—	843	858	2,766	3,478
Tungsten Concentrate (from 100% owned plants) (65% Grade WO_3)	—	—	0	0	314	3,021

A schematic showing the detailed processing flow is given in ***Figure 3.1***.

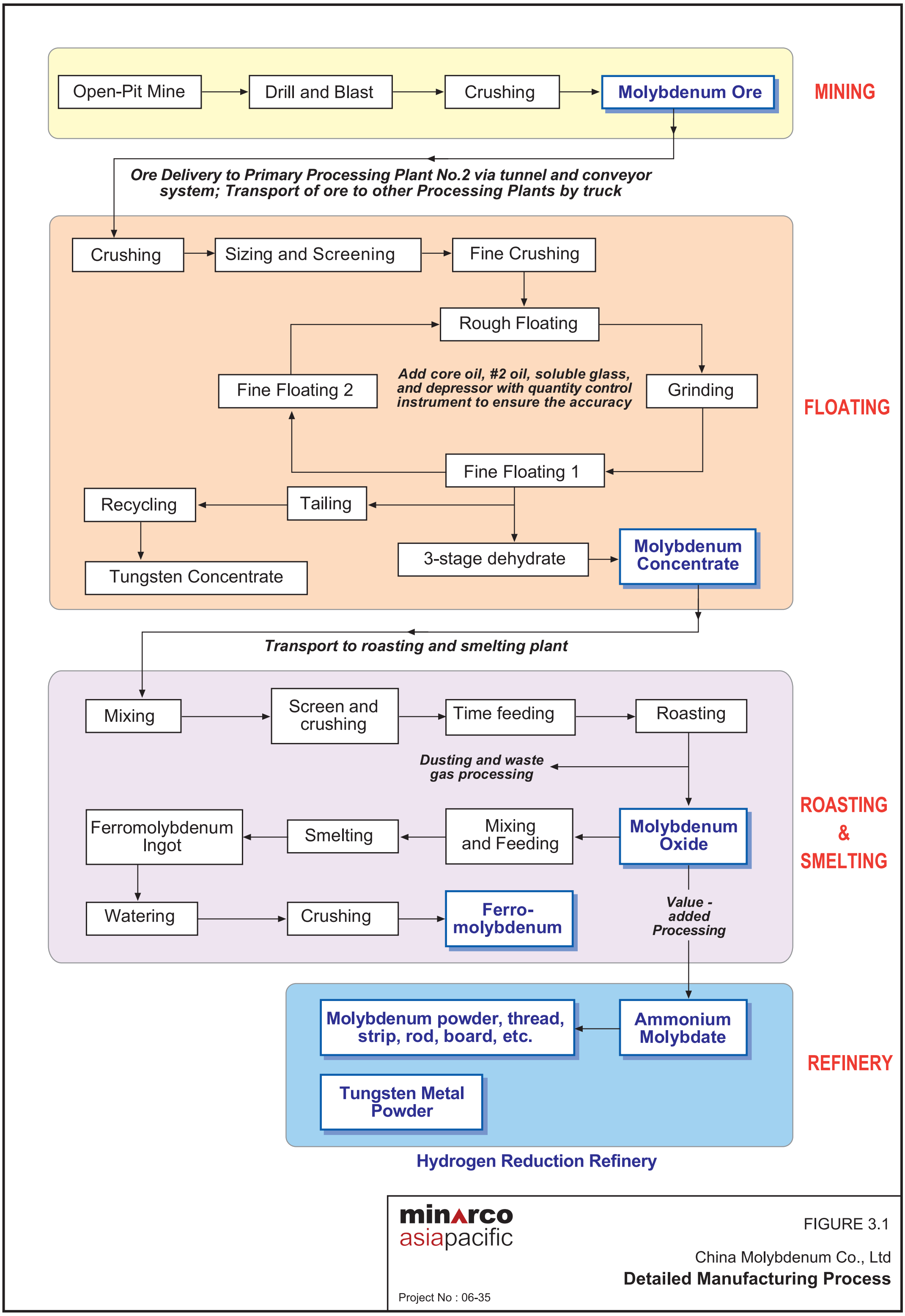
3.1 *Molybdenum Concentrators*

The six primary ore processing facilities are all located within close proximity to Sandaozhuang Mine. Three of the six processing facilities are 100% owned by CMOC while the other three are controlled subsidiaries. All six facilities are controlled and managed by CMOC. As at December 31, 2006, the total processing capacity of the six primary processing facilities was 30,000 ore tpd. The processing plants use modern, efficient flotation techniques which have historically achieved a molybdenum recovery of approximately 82%, putting them 'above average' compared with other similar Chinese operations. The Company has implemented a number of technical upgrades over the past three years to improve recovery rate and environmental performance, as well as achieving reduction in overall production costs.

General Description

The orebody is drilled and blasted in the pit to produce a top size of approximately 300 mm. This ore is then crushed in one of the three in pit crushing stations using cone crushers (Sandvik H6800) to produce a minus 16 mm product that is suitable as mill feed.

Figure 3.1 — Detailed Processing Schematic



The overall concentrator circuit for No. 2 Process Plant is shown in ***Figure 3.2***. The six concentrators all have similar circuits in which the minus 300 mm as mined material is reduced by cone crushers to minus 16 mm before being fed into a closed ball mill circuit for reduction to minus 74 micron before being fed to the flotation circuits.

The flotation circuits feature a rougher flotation with wet grinding of the concentrate to improve liberation before the cleaner circuits are used for grade control. The rougher tailings undergo scavenging with a fine grind to liberate minerals. Tower mills are used for the fine grind. The circuits are conventional for base metal flotation plants. The total capacity of these primary processing plants is given in ***Table 3.2***. The substantial increase in ore processing capacity in 2006 was due to the completion of the construction of the No. 2 Processing Plant in April 2006.

Table 3.2 — Primary Processing Facilities Total Capacity

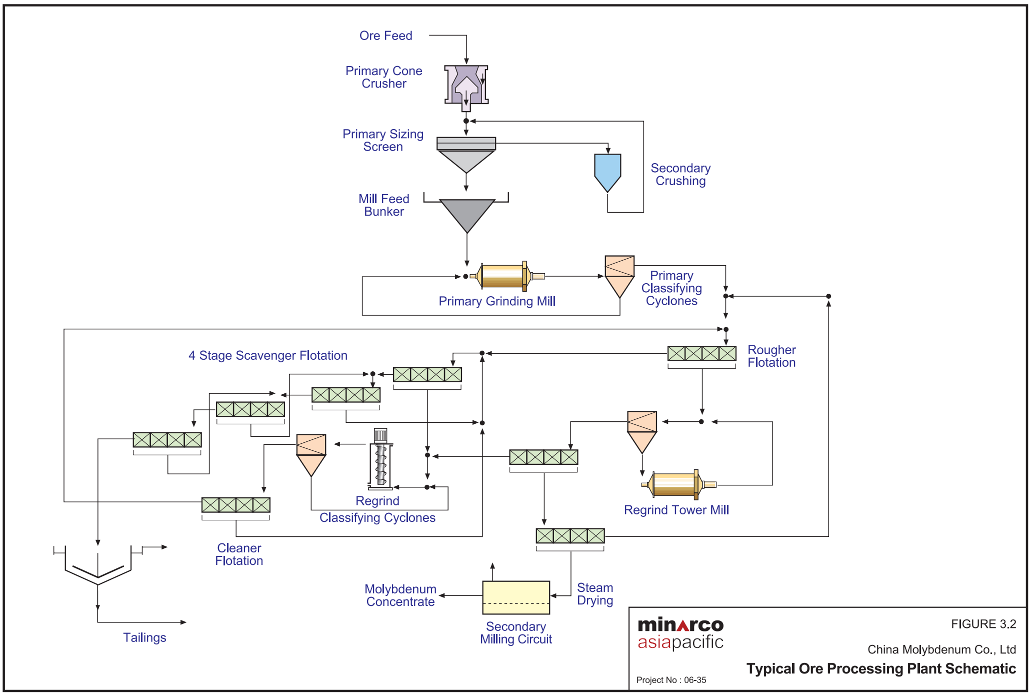
Primary Processing Plants (Kt)	2003 (A)	2004 (A)	2005 (A)	2006 (A)
Daily Ore Processing Capacity.	12	14	15	30
Annual Ore Processing Capacity.	3,960	4,620	4,950	9,900
Total Ore Processed	**3,774**	**4,224**	**4,501**	**8,658**

The Company's No. 2 Ore Processing Plant incorporates advanced technologies including:

- Large-scale flotation columns, BSK-40 float selectors and double-screw air compressors to achieve an energy saving of 30% for the Company's flotation process; and

- Low electricity consumption per unit of primary ore of 21 kWh, and water consumption per unit of primary ore of 2.7 cubic meters.

Figure 3.2 — No. 2 Processing Plant Flowsheet



Historic and planned throughput for each of these facilities is summarized in ***Table 3.3***.

Table 3.3 — Primary Processing Facilities Historic and Planned Feed Tonnes

Primary Processing Facilities (Kt)	2003 (A)	2004 (A)	2005 (A)	2006 (A)	2007 (F)	2008 (F)
No. 1 Processing Plant	1,547	1,478	1,467	1,427	1,320	1,320
No. 2 Processing Plant	1,380	1,843	1,853	3,477	4,950	4,950
No. 3 Processing Plant	847	903	1,181	1,034	1,056	1,056
3 x 51% owned processing plants.	—	—	—	2,681	2,574	2,574
Total Material Processed . . .	**3,774**	**4,224**	**4,501**	**8,618**	**9,900**	**9,900**

Note: CMOC's processing production profile is experiencing significant growth as a result of the acquisition of majority interest in three processing plants (Dadongpo, Sanqiang and Jiuyang) and the expansion of the No. 2 Ore Processing Plant for an aggregate increase in capacity of 17,200 tpd. These expansions are underpinned by CMOC's expansion of its mining capacity at the Sandaozhuang Mine. As a result of these initiatives the mined ore production and processing production for 2006 were almost double that of 2005.

Ore Quality and Product Yield

The ore quality is variable with the grinding process taking the material down to sand sizing with minimal fine grinding requirement for liberation. The losses through the flotation processes may be due to a number of factors but would normally be due to the trace content of the molybdenum in the non bisulphide crystals and as such are not economically recovered.

The variation between the plants could be due to grade differences in the received ore, however Minarco considers that it is more probable that the grade and recovery differences are a function of the flotation and grinding circuits.

The historic and forecast concentrate production, as well as the average process recovery from each of the primary processing facilities is summarized in ***Table 3.4***.

Table 3.4 — Primary Processing Facilities Historic and Planned Output

Molybdenum Concentrate Produced (t)	2003 (A)	2004 (A)	2005 (A)	2006 (A)	2007 (F)	2008 (F)
No. 1 Processing Plant .	3,740	3,198	3,391	3,422	3,744	4,499
No. 2 Processing Plant .	3,885	4,811	4,487	8,868	14,202	16,872
No. 3 Processing Plant .	2,070	2,131	2,413	2,490	2,895	3,599
3 x partly owned processing plants. . . .	—	—	—	6,039	7,265	8,774
Total Molybdenum Concentrate	**9,694**	**10,140**	**10,291**	**20,818**	**28,107**	**33,744**

The historic and planned processing recoveries for each of the major products are given in ***Table 3.5***.

Table 3.5 — Processing Facilities, Historic and Forecast Processing Recovery

Processing Recovery	2003 (A)	2004 (A)	2005 (A)	2006 (A)	2007 (F)	2008 (F)
Molybdenum Concentrate	79.7%	81.9%	81.5%	82.8%	86.1%	89.0%
Molybdenum Oxide . . .	96.4%	95.8%	96.4%	97.1%	97.5%	98.5%
Ferromolybdenum.	98.0%	98.0%	98.0%	97.9%	98.0%	98.3%
Tungsten Concentrate . .	N/A	N/A	N/A	N/A	60.0%	60.0%

The Company is forecasting substantial improvements in processing recovery over the coming two years. Minarco understands that these improvements are going to be achieved by both improvements in operation of existing plants, as well as a result of the completion of various technical improvement programs. Minarco considers that appropriate technical improvement programs and operational improvements should be able to result in the achievement of the forecast improvements.

Rejects and Tailings Handling

The tailings produced by the processing plants are stored in six tailings dam facilities as follows:

- Chiniku tailings dam;
- Luchanggou tailings dam;
- Yangshuwa tailings dam;
- Sanqiang tailings dam;

- Liushuigou tailings dam; and
- No. 6 tailings dam.

The tailings dams are located in narrow valleys in proximity to the respective processing plants that generate the tailings, thus minimising pumping distances. Site inspections indicated the dam walls to be well designed and engineered structures developed by upstream construction methods using drained tailings. Appropriate structural design and management features include in-wall drainage controls, partial rock armoring and dam maintenance practices. Evidence was sighted of appropriate inspection, monitoring and regulatory regimes that are in place in relation to the tailings storage facilities.

Each tailings dam expansion stage requires design and construction approval by relevant authorities and this orderly process ensures adequate future tailings storage capacity within an accountable regulatory context. While environmental and engineering risks are routinely addressed within the regulatory regime for the tailings dams, there appears to be no significant issues that would impede the ongoing tailings storage operations or limit tailings storage capacity.

Chiniku Tailings Dam

The Chiniku tailings storage facility exclusively serves the No. 1 Processing Plant. Constructed in August 1984, this valley dam has a design capacity of 13 million m^3 and a dam wall height of 201 meters which is expected to be reached by 2013. It currently stores 9.3 million m^3 and has a height of 150 meters. It is licensed as a level 3 risk-based classification structure. Water is reclaimed from the dam for recycling at the No. 1 Processing Plant, and appropriate drainage is installed at the tailings storage facility. The dam wall gradient is 1:4 with the majority of the wall face rock armored although vegetation has colonized the upper slopes.

The dam meets the category of 'normal' in terms of safety according to Company inspection records. A bunded standby tailings area at the No. 1 Processing Plant provides for temporary storage of tailings if direct supply to the tailings dam is interrupted.

Luchanggou Tailings Dam

The Luchanggou tailings storage facility receives the waste feed from the No. 2 Processing Plant and the tungsten processing plant. The facility currently contains 5.5 million m^3 behind an 87 meters high wall. The valley dam is an upstream construction using drained tailings material at a slope of approximately 1:4.5. The ultimate height of the dam is planned to extend to 157 meters to provide a design capacity of 26.5 million m^3. It is licensed as a level 3 risk-based classification structure.

Water is reclaimed from the dam for recycling at the No. 2 Processing Plant and the tungsten plant, and appropriate drainage is installed at the tailings storage facility. The majority of the wall face is rock armored although vegetation has colonized the upper slopes.

The dam meets the category of 'normal' in terms of safety according to Company inspection records. A bunded area is available for use as a standby tailings storage facility at the No. 2 Processing Plant to provide for temporary storage of tailings if direct supply to the tailings dam is interrupted.

Yangshuwa (No. 3) Tailings Dam

The Yangshuwa tailings storage facility was commissioned in August 1994 to contain the tailings output from the No. 3 processing plant. The valley dam wall is built from tailings in an upstream lift design and has a slope of approximately 20 degrees. The current storage in the facility is 3.4 million m^3 and it has a design capacity of 8 million m^3, however it has the potential for a life of some 60 years at present production levels. The current height of the dam is 68 meters and its design height is 106 meters. Water is reclaimed via a constructed drain to a seepage collection well positioned in the dam wall. Water reclaimed is recycled through the processing plant.

The dam meets the category of 'normal' in terms of safety according to Company inspection records. It is licensed as a level 3 risk-based classification structure.

No standby tailings facility at the No. 3 Processing Plant was sighted during site inspection.

Sanqiang Tailings Dam

This tailings storage facility serves the Sanqiang Processing Plant and was built in 2004. This valley upstream construction type of facility has a relatively low-angled dam wall approximately 60 to 70 meters high. Future capacity is understood to be significant, with potential for a dam height of approximately 200 meters, representing around 18 years. Concrete armoring occurs at the base of the dam wall while informal rock armoring occurs throughout the majority of the face to protect against soil erosion.

Water reclaimed from the facility is recycled through the processing plant. Although no records were sighted, it is understood that the dam is designed and constructed to compliance standards. No standby tailings facility at the Sanqiang Processing Plant was sighted during site inspection.

Liushuigou Tailings Dam

This tailings storage facility serves the Dadongpo processing plant. The valley dam is constructed from drained tailings material in an upstream uplift fashion. It is understood to have reached Stage 1 design capacity and is now constructing works in relation to Stage 2 to provide another 15 years for tailings supply and storage. This includes installation of a drainage collection well in the dam wall and geotextile fabric emplacement. The cost of the dam improvement works is understood to be 4 million RMB and is in accordance with regulatory approvals and dam safety requirements.

Water reclaimed from the facility is recycled through the processing plant. Although no records were sighted, it is understood that the dam is designed and constructed to compliance standards. A sediment control bund is located immediately adjacent to the processing plant for trapping sediment accidentally released during routine operations or as managed releases during maintenance cleanout. Downslope, a large bunded area located beside the river is a standby tailings storage facility that provides for temporary storage of tailings if direct supply to the tailings dam is interrupted.

Tailings Dam No. 6

This facility was not able to be inspected due to wet weather access problems. Although details of its structural and operational status are not available, it is known to exclusively serve the Jiuyang 1,500 tpd processing plant. The Company advised Minarco that the tailings storage facility structure and its operation meet the necessary compliance requirements.

Operating and Capital Costs

The typical operating costs (both historic and forecast) as provided by CMOC for the primary processing plants are given in ***Table 3.6***. This cost information provided by CMOC includes an allowance for depreciation.

Table 3.6 — Primary Processing Facilities, Historic and Forecast Operating Costs — Per Concentrate Tonne

Molybdenum Processing Costs (RMB/t/Concentrate)	2003 (A)	2004 (A)	2005 (A)	2006 (A)	2007 (F)	2008 (F)
Weighted Average Cost	18,866	24,355	22,881	27,083	20,211	17,465

Note 1: The key reason for the higher costs in 2006 (compared with other years) is because the Company took advantage of the high price environment for molybdenum to process some low grade ore. The result of this was an increase in the overall production cost of molybdenum concentrate.

Note 2: The costs for 2003 to 2005 are not pure processing costs, but include the mining costs associated with underground mining.

Minarco considers the historic and forecast cost information to be reasonable and achievable given the Company's current plans.

Key Issues and Risks

The concentrators are conventional and as such are low risk. The primary risks to the operation are associated with variability in the feed grade.

3.2 *Tungsten Processing Plant*

General Description

Tungsten is processed as a by product of molybdenum. This is because normally the processing of tungsten at the grade encountered at Sandaozhuang Mine would not be economically viable in its own right. In this case however, the tungsten is being processed as a secondary product and therefore many of the costs that would usually need to be carried by the tungsten do not apply. The major costs including mining, crushing and grinding of the ore have already been paid for by the molybdenum production leaving only the costs associated with the re-flotation of the tungsten from the tailings produced in the molybdenum recovery process.

The molybdenum concentrator tailings are refloated in a three stage flotation process (rougher, scavenger and cleaner), comprising plunging jet short column flotation cells, seven sub aeration mechanical cells and a Rougler Column flotation cell. There is an approximate 500 times concentration upgrade using this method giving a concentrator yield of 30% to 65% depending on the feed (0.06 to 0.12% WO_3).

Currently the No. 2 Processing Plant is the only molybdenum processing plant with an associated tungsten recovery plant. The Company has plans in place to construct 4 new tungsten recovery plants by the end of 2007. These plants should enable all of the tailings produced (except for tailings from Jiuyang processing plant) during the molybdenum processing operations to be reprocessed for recovery of tungsten. Management has indicated that all of these plants will be 100% owned by the Company, regardless of the ownership structure of the associated molybdenum processing plant.

Minarco understands that the planned tungsten processing plants will be of similar design and utilize similar flotation techniques to recover the tungsten. Minarco has not been provided with a detailed construction schedule for these new plants but understands from discussion with management, that they are expected to be completed and commence commissioning by December 2007.

The plants are generally described as follows:

- No. 1 Tungsten Recovery Plant — 4,000 tpd;
- No. 3 Tungsten Recovery Plant — 5,000 tpd;
- Sanqiang Tungsten Recovery Plant — 3,000 tpd; and
- Dadangpo Tungsten Recovery Plant — 3,200 tpd.

The No. 3 Molybdenum Processing Plant is currently undergoing a substantial upgrade which will increase its processing capacity from 3,200 tpd to a total capacity of 5,000 tpd. This upgrade will result in the overall molybdenum and tungsten processing capacity to slightly exceed that of the mine (by 1,800 tpd and 200 tpd respectively). Management has indicated that this is part of the Company's overall longer term expansion strategy.

Ore Quality and Product Yield

All of the tailings from the No. 2 Processing Plant are fed directly to the tungsten plant as the sole feed source. The feed capacity is approximately 15,000 tpd (of solids equivalent) which is achieved using three separate process lines each with a capacity of 5,000 tpd.

Based on the current feed grade of tungsten and a concentrate percentage of typically 40% contained tungsten, the annual production of tungsten concentrate is approximately 3,000 tonnes per annum. Currently the operations are achieving a product yield of between 50% and 60% with an average for the past six months of close to 55%.

Management indicated to Minarco that over the next two years they plan to implement further improvement programs to increase the tungsten recovery rate to 75% of the contained metal. No detailed upgrade plans exist at the moment, however Minarco understands that these upgrades will involve modifying the grinding practices, as well as the introduction of short column/plunging jet flotation technology to replace the sub aeration flotation cells. Further to this, new flotation technology will be introduced to include alterations to the feed preconditioning and flotation reagents and control of reagent dosing. Minarco considers that if the right technology is selected and implemented correctly, substantial improvement in product yield could be achieved.

Typical Product Specifications

The product is a tungsten concentrate with most production having a tungsten grade of about 40%. The product grade can vary substantially depending on the feed grade of the ore (due to the original mine schedule being designed to target molybdenum only, the grade of the actual tungsten mined can vary substantially). Minarco notes however that in the future (beyond 2010) the forecast tungsten grade will be both substantially higher than current grades and will generally be more constant. As such, problems associated with grade variation for the tungsten feed will be reduced.

Operating and Capital Costs

Typical operating costs for the tungsten processing facilities are provided on a weighted average basis in ***Table 3.7***.

Table 3.7 — Tungsten Forecast Operating Costs — Per Feed Tonne

Weighted Average Tungsten Processing Cost (RMB/t/ore)	**2005 (A)**	**2006 (A)**	**2007 (F)**	**2008 (F)**
Processing cost per ton of ore	—	—	5.48	18.72

Note 1: Costs are reported on a per tonne of solid feed equivalent basis.

Note 2: No cost information is currently available for 2006 production because the plant was in its first year of production and costs were reported on a consolidated basis. No meaningful breakdown of actual attributable costs could be achieved.

Note 3: The costs in 2007 are lower than that in 2008 because the costs reported at No. 3 Processing Plant for tungsten are highly related to those for molybdenum (since the new plant is an integrated molybdenum and tungsten producer). The result of this is that the molybdenum processing cost carries most of the costs for the tungsten in 2007. Tungsten recovery costs associated with the planned Sanqiang, Dadongpo and Processing Plant No. 1 tungsten recovery plants will be relatively independent to the molybdenum costs which will result in higher reported operating cost attributable to the tungsten processed by these plants.

Key Issues and Risks

The biggest risks relating to the forecast production schedule being achieved are connected with the construction, commissioning and operation of the proposed tungsten processing plants. Minarco considers however that the risks associated with both the construction and commissioning of these plants are relatively low given their inherent technical simplicity and that the Company is experienced in construction and commissioning following the recent construction of the Recovery Plant associated with No. 2 Processing Plant.

3.3 *Roasting and Smelting Plant*

General Description

The smelting facility currently processes all of the molybdenum concentrate produced by the six primary ore processing facilities.

The current smelter produces two products as follows:

- Molybdenum oxide; and
- Ferromolybdenum.

Historic and forecast production is given in ***Table 3.8***. The production capacity of the roasting and smelting plant significantly increased in 2006 following the completion of construction of the expansion.

Table 3.8 — Roasting and Smelting Plant Historic and Planned Capacity and Production

Roasting and Smelting (t/year)	2003 (A)	2004 (A)	2005 (A)	2006 (A)	2007 (F)	2008 (F)
Roasting Capacity	3,500	6,000	10,000	18,000	18,000	20,000
Molybdenum Oxide Production	3,381	5,380	6,950	12,871	18,000	20,000
Smelting Capacity	1,000	2,000	5,000	11,000	12,000	15,000
Ferromolybdenum Production	596	1,418	1,599	6,274	11,007	15,000

Note 1: Expansion of molybdenum oxide capacity to 18,000 tonnes per annum and ferromolybdenum to 8,000 tonnes per annum was completed in August 2006. The production capacity of ferromolybdenum was further increased to 11,000 tonnes per annum by the end of 2006.

The current smelter is undergoing upgrades which will increase its capacity to 12,000 tonnes per annum. This upgrade is expected to be completed early in 2007. Another new roasting and smelting plant is currently being designed in cooperation with Climax Molybdenum Company, a subsidiary of Phelps Dodge. This new plant is expected to commence production in 2008.

Molybdenum Oxide Production

The production of molybdenum oxide is performed by preheating the furnace and roasting the molybdenum concentrate in an oxidising atmosphere (450 C) followed by increasing the temperature to 680 to 780 C and holding to volatilize contaminants and remove the sulphur (+700 C). The temperature is slowly reduced to 600 C to allow grain formation, and then cooled to approximately 250 C before being removed from the furnace.

Ferromolybdenum Production

Ferromolybdenum is produced by a four stage process comprising:

- Charge preparation and pre-treatment;
- Smelting;
- Slag removal; and
- Product packaging.

The melt is mixed by bi-directional stirring over a period of 45 minutes followed by 30 minutes of smelting and slagging. The melt is then slow cooled for approximately four hours before being transferred to the ladle for iron mixing and slag removal (approximately 40 minutes). The ferromolybdenum is then discharged and manually broken up and packaged into drums. Ferromolybdenum and molybdenum oxide are both used in steel manufacturing as alloying agents.

Operating and Capital Costs

Information provided by management indicated that the processing cost for roasting is typically between RMB800 and RMB1,000 per tonne, and RMB4,500 and RMB5,000 per tonne for smelting. Minarco considers the cost estimates to be reasonable.

Key Issues and Risks

The key issues with the smelter relate to the environmental constraints and the smelting capacity.

The process used is a well proven adaptation on existing technology and little process risk is apparent. The Company adopted the roasting processes for more effective energy saving and metal recovery rates. Currently the concentrate that cannot be processed by the Company is sold externally.

The environmental aspects of the smelter involve particulate removal from waste gas streams as well as a process which takes waste SOx to produce by product $NaSO_3$. Air quality emissions are mitigated by appropriate pollution control systems (flue gas scrubber) which are designed and operated according to the requirements of the relevant regulatory authority. The surrounding environment showed no signs of significant damage relating to plant pollutants.

3.4 *Refinery*

General Description

The production of metallic molybdenum from pure molybdenum trioxide ("MoO_3") or Anhydrous Molybdic Oxide ("ADM") is carried out in electrically heated tubes or muffle furnaces, into which hydrogen gas is introduced as a counter current against the feed. There are two stages in which the MoO_3 or ADM is first reduced to a dioxide ("MoO_2") and then to a metal powder. The two stages are carried out in separate furnaces. Ten reduction tube muffle furnaces are used to reduce the trioxide to molybdenum dioxide. The second stage is carried out in four furnaces, two rotary and two static. In these furnaces molybdenum dioxide is reduced to metal powder.

Ammonium molybdate is produced in an ammonia reducing atmosphere by sublimation.

In Dachuan, the current refinery capacity of ammonium molybdate is 1,000 tonnes per annum and molybdenum powder is 500 tonnes per annum.

In Luoyang High Technology Plant, currently the production is 1,500 tonnes per annum of molybdenum metal primarily as rod (1,000 tonnes per annum) and wire (200 tonnes per annum) with bar, slab and other metal products being produced. Upgrades are currently underway to increase the production to 2,100 tonnes per annum by increasing rod production to 1,500 tonnes per annum and wire to 300 tonnes per annum.

Tungsten metal is also produced by a similar method with production being 100 tonnes per annum increasing to 500 tonnes per annum after an upgrade that is expected to be completed in 2008.

The feed stock for the tungsten metal production is ammonium paratungstate ("APT"), produced from the flotation concentrates by Xiamen Tungsten Company.

In addition to molybdenum and tungsten metal production, a laminate of aluminium, copper, iron and nickel is produced at a rate of 6 tonnes per annum. This material is used by the Chinese Defense Department.

Product Yield

The plant feed for molybdenum metal production is the molybdenum oxide product from the smelter as well as molybdenum concentrate from the primary processing facilities. The product yields are nearly 100% as the systems are closed.

The plant feed for tungsten metal production is the APT product from Xiamen Tungsten Company. The product yields are nearly 100% as the systems are closed.

Product Handling

The metal powder is directly discharged into sealed drums.

Rejects and Tailings Handling

In the production of the metal, the oxide undergoes final reduction by hydrogen producing water which is discharged into the town water supply. The production of the ammoniate also produces water which is stored and treated if necessary before discharge. Any discharge from the site must meet the standards stipulated in the General Wastewater Discharge Standards (GB8978-1996) as applied by the Environmental Protection Bureau of Luoyang city, with specific reference to the limits for total annual loads of chemical oxygen demand (COD) and cyanide (CN-).

Operating and Capital Costs

No operating cost information for the Refinery has been provided to Minarco for review. Minarco considers however that the operating costs of the applied processes are low with the primary costs being for capital repayment which has been mitigated by the pre-installation of the support services.

Key Issues and Risks

There are minimal risks with the facilities other than potential explosions and other associated risks that are functions of working with both hydrogen gas and ammonia. This risk is mitigated by the fact that the Company has safety management plans in place that are approved by the relevant Chinese Authority.

3.5 *Luoyang High Technology Plant*

The high technology plant is engaged in manufacturing various value-added molybdenum and tungsten downstream products, such as powder, thread, strip, rod, board, etc. The plant is one of only a few plants in the world capable of producing a 25 Kg single molybdenum thread/wire. This plant also includes a first-class testing centre for refractory metal materials. In the near future, it will become the largest high-standard scientific research centre integrated with testing facilities, as well as research and development for refractory metal materials in China. The plant is thought to contain one of the world's first molybdenum thread production lines.

Molybdenum Thread/Wire Production Line

The molybdenum wire production line was established in 2006 after an investment of 50 million RMB. The design of the production line ensures production stability with a rate of finished product of 97%, making its efficiency around 60 times higher as well as energy consumption of only 1/3 compared to the conventional technology. The kind of molybdenum wire produced can not only be used for wire cutting, oven wire, but also for spray molybdenum wire, which is mainly used in the high-class international vehicle engineering markets. The molybdenum thread production facility has an annual production capacity of 160 tonnes of molybdenum thread.

Additional Products

In addition to the molybdenum and tungsten products, the refinery also produces 6 tonnes per year of aluminium copper clad, nickel iron strip for electron tube anodes in advanced electronics. There are only 4 plants in the world that produce this material.

4. ENVIRONMENT SAFETY AND SOCIAL ASSESSMENT

The review of the environmental aspects of the Company's operations was conducted to assess the status of the operations in relation to potential significant environmental risk. The environmental aspects were assessed against the general requirements for environmental management in the "Equator Principles" (discussed below), used by the IMF/World Bank and environmental impact assessment procedures in international environment protection legislation.

The Equator Principles

The Equator Principles were drafted in 2002, following a meeting convened by the International Finance Corporation ("IFC") of banks in London. The Equator Principles provide the banking and finance related industries with a common framework for addressing environmental and social risks related to major investments, particularly in developing nations. This framework is based on the external benchmark of the World Bank and IFC sector-specific pollution abatement guidelines, as well as the IFC safeguard policies.

Under the Equator Principles the environmental assessment process takes into account the applicable host country laws, regulations and permits required by the project.

4.1 *Approvals and Licences*

Despite specific environmental impact assessment reports not having been prepared at the commencement of these operations, upgrades to existing operations and facilities have been subject to regulatory approval processes involving local, provincial and state authorities. Accordingly, the general scope of project approvals has required compliance with national integrated environmental policies and standards. Local and provincial Environmental Protection Bureaus have reviewed feasibility reports relating to proposed expansions and have provided regulatory oversight. Environmental approvals for the projects have been provided in all cases by Acceptance Reports issued by the Environment Protection Bureau.

Specific compliance requirements are in place including for design, construction and maintenance of tailings dams, planning for rehabilitation of mining areas (pursuant to the Water and Soil Conservation Law of the PRC), and for emissions management from processing facilities.

Key Chinese environmental standards that the mine, processing plants and related facilities are required to comply with include:

- *General wastewater discharge standards (GB8778-1996)*, which specify limits for physico-chemical parameters in discharge waters. The Environment Protection Bureau in Luoyang city has applied total load limits for chemical oxygen demand (COD) and cyanide (CN-) in annual discharges;

- *Discharge standard for air pollutants from industrial kilns (GB9078-1996)* which applies limits for soot, smoke and sulphur dioxide (SO_2) discharge to air, based on the age of the plant (depending whether installed before or after January 1, 1997);

- *General air pollutant discharge standard (GB16297-1996)* which limits the emission rate of particulate matter (dust) related to ore crushing and sieving processes; and

- *Noise standards at the industrial plant boundary (GB12348-90)*, which limits the noise as measured at the plant boundary to less than 60 decibels (dBA) during daytime and less than 50dBA at night.

4.2 *Rehabilitation Provisions*

A specific plan has been prepared that deals with revegetation strategies across the Company's operations. The plan focuses on rehabilitation of open-pit waste rock dump surfaces as well as establishing potential garden areas within Company properties such as processing plants and accommodation areas. Site inspections demonstrated evidence of progress towards the long term rehabilitation vision which is considered to include examples of "beyond compliance" environmental initiatives. An example of this is the nearly 20 hectares area of rehabilitation at the Shuishougou slag dump at the open-pit mine. The rehabilitation program is well advanced since its initial establishment in spring 2005 and has a total budget of RMB2,500,000. A rehabilitation plan is in place for areas within two other major slag dumps at the open-pit mine at a total cost of RMB430,000. All rehabilitation plans are prepared in accordance with the Water and Soil Conservation Law of China. Management indicated that no further rehabilitation work relating to closing off access to existing adits (ore transport tunnels) associated with the former underground mine is required.

In some areas, green camouflage coloring has been applied to cut batters within Company property by spaying in order to reduce the visual impact of land disturbance as well as possibly control surface soil erosion.

The Company's revegetation strategy is clearly consistent with the expectations of the local community and demonstrates the Company's active commitment to environmental improvement.

4.3 *Environmental Management and Performance*

The Company has elements of a documented system in place to address fundamental environmental management requirements. These management plans and policies are associated with relevant regulatory requirements and operating context and seek to focus on the risks and aspects typically found in the mining industry and downstream processing.

Examples of environmental management elements in place include:

- Safety and environmental protection inspection system;
- On-site dust prevention and management system;
- Regulatory compliance management system;
- Dangerous area and strategic point-source pollution management system;
- Monthly check of safety and environmental protection;
- Management controls for handling, storage and use of explosives and hazardous substances; and
- Revegetation ("green planning scheme") of the open-pit ore slag (waste dump).

4.4 *Community and Social Issues*

The Company is a major employer in the Luanchuan Local Government area. Approximately 90% of the Company's workforce comprises local residents in its area of operations in the Luanchuan County. A key community issue relates to the arrangements for dealing with communities and individual property owners who are directly affected by existing and proposed projects managed by the Company.

The Company facilities may have operating conditions imposed by regulatory approvals that include limiting environmental impacts so that community amenity is protected. However several of the Company's key operations have had, or may have implications for local residents that can only be satisfactorily dealt with by orderly land acquisition and resettlement.

This negotiation and approval process for relocation involves national and provincial level Government agreement for land acquisition negotiations to proceed. Negotiations and final approvals for this process can generally take up to 2 to 3 years and is overseen by regulatory authorities at the local level.

Generally people are resettled to elsewhere in the local county area. Commonly, the children of residents that have to be relocated are also offered employment with the Company as a means to secure longer term income security. Compensation costs for resettlement are dependent on numerous factors including buildings and landholding areas involved. The Company pays for resettlements, while Local Government facilitates the process and undertakes a logistics role but provides no financial input. This arrangement for negotiated relocation and compensation is consistent with international industrial principles for prior and informed consent.

The Company's actual compensation for inhabitant relocation and requisition totalled RMB23.417 million from 2000 to June 2006. The planned compensation for inhabitant relocation and requisition by the Company is RMB16 million from June 2006 to 2015.

4.5 *Safety Management Issues*

In general, health and safety standards in China and other developing countries tend to lag significantly behind developed countries. One key difference is that Chinese mining operations tend not to use personal protective equipment (such as safety boots, hearing protection, eye protection and safety vests) as comprehensively as in the more advanced western countries. Minarco considers that the Company has a progressive outlook with respect to safety issues and in the past six months, the mine has begun the process of investigating safety standards at mining operations in western countries with a view to developing a new safety management plan incorporating some of these western principles.

Minarco noted that during subsequent site visits, some of the safety hazards noted during earlier inspections had been partially remedied. Minarco considers that with only a small amount of investment and training, the Company could continue their safety improvement program and bring it into line with similar operations in the western world.

The Company has elements of a documented system in place to address fundamental safety management issues. These management plans and policies are associated with relevant regulatory requirements as well as reflecting the risk management operating context typically found in the domestic mining and downstream processing industries.

Examples of environmental management elements in place include:

- Safety and environmental protection inspection system;
- Regulatory compliance management system;
- Dangerous area and strategic point-source pollution management system;
- Management controls for handling, storage and use of explosives and hazardous substances;
- Monthly check of safety and environmental protection;
- Accident management system;
- Tailings storage safety management (trial);
- Normal production standard;
- 2003–2005 working summary of annual safety and security; and
- Safety education and training system.

Public risks include implications for residents located down slope from major emplacement structures such as waste (slag) dumps at the open-pit mine or tailings storage facilities. Accordingly, the Company focuses significant effort on ensuring stability of these structures and for which close regulatory supervision and inspection procedures are in place.

The key environmental issues and risks are summarized in ***Table 4.1*** below.

Table 4.1 — Group Environmental Management and Performance

Facility	Air	Water	Noise	Waste	Community
Open Cut Mine . .	Dust emissions from vehicular traffic.	Mine is a net water consumer (net water deficit). Additional water requirements are sourced from municipal supplies.	No significant noise issues were identified in relation to open cut operations. However, road transport of ore to the various processing plants will contribute to background noise along the route.	Major emplacement structures are formed by rear-dumping from haul trucks into adjacent valleys to form long, angle-of-repose slopes. The level surface of one of these dumps has recently been rehabilitated.	The Company has worked with local Government to implement landowner relocation and compensation arrangements for residents directly affected by mining operations.

Facility	Air	Water	Noise	Waste	Community
No. 1 Processing Plant	No significant air emissions issues due to processing design and operation.	Water is reclaimed and recycled from Chiniku tailings dam. Although there are no routine operational discharges to streams, discharges occur from washdown and maintenance operations.	Processing plant is located in close proximity to worker accommodation and nearby settlements. Operational noise emissions add to local background levels. No significant noise compliance issues were identified.	All processing waste material is pumped by pipeline to the Chiniku tailings dam, of valley upstream uplift type construction. Current tailings storage is 9.3 Mm^3, dam height is 150 m and dam wall gradient is 1:4.	Residents directly affected by tailings dam and/or processing facility operations have been compensated and moved to new housing areas.
No. 2 Plant and Tungsten Processing Plant	No significant air emissions issues due to processing design and operation.	Water is reclaimed and recycled from Luchanggou tailings dam. While there are no routine discharges to streams, discharges occur from washdown and maintenance operations.	Processing plant is located in close proximity to worker accommodation and nearby settlements. Operational noise emissions add to local background levels. No significant noise compliance issues were identified.	Waste materials from No. 2 Plant and tungsten processing plant report to the Luchanggou tailings dam. Dam currently contains 5.5 Mm^3 and has an 87 m high wall at slope 1:4.5.	Residents directly by tailings dam and/or processing facility operations have been compensated and moved to new housing areas.
No. 3 Processing Plant	No significant air emissions issues due to processing design and operation.	Water is reclaimed and recycled from Yangshuwa tailings dam. No routine discharges to streams, but discharges occur from washdown and maintenance operations.	Processing plant is located in close proximity to worker accommodation and nearby settlements. Operational noise emissions add to local background levels. No significant noise compliance issues were identified.	All processing waste material is pumped by pipeline to the Yangshuwa tailings dam, of valley upstream uplift type construction. Current tailings storage is 3.4 Mm^3, dam height is 68 m and has significant expansion potential into the future.	Residents directly affected by tailings dam and/or processing facility operations have been compensated and moved to new housing areas.

Facility	Air	Water	Noise	Waste	Community
Sanqiang Processing Plant	No significant air emissions issues due to processing design and operation.	Water is reclaimed and recycled from tailings dam. No routine discharges to streams, but discharges occur from washdown and maintenance operations.	Processing plant is located in close proximity to worker accommodation and nearby settlements. Operational noise emissions add to local background levels. No significant noise compliance issues were identified.	All processing waste material is pumped by pipeline to the Sanqiang tailings dam, of valley upstream uplift type construction. Built in 2004, the dam has significant expansion potential. Current dam height is 60–70 m and dam wall gradient is relatively low angled.	Residents directly affected by tailings dam and/or processing facility operations have been compensated and moved to new housing areas.
Dadongpo Processing Plant	No significant air emissions issues due to processing design and operation.	Water is reclaimed and recycled from Liushuigou tailings dam. No routine discharges to streams, but discharges occur from washdown and maintenance operations.	Processing plant is located in close proximity to worker accommodation and nearby settlements. Operational noise emissions add to local background levels. No significant noise compliance issues were identified.	All processing waste material is pumped by pipeline to the Liushuigou tailings dam, of valley upstream uplift type construction. Current tailings storage has reached Stage 1 capacity. Stage 2 extension and engineering works under construction.	Residents directly affected by tailings dam and/or processing facility operations have been compensated and moved to new housing areas.
Jiuyang Processing Plant	No significant air emissions issues due to processing design and operation.	Water is reclaimed and recycled from tailings dam. No routine discharges to streams, but discharges occur from washdown and maintenance operations.	Processing plant is located in close proximity to worker accommodation and nearby settlements. Operational noise emissions add to local background levels. No significant noise compliance issues were identified.	Waste material reports to dedicated tailings dam. This facility was not able to be inspected due to wet weather access problems. Details of its structural and operational status were not available.	Residents directly affected by tailings dam and/or processing facility operations have been compensated and moved to new housing areas.

Facility	Air	Water	Noise	Waste	Community
Roasting and Smelting Plant .	Air emissions report to flue gas desulphurization scrubber that meets compliance standards. However due to a breakdown, this pollution control plant was undergoing maintenance at time of inspection.	No routine discharges to streams, but discharges occur from washdown and maintenance operations.	No significant noise compliance issues were identified.	Waste materials from processing are available for recycling and reuse, although comprehensive details not available.	No specific community issues have been identified.
Refinery	No significant air emissions issues due to processing design and operation.	Routine water discharges occur but these are of pure water generated by the production process. This pure water discharge poses no threat to the environment.	No significant noise compliance issues were identified.	The plant produces very little waste products because the primary production system achieves nearly a 100% product yield.	No specific community issues have been identified.

ANNEXURE A — QUALIFICATIONS AND EXPERIENCE

David Meldrum — Managing Director of Minarco — Bachelor of Engineering (Mining Hons) — Graduate Diploma in Applied Finance — First Class Mine Managers Certificate of Competency — Member of Australasian Institute of Mining and Metallurgy (Chartered Professional) — Fellow of Financial Services Institute of Australasia.

David has a First Class Mine Managers Certificate of Competency with over 25 years experience associated with the mining industry within Australia and overseas. During this period he has undertaken all levels of technical studies and audits of current and prospective operations in Australia, China, New Zealand, South Africa and Indonesia. Apart from providing advice to numerous financiers, David has finance industry experience having been an Investment Banker and having carried out studies for both lenders and investors.

David concentrates on providing technical and commercial advice to both the mining and finance industries. This work includes advising clients on the sale and/or purchase of mining projects and has involved development of business strategies to maximize the value of the opportunities. David also has extensive experience in reserve estimation.

Andrew Ryan — Chinese Business Manager, Minarco Asia Pacific (China Branch Office) — Bachelor of Engineering, Mining — University of New South Wales — Member of Australasian Institute of Mining and Metallurgy — Associate of Financial Services Institute of Australasia.

Andrew has worked with Minarco over the past five years and has been actively involved in all areas of mining consulting. Most recently, in 2005 Andrew moved to Beijing as Minarco's Chinese Business Manager (Technical) responsible for the establishment and growth of Minarco's China business. During this time Andrew has been involved with and/or project managed numerous mining related assignments in China. This work has included the project management of due diligence studies, valuation reports, opportunity assessments, conceptual development studies, and feasibility assessments for both domestic and international clients. The projects that these studies have focused on have covered a variety of minerals including coal, iron ore, gold and molybdenum.

Steve Hyland — Minarco Associate — BSc Geology, Member of Australasian Institute of Mining and Metallurgy — CIMM — GAA.

Stephen Hyland has had extensive experience of over 20 years within the industrial minerals and metalliferous mining industry. This experience has been gained whilst working with both large and small mining companies and in a wide variety of mineral provinces within Australia and internationally. Stephen's extensive resource modelling experience commenced whilst working with Eagle Mining Corporation NL in the famous Yandal Gold Province where for three and half years he was their Principal Resource Geologist. Whilst the majority of his time there had been developing the now successful Nimary Mine, he also assisted the regional exploration group with preliminary resource assessment of Eagle's numerous exploration and mining leases. Primarily Stephen specializes in Geologic and Resource Block Modelling generally with the widely used Medsystem/ Minesight 3D mine-evaluation and design software.

Bill Knox — Minarco Associate — BSc (Geology), M AusIMM.

Bill is a mining geologist and is based in the Sydney office. Bill's areas of expertise include resource and reserve assessment, geological modelling and mine design using Gemcom software, feasibility studies, operational management and grade/quality control. He has held site positions from mine geologist to mine superintendent and head office positions in business planning and development.

Recent operations work has included alliance management of a large opencut coal mine in NZ on behalf of Solid Energy and the mining contractor, which included developing a planning process and dispute resolution. Technical experience has included resource modelling on coal projects in the Hunter Valley, Indonesia, Bangladesh and Zimbabwe as well as a number of gold, base metal and quarry projects. Other work has concentrated on coal resource/reserve audits of procedures and reporting standards of major coal operations in Australia and Indonesia for presentations to corporate management and resource funding institutions. The range of commodities experience in operations and feasibilities studies includes coal, poly-metallics, gold, oil shale, diamonds and quarries. With reference to the Australasian Code for Reporting of Identified Mineral Resources and Reserves, he is considered a competent person to validate statements for coal and some metalliferous deposits (including molybdenum).

Igor Bojanic — Senior Mining Engineer — Minarco Associate — Bachelor of Engineering (Mining, Hons). University of New South Wales, 1984 — Graduate Diploma in Business, from Curtin University of Technology, WA 1991 — Masters in Applied Science (Environmental Management) from University of New South Wales, 1993 — Member, Australian Institute of Mining and Metallurgy (AusIMM).

His strengths lie in project mine planning and scheduling in opencut metalliferous, coal and quarries. Igor has a very good working knowledge of Gemcom, MicroLynx, Datamine, Surpac and Whittle software. His expertise also covers cost studies, operational planning, equipment characteristics and selection. He has a strong background in metalliferous mining, and in recent years has gained extensive experience, from undertaking conceptual feasibility studies for major Hunter Valley prospects such as Duralie, Saddlers Creek and Mt Arthur North. His experience also extends overseas, having completed planning assignments for a number of Indonesian mining projects such as the Adaro Mine, Sebuku Mine and the Bengalon Mine (KPC). Other international assignments include the Mine Closure Plan for the Golden Cross Mine and start-up planning for the Ohai Coal Mine, both in New Zealand.

Igor also specializes in pit limit optimisation for both metalliferous and coal projects, being familiar with both Whittle 4X suited for metals and Minex Pit Optimizer for coal. He has also worked on a number of quarry projects, developing quarry plans for both operations and to support environmental documents.

Steve Craig — Minarco Associate — Bachelor of Engineering in Mining Engineering — Member of Australasian Institute of Mining and Metallurgy — Quarry Managers Certificate of Competency.

Steve has over 18 years of relevant experience in a variety of roles including planning, operations and management. Since January 1995, he has worked as an independent engineer specialising in mine planning consulting, software and training. Steve has worked throughout the world including Australia, UK, USA, Europe, China, South America, Africa, and South East Asia.

This work has been predominantly open-pit with some underground project work. From a minerals perspective, he has worked in base metals and gold. Steve has also provided long term strategic planning advice to numerous major operations throughout the world.

Peter Goodman — Minarco Associate — Bachelor of Applied Science (Process Engineering) — Graduate Diploma in Mineral Processing — Quarry Managers Certificate of Competency — Metallurgy Certificate — Member Australian Coal Preparation Society.

Peter has managed, designed and constructed mineral processing plants in both Australia and South East Asia with over 30 years experience associated with the mining industry. During this period he has undertaken all levels of technical studies and audits of current and prospective operations in Queensland, NSW, China, New Zealand, India, South Africa and Indonesia. Peter has numerous mineral processing plants that have been built or are currently under construction in China as well as other countries.

Peter R Smith — Senior Associate — Bachelor of Arts (Environmental Science Geomorphology Land Management) — Master of Environmental Studies — Master of Environmental Law — Member, Environment Institute of Australia & New Zealand — Fellow, Australian Institute of Energy — Member, Clean Air Society of Australia and New Zealand.

Peter has over 25 years' experience in environmental planning and management for mining, industrial, urban and infrastructure projects. Peter is experienced in the corporate sector (mining), industry association (mining, exploration & extractive industries), consultancies and Government sector for investigation, analysis, preparation of environmental reports and audits, and project management of multiple resource and infrastructure development studies. Peter has previously been Director of Environment and Development at NSW Minerals Council, Group Environmental Manager at Cyprus Australia Coal/Oakbridge Ltd, and Corporate Environmental Co-ordinator at Exxon Coal and Minerals Australia Ltd. Peter has been appointed to the Board of the Centre for Mined Land Rehabilitation. Peter is a specialist in mining environmental policy and regulation, and assessment and management of minerals industry operations.

Business Registration and Qualifications

Minarco is incorporated in the New South Wales State of Australia and has operated continuously in Australia since 1995. It has a "Liaison Office" in China since in 2005 and is currently seeking approval to establish a "Wholly Owned Foreign Enterprise" (WOFE) in China.

Minarco is one of the Asia Pacific regions more prominent mining and energy industry advisors. Minarco has evolved from a coal industry consultancy focused on Australia to a group which now:

- Provides a full range of services from pure technical consulting through to strategic corporate advice;
- Undertakes assignments on projects covering a range of mining commodities and countries; and
- Services clients in most of the countries around the West Pacific Rim region.

The Company's corporate office is in Sydney, Australia and its office in Beijing, People's Republic of China supports its rapidly growing business in northern Asia. Minarco employs over 75 associates and consultants. A number of Minarco's associates and consultants have occupied senior corporate management operational roles and are very well experienced from an operational view point as well as being independent expert consultants.

Some of Minarco's more prominent technical advisory roles for major capital raisings have included:

- 2006 Excel Mining — Independent Technical Experts Report in relation to acquisition by Peabody Coal.
- 2006 Longmay Coal Mining Group — Preparation of CPR report for planned IPO on the HKSE;
- 2005 Yanzhou Coal Mining Company Limited — Independent Technical Review of coal projects to satisfy ongoing listing requirements of the HKSE and New York Stock Exchange following IPO;
- 2004 Excel Mining — Independent Technical Review for Australian Stock Exchange;
- 2003 Xstrata plc — Competent Person's Report for London Stock Exchange. Chapter 19 Report for Acquisition of MIM Assets including mines, rail and port review; and
- 2002 Xstrata plc — Competent Person's Report for London Stock Exchange IPO.

In all the above cases, Minarco reported both resources and reserves in accordance with the JORC Code.

ANNEXURE B — GLOSSARY OF TERMS

The key terms used in this report include:

- **assets** means molybdenum mines, processing plants, refining plants, smelting plants and associated infrastructure
- **alloy stee**l is carbon steel to which various elements, such as chromium, cobalt, copper, manganese, molybdenum, nickel, tungsten, or vanadium have been added in sufficient amounts to obtain desirable physical and chemical properties
- **ammonium molybdate** is a white, crystalline salt which is used as an analytic reagent, as a precipitant of phosphoric acid, and in pigments
- **antimony** is a metallic element having four allotropic forms, the most common of which is a hard, extremely brittle, lustrous, silver-white, crystalline material. It is used in a wide variety of alloys, especially with lead in battery plates, and in the manufacture of flame-proofing compounds, paint, semiconductor devices, and ceramic products
- **associated minerals** are minerals which are found with the primary mineral of interest, and form in similar environments, irrespective of the location

- **carbon steel** is steel in which the main alloying element is carbon, and whose characteristics are determined by the amount of carbon contained

- **catalyst** is a substance which increases the rate of a chemical reaction without being consumed in the process

- **CIF** (Cost Insurance and Freight) is a trade term requiring the seller to arrange for the carriage of goods by sea to a port of destination, and to provide the buyer with the necessary documentation to receive the goods from the carrier

- **concentrate** is the products of ore processing plants which contains higher concentrations of the target minerals suitable for smelting, e.g. tungsten concentrate and molybdenum concentrate

- **crush** means to break, pound, or grind (stone or ore, for example) into small fragments or powder

- **current** means as at December 31, 2006

- **ESP** stands for electrostatic precipitator, which is used for the removal of particulate matter from gaseous emissions to atmosphere

- **ferromolybdenum** is an alloy of iron containing up to 60% molybdenum

- **flotation** is a selection method for to the recovery of minerals using reagents to create a froth that collects target minerals

- **full alloy steel** means a metal alloy whose main component is iron with some carbon content

- **GB/T 28001-2001** means GB/T 28001-2001 is a set of standards adopted by the Standardization Administration of the PRC for occupational safety and health management

- **GPS-RTK technology** stands for global positioning system real time kinematic technology, a satellite technology survey tool that uses both signals from satellites as well as signals from one or more ground based reference receivers to survey a position with greater precision than conventional GPS technology. RTK is a technique employed in applications where precision is paramount. The use of an RTK-capable GPS system can compensate for atmospheric delay, orbital errors and other variables in GPS geometry, increasing positioning accuracy up to within a centimeter

- **GPS technology** stands for global positioning system technology, which is a technology system comprising satellites and receiving devices used to compute positions on the Earth. GPS is used in navigation, and its precision supports cadastral surveying

- **grade** is the percentage of useful elements or their components, in ore

- **grind** means to crush, pulverize, or reduce to powder by friction, especially by rubbing between two hard surfaces

- **high performance alloy** means a type of metal alloy that is versatile and corrosion resistant

- **HKSE** stands for Hong Kong Stock Exchange

- **HPa** stands for hectapascal, a unit of atmospheric pressure. One hectapascal is equal to 1 millibar of pressure

- **high speed steel** means a type of steel containing high quantities of refractory metals such as tungsten, chromium, molybdenum, vanadium and occasionally, cobalt, and forms carbides that provide hardness, high temperature strength and wear resistance

- **HSLA steel** means a high strength low alloy steel that is stronger and tougher than ordinary plain carbon steels

- **ISO 9001:2000 Quality Management System** is a set of standards adopted by the Standardization Administration of the PRC for quality management systems

- **ISO 14001 : 2004 Environmental Management System** is a set of standards adopted by the Standardization Administration of the PRC for environmental management systems

- **JORC** stands for Joint Ore Reserves Committee

- **JORC Code** refers to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2004 edition, which is used to determine resources and reserves, and is published by JORC of the Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists and the Minerals Council of Australia

- **ITRR** stands for Independent Technical Review Report

- **ITR** stands for Independent Technical Review

- **lb** stands for pound, a unit of weight equal to 453.592 grams

- **CMOC** stands for China Molybdenum Co., Ltd.

- **m** stands for meters

- **Marketable Reserves** means saleable reserves as defined under the JORC Code

- **Minarco** refers to Minarco Asia Pacific Pty Limited

- **mine production** is the total raw production from any particular mine

- **mining rights** means the rights to mine mineral resources and obtain mineral products in areas where mining activities are licensed

- **molybdenite** is a mineral form of molybdenum sulphide, MoS_2, which is the principal ore of molybdenum

- **molybdenum concentrate** is a solution or substance which contains a concentrated form of molybdenum

- **molybdenum disulfide,** MoS_2, is a black crystalline sulphide of molybdenum, which occurs as the mineral molybdenite

- **molybdenum oxide,** MoO_3, is an oxide of molybdenum which dissolves slightly in water to form molybdic acid

- **molybdenum powder** is a powder produced by the reduction of molybdenum trioxide by hydrogen

- **Mt** stands for million tonnes

- **Mt per annum** means million tonnes per annum

- **open-pit** is a method of surface mining in which massive, usually metallic mineral deposits are removed by cutting benches in the walls of a broad, deep funnel-shaped excavation

- **ore** is a naturally occurring solid material from which a metal or valuable mineral can be extracted profitably

- **ore processing** is the process through which physical or chemical properties, such as density, surface reactivity, magnetism and color, are utilized to separate the useful components of ores from useless stones, which are then concentrated or purified by means of flotation, magnetic selection, electric selection, physical selection, chemical selection, reselection, and combined methods

- **porphyry deposit** is an igneous rock deposit that has the appearance of large grains floating in a fine-grained groundmass

- **primary mineral deposits** are mineral deposits formed directly from magmas, which are subsequently altered through weathering, both chemical and mechanical, to give rise to secondary deposits

- **raw ore** is ore that has been mined and crushed in an in-pit crusher, but has not been processed further

- **Recoverable Reserves** refers to a subset of the sum of Proved and Probable Reserves as defined by the JORC Code

- **RC** stands for Reverse Circulation drilling which is a method of exploratory drilling used to evaluate and test drill targets

- **Rhenium** is a silvery white metal with a high density and a high melting point. It is used in flash lamps for photography and for filaments in mass spectrographs and ion gages, but is most frequently used as an alloying agent in tungsten and molybdenum and as a catalyst in certain applications

- **RMB** stands for Chinese Renminbi Currency Unit

- **roast** means to heat ores in a furnace to dehydrate, purify, or oxidize before smelting

- **ROM** stands for run-of-mine, being material as mined before beneficiation

- **Short Delay Blasting** is a blasting method where the explosive charges are detonated with a very short delay interval between them

- **smelt** means to fuse or melt ore in order to separate the metal contained

- **stainless steel** refers to any steel alloy containing at least 10% chromium, and in some instances other elements including nickel that resist corrosion or rusting from exposure to moisture

- **tailings** is the material that is produced after ore has been processed to extract the target minerals

- **Technical Molybdenum Oxide** (TMO) is the product of roasted molybdenum concentrate, and is the raw material for the preparation of most other molybdenum products, and can be added to steel, cast iron and other metal alloys. It is of very high purity

- **tonne** refers to metric tonne

- **tool steel** means a variety of carbon and alloy steels that are particularly well suited to be made into tools. Their suitability comes from their distinct toughness, resistance to abrasion, their ability to hold a cutting edge and/or their resistance to deformation at elevated temperature (red-hardness)

- **tpa** stands for tonnes per annum

- **tpd** stands for tonnes per day

- **tungsten** is a hard, brittle, corrosion-resistant, grey to white metallic element extracted from wolframite, scheelite, and other minerals, and has both the highest melting point and lowest vapor pressure of any metal

- **VALMIN Code** refers to the code and guidelines for technical assessment and or valuation of mineral and petroleum assets and mineral and petroleum securities for independent expert reports

- **WO_3** is the chemical formula for tungsten trioxide, an intermediary compound in the process of converting tungstates to pure tungsten

- ¥ is the symbol for the Chinese Renminbi Currency Unit

Note: Where the terms Competent Person, Inferred Resources and Measured and Indicated Resources are used in this report, they have the same meaning as in the JORC Code.

ANNEXURE C — RESOURCE AND RESERVE STATEMENTS

C1 — Resources

The primary method chosen for the review of the Luanchuan molybdenum — tungsten resources associated with Sandaozhuang Mine, was by way of running a completely independent set of "parallel" resource model interpolation calculations. The technique chosen for this review was a standard block model interpolation technique known as Ordinary Kriging. This technique is considered "superior" to the standard inverse distance interpolation methods as it applies sample weightings to the interpolation process that are derived directly from the geostatistically derived parameters from the deposit being modelled. The data used for this adjustment of weighting is by use of variograms which describe the aspects related to the "spatial distribution" of sample within the deposit. The new ordinary Kriging model used was in effect exactly the same as the CMOC "Inverse Distance Squared" block model.

Nature of Evidence

The original electronic geological model (prepared by the Changsha Design Institute using SURPAC software) was constructed primarily with data obtained from the 128 diamond cored drill holes which were completed between 1981 and 1986. Whilst the actual assay data quality was not closely interrogated, it is Minarco's opinion that there are sufficient numbers of samples including the large number of diamond drill samples that allowed the formation of a view that the drilling databases are both extensive and robust.

It is Minarco's opinion that drilling and sampling procedures employed at the various Luanchuan project areas were consistent with accepted practices at the time and in line with the standard Chinese industrial standards and practices.

Exploration and Geological Data Reviewed

The bulk of previous exploration was carried out by various geologic and mining investigation teams from the late 1950s through to the late 1990s. A summary of previous exploration programs for the Luanchuan (Main Pit) Area mineral deposits is given in ***Table C1*** below.

Table C1 — Luanchuan (Main Pit) Area — Summary of Previous Exploration/Resource Development

Company/Group	Period (Year)	Work Completed (Year)
Qinling District Exploration Team	1956	1956
"Yu01" Team of Henan Provincial Geology Bureau	Oct 1957 to March 1959	1959
"No. 3" Geology Investigation Team of Henan Geology Bureau	April 1970 to Dec 1971	1971
"No. 1" Geology Investigation Team of Henan Geology Bureau	April 1974 to Sep 1979	1979
"No. 1" Geology Investigation Team of Henan Geology Bureau	1981 to July 1984	1984
Henan ore reserve committee	July 1984	1984
"No. 1" Geology Investigation Team of Henan Geology Bureau	June 1986	1986
Underground mine development and production	1980s to the early 1990s	1991
Open-pit mining operation study/expansion	1991 to 1998	1998
Open-pit mining production commenced	June 1998	2006

Note: Source: Feasibility Study Document

Drilling Sampling and Analysis

Historic drilling and sampling details are documented in the Mine Feasibility Study report. Most of the preliminary resource evaluation work was carried out through the use of underground investigation and development along with the associated channel and face sampling of development drives and cross-cuts that were used during mine production periods. A further additional and extensive diamond drilling program was carried out for the deposit to help determine the open-pit mining potential, mostly during the period from 1981 to 1986. The remaining "split" diamond core from this drilling program was not stored on site and therefore was not available for direct review. It is clear from the review of the logged diamond drilling data and associated exploration and mine area cross sections and plans that there is now a very well developed understanding of the geology and mineralogy of the Luanchuan deposit. All subsequent resource development work was carried out with the knowledge that there is a sound data-set supporting all the subsequent resource estimations and where necessary many of the unknown or assumed parameters typically necessary for mineral deposit analysis have been minimized.

Diamond Drilling

Most historic diamond drilling was undertaken using "single tube" drill bit with core recovery. Collar positions were variable according to the rugged and steep terrain and all drill-hole collars were surveyed by mine surveyors and included comprehensive down-hole surveys. A total of 128 drill-holes were completed.

The total drilled distance for all these holes combined is approximately 40,516 meters. The drill-holes are typically drilled on a 100 x 100 meters or a 100 x 200 meters spacing pattern. Most drill-holes are drilled vertically with depths typically within the range of 300 to 400 meters. The deepest drill hole recorded reached a maximum depth of 993 meters from surface.

Rotary Percussion Drilling

Rotary Percussion drilling is carried out extensively using standard hammer drill bits and sometimes tri-cone roller bits for much of the blast hole drilling within the open-pit mine area. Sampling from these "open holes" is typically carried out for grade control purposes.

Sampling Methodology

The importance of the collection of representative samples for any mineral deposit being developed or exploited cannot be overstated. The Luanchuan molybdenum tungsten deposit generally appears to have relatively uniform mineral distribution characteristics, however there are some important aspects related to sample quality, density and distribution which have a direct bearing on issues such as sample support.

Diamond Core Sampling

Limited information was provided on the diamond core sampling techniques.

Rotary Percussion Drill-Hole Sampling

Typically one grade control sample is collected from the drill cuttings (chips) recovered from the length of the entire drill-hole. The total sample length represented in this way will typically be 12 to 14 meters which in practice may include 2 meters of blasting "sub-drill". Analytical samples are collected from each drill-hole from the accumulated "cone" or "rill" of drill-chips accumulated around the drill-hole collar. The actual sample collection is by "cross-cut" sampling of the sample pile or "cone" using a two "trenches or channels" "excavation" approach ideally in two lines perpendicular to each other. Samples are submitted to one of the on-site laboratories. Blast hole collar positions for all blast-holes are surveyed by the mine surveyors and the assay results for each hole are plotted on grade control preparation plans. These data are then used to calculate an arithmetic average grade for the current blast or "dig" block, prior to any scheduling and/or commencement of mining production operations.

Sample Preparation and Analytical Procedure

Various sample preparation and assaying methods have been used by the historic exploration programs as shown in ***Table C2***.

The deposit structure of the orebody is shown in ***Figure C1***.

Figure C1 — Deposit Structure of the Orebody

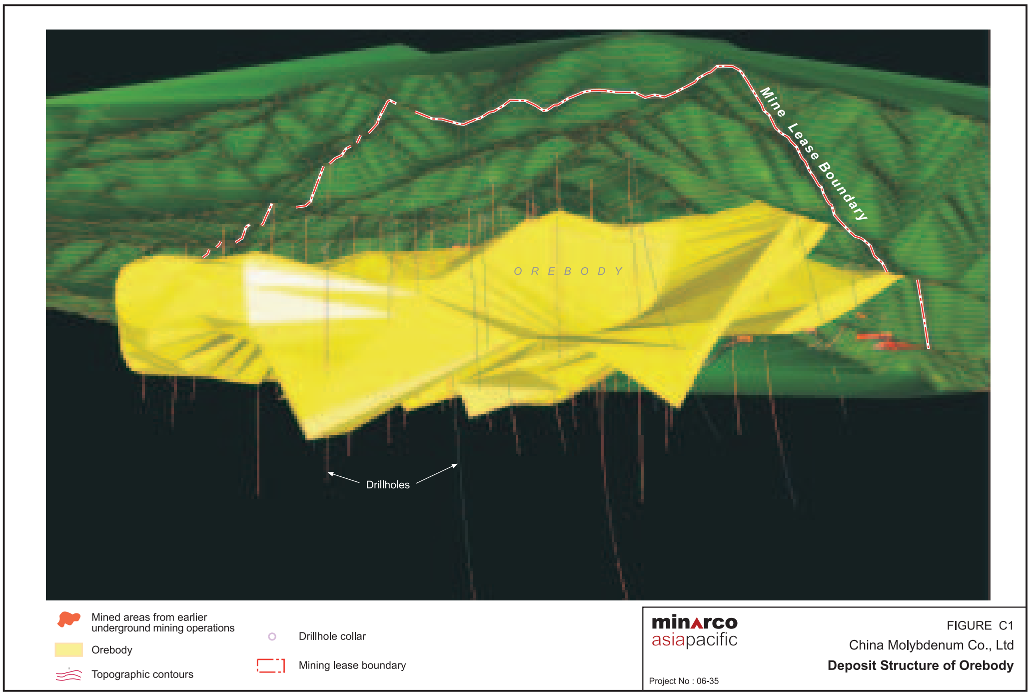


Table C2 — Summary of Various Sample and Assay Techniques Used

Sampling techniques . .	Extensive "face"/channel rock chip sampling was undertaken in the old underground mining areas. The information derived from this ongoing mine development program allowed for the later consideration of the development of the open-pit resource. Samples were collected over 1 meter intervals and riffle split, bagged and dispatched to the laboratories. Diamond core was cut according to lithological intervals and generally sampled on average at 2 meter intervals. These samples were then dispatched to one of the onsite laboratories. **LOW RISK**
Drilling techniques . . .	The Sandaozhuang Mine Mineral Resource estimates are based on the results of 128 diamond core drill-holes. Most of the drilling relevant to the current resource estimation was conducted by project owners prior to the current CMOC involvement. **LOW RISK — MODERATE RISK**
Drill sample recovery .	No records relating to historic (pre CMOC) underground sampling or diamond core sample recoveries have been reviewed, however, where described, sampling and recovery procedures are consistent with Chinese industry standards. **LOW RISK — MODERATE RISK**
Logging.	All RC and diamond core samples were geologically logged recording all significant properties, to allow geological maps and sections to be constructed. **LOW RISK**
Sub-sampling techniques and sample preparation. .	Most of the historic diamond core was sampled using impact splitting or a diamond saw to provide half core sample lengths ranging from 0.1 meters through to a maximum sample length of 31 meters. The overall sample interval average is 2.0 meters. **LOW RISK — MODERATE RISK**
Quality of assay data and laboratory tests .	Most of the historic diamond core samples were assayed at the mine's in house laboratory, mainly using optical spectroscopy and fire assay (aqua regia) techniques. All samples were assayed primarily for Mo and W (WO_3) however other assays for associated elements such as Cu, Fe, Zn, S, Co Ga and Re were also carried out. **LOW RISK — MODERATE RISK**

Verification of sampling and assaying	Historic assay quality control measures are largely unknown. A very large amount of the assay data including underground data relates to resources that have subsequently been mined. Historic quality assurance and quality control data relating to the remaining resources is either no longer available or is not consistently reported. Given the large amount of exploration data from both the old underground operations and the more recent diamond drilling and the long time period over which the data was generated it was not possible for Minarco to independently verify the quality of the data in the short time available for this review. Communication with on-site personnel indicated that most sampling of regular duplication produced satisfactory results compared with those reported from drill programs. A program of laboratory sample cross checking with other laboratories is understood to have systematically undertaken place for independent analysis and provided satisfactory comparisons with respect to reported metal content. Information regarding the regular use of field duplicates, standards and blanks for the exploration and development program at the Sandaozhuang Mine open-pit operation is unknown and data was not available for this study. No "twin-drilling" of diamond holes has been carried out to ascertain localized sample variances, however it has been observed that the relatively close proximity of some of the drill-holes (~50m spacing) display quite good assay correlation for similar depths and intervals within specific mineralization zones. **MODERATE RISK**
Location of data points	Underground sampling and associated location data was not reviewed closely for this study however the diamond drill-hole positions have been surveyed to sub-meter accuracy using "Total Station" surveying systems. The locations and the number of underground sampling points are unknown and records relating to this are not presently available. In addition the actual underground survey dataset describing the total mined out volumes and production tonnages and grades is also not available. The underground stope volume "solids/wireframes" provided by CMOC is only an "approximation" describing main previous production locations. Nearly all of the diamond drill-holes at the Sandaozhuang Mine are longer than 100 meters and have been down-hole surveyed. Drill-holes less than 100 meters long typically show a minor degree of down-hole deviation. The deeper drill-holes show minor to moderate down-hole deviation. Even though they were all drilled vertically it should be noted that the drill-hole traces tend to display a predictable down-hole deviation. **LOW RISK**

Data density and distribution	Average drill-hole density at Sandaozhuang Mine Area is approximately 100 x 100 meters extending to 100 x 200 meters or more in places towards the edges of the project area. This data density easily falls within the typical "between hole" variogram ranges observed by Minarco. Effective drill density in the central part of the deposit is at approximately 100 x 100 meters. The RC drilling used in grade control in the open-pit operations has a variable spacing depending on the localized material type determination communicated to the mining engineering division by the on-site mine geologist. Typical drill spacing is on 5 x 6 meters to 6 x 8 meters centres. **LOW RISK**
Orientation of data in relation to geological structure	Both the Diamond drill-holes and the RC blast holes being vertically oriented tend to be perpendicular to and therefore adequately intersect with the main horizontally oriented mineralized ore zone structures containing the bulk of the Mo and WO_3 mineralization. **LOW RISK**
Audits or reviews. . . .	Minarco has not conducted a thorough review of the sampling and assay techniques for any of the data available as at July, 2006. **MODERATE RISK**

Data Integrity — Diamond Drill-Hole and Block Model Data

The electronic data received from CMOC was reviewed and loaded by Minarco into MEDSYSTEM/MineSight™ as part of a standard verification process. The data was found to be complete with respect to acquiring all the data that CMOC used to construct their own "Inverse Distance Squared" block model. During this interrogation process Minarco found no inconsistencies with respect to issues such as missing data, duplicate records or assay interval overlaps. Whilst the actual assay data quality was not closely interrogated it is Minarco's opinion that there are sufficient numbers of samples including the large number of diamond drill samples that allowed the formation of a view that the drilling databases are both extensive and robust. A certain amount of qualitative repeatability was observed between the closest adjacent drill-holes. Minarco has avoided making any assumptions regarding actual analytical assay data quality, but is of the opinion that repeating or "twinning" some of the older drilling will increase the confidence of any future Mineral Resource re-estimations. It is Minarco's opinion that the sampling procedures employed at the various Sandaozhuang Mine Areas were consistent with accepted practices at the time and in line with the standard Chinese industrial standards and practices.

International Standards and the JORC Code for Resources

Two main styles of resource reporting codes exist internationally. These are the American style (USA and much of South America) and the JORC style (Australia, South Africa, Canada, UK). This is further complicated by the listing and reporting requirements of different stock exchanges. It is generally true that a resource estimation that complies with the JORC Code (or one of its sister codes) will meet the standards of most international investors.

The New Chinese Code is a blend of the old Chinese Code and the codes in current use today, including JORC and the current United Nations (UN) standard, with some additional local components added. In order to facilitate the translation of the Sandaozhuang Mine resources into a JORC style estimate, a comparison of the codes is worthwhile. Ultimately the generation of a new comparative resource model is the best way to review resource estimates and categorization under JORC.

JORC is a non-prescriptive code, in that it does not lay out specific limits for resource classification in terms of such things as borehole spacing. Instead it emphasizes the principles of transparency, materiality and the role of the Competent Person. Whilst some guidelines do exist (e.g. the Australian Guidelines for the Estimation of Coal Resources and Reserves) they are not mandatory and classification is left in the hands of the Competent Person. When combined with its professional standards (which are effectively mandatory), the Chinese Code is much more prescriptive but does not include the role of the Competent Person.

An examination of the details of the Chinese Code suggests that in terms of broad categorization, the levels of geological confidence ascribed to Measured and Indicated resources are quite similar in both the codes. The sort of borehole spacings, thickness cut-offs and quality limitations that are enforced by the Chinese system would generally result in the same resource classification under the JORC Code.

The JORC Code uses the following general definitions for Measured, Indicated and Inferred Mineral Resources:

Measured Mineral Resource is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity.

Indicated Mineral Resource is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.

Inferred Mineral Resource is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a low level of confidence. It is Inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes which may be limited or of uncertain quality and reliability.

The JORC Code uses the following general definitions for Proved and Probable Ore Reserves:

Proved Ore Reserve is the economically mineable part of a Measured Mineral Resource. It includes diluting materials and allowance for losses which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors.

Probable Ore Reserve is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. It includes diluting materials and allowance for losses which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified.

Mineral Resource Statement

As part of this assignment, Minarco prepared a separate JORC compliant Statement of Mineral Resources for CMOC. The assessment of the Geological Resources was in every way compliant with JORC Code reporting requirements. The report was signed by Mr Bill Knox, a Competent Person as defined in the JORC Code. This section contains the relevant extracts from this report (titled: "Statement of Opencut Resources, Sandaozhuang Molybdenum Project, February 2007"). The results for the final JORC Mineral Resource Statement are summarized in ***Table C3***.

Table C3 — Mineral Resource Statement

Total (Mt)	Measured (Mt)	Indicated (Mt)	Inferred (Mt)	Mo%	WO_3%
736	405	317	15	0.10	0.09

Note 1: Based on a cut off grade of 0.03% molybdenum.

Note 2: Mineral Resource estimates are measured for the insitu orebody within the boundary of CMOC's mining lease.

Note 3: Grades are expressed to two decimals only to reflect the order of accuracy associated with the results.

Note 4: A default density of 3.2 tonnes/bcm was applied for Mineral Resources.

Note 5: Mineral Resources are inclusive of Ore Reserves.

Some analysis has been completed to demonstrate how sensitive the Mineral Resource Estimate is to changes in cut off grade. The results of this analysis are summarized in ***Table C4***.

Table C4 — Mineral Resource Sensitivity to Different Cut off Grades

Ore Resource Sensitivity to Alternative Cut Off Grades	Mt	Mo%	WO_3%
0.03%	736	0.10	0.09
0.04%	703	0.10	0.09

Reconciliation to Confirm Confidence

As part of Minarco's overall process of confirming confidence in the ability of the previous geological model in predicting the ore grades, Minarco instructed CMOC to complete a brief reconciliation. This reconciliation compared the expected grade from the previous geological model (the original model provided by the Company) with actual production data obtained from mining. As the original geological model did not have geological boundaries, reconciliation of ore tonnage and waste volumes could not be reviewed. High variances of grade were observed for small areas (benches) as expected. However this initial reconciliation indicates that for a 6 month period

(December 2005 to June 2006) model estimates for grade were very close to actual production. These measures support Minarco's opinion that the current geological model provides adequate geological confidence as the basis for reliable estimates of Ore Reserves.

C2 — Reserves

The Reserve Estimates Calculated by the Company

As part of this assignment, Minarco prepared a separate JORC compliant Statement of Ore Reserves for CMOC. The assessment of the Ore Reserves was in every way compliant with JORC Code reporting requirements. The report was signed by Mr Igor Bojanic, a Competent Person as defined in the JORC Code. This section contains the relevant extracts from this report (titled: "Statement of Opencut Reserves, Sandaozhuang Molybdenum Project, February 2007"). The results for the final JORC Mineral Resource Statement are summarized in ***Table C5***.

Table C5 — Ore Reserve Statement (as at December 31, 2006)

Total JORC Reserves Mt	Proved Reserves Mt	Probable Reserves Mt	Mo%	WO_3%	Contained Molybdenum Metal (Kt)	Contained Tungsten Metal (Kt)
467	303	163	0.11	0.11	498	506

Note 1: Ore Reserve estimates are measured for the insitu orebody within the boundary of CMOC's mining lease.

Note 2: Grades are expressed to two decimals only to reflect the order of accuracy associated with the results.

Note 3: Values may not add due to rounding.

Note 4: A default density of 3.2 tonnes/bcm was applied for Ore Reserves.

Cut-off Parameters and Pit Limits

The final pit limit was determined by interrogating the geological model within the mining lease using the Whittle 4X pit optimisation software. The Whittle 4X software uses a three-dimensional Lerchs-Grossman algorithm to determine the economic mining limits based on the input parameters. This approach is well accepted by the mining industry and is considered the most appropriate method for this type of deposit.

Minarco assumed an overall slope of 45 degrees to be adequate for this rock type as a geotechnical study on the potential final pit has not been done.

Existing waste dumps, process plant, tailings dam and other major infrastructure are located outside of the mining lease. It is understood that approval is granted for this practice and that it will continue into the future. Hence, the mining limits were not restricted within the mining lease to allow for this or future infrastructure.

Mining and Metallurgical Factors (Resources to Reserves Methodology)

The determination of mining reserves involved application of a number of mining and metallurgical factors. The first step involved applying a 5% ore loss and 5% mining dilution to the in situ geological model to convert from in situ to ROM (or recoverable) ore tonnes. This was completed within the Whittle 4X software as part of the pit optimisation process.

The Whittle 4X software also provides the economic ore tonnes contained within the final pit shell. This pit shell is, however, a theoretical shell and does not fully allow for the practicalities of mining such as pit access. Based on the overall pit shape, a further 10% ore loss was then applied to allow for that which may be lost when designing a pit with a more practical shape.

The recoverable metal was determined using a spreadsheet and metal grades and the metallurgical recoveries of 90% and 65% for molybdenum and tungsten, respectively.

Losses due to underground mining have already been accounted for in the geological model.

COST AND REVENUE FACTORS

The following cost and revenue assumptions were used to identify ore tonnes within the pit shells that are economic. All costs and revenues are in US dollars unless otherwise stated.

Mining information provided suggests that the forecast mining cost is approximately $1.50/ tonne mined which compares well with historic results between $1.20/t and $1.35/t. mined. To allow for any mining difficulties as the mine expands and gets deeper, Minarco has assumed a 15% contingency over and above this cost. In addition, an allowance was made for increasing mining cost with pit depth at $0.003/t/m.

The non-mining costs and revenue factors used are summarized in ***Table C6***.

Table C6 — Reserve Estimate Inputs

Cost Component	Units	Optimisation Input
Molybdenum Ore Processing	$/t ore	7.5
Tungsten Ore Processing	$/t ore	2.5
Total Processing Cost	$/t ore	10
Overheads	$/t ore	0.5
Long Term Molybdenum Selling Price	$/lb	8
Long Term Tungsten Selling Price	$/lb	7

OTHER RELEVANT FACTORS

Other relevant factors to be considered in the understanding of the Reserve Statement results are:

- No comprehensive life of mine plan has been completed to allow detailed forecast of long term mining costs;
- The existing Mining Licence in place is specifically for molybdenum with Government approval for tungsten production based on an agreed quotas; and
- A geotechnical study has not been completed to advise appropriate design parameters for the proposed pit.

Though the rock is reportedly competent, the geotechnical slope angle is an issue as wall heights for the proposed final pit are up to 400 m high. Furthermore, a large fault exists on the northeast of the deposit which could weaken walls. A sensitivity analysis undertaken to better understand this issue determined that pit reserves could fall by 8.5% (or 40 Mt) at an overall slope of 35 degrees. Given the current production rate of 10 Mt per annum, this reduces the mine life from 46 to 42 years which is not considered material in terms of value.

In addition, the reported ore quantities within this Statement may change following detailed design of the final pit shell. Our experience is that the optimal pit shells typically produced by Whittle do not fully allow for the practicalities of mining and often overstate the ore reserves.

The main reason for the difference between the Geological Resource and the Recoverable Reserves is that the ore excluded is located beyond the pit batters and/or was considered not economic to be mined. A check using Datamine software and spreadsheets was completed with the geological model and the final pit shell to confirm the losses.

Dilution and Ore Loss and Losses Associated with Mining Practicalities

The modelling process adopted by Minarco to estimate grades for the Sandaozhuang molybdenum tungsten is an Ordinary Kriged technique. Ore losses in this case are defined as:

- Ore that would be "lost" due to poor mining practices (i.e. ore sent to a waste dump); or
- Small isolated blocks which when mined would incur so much dilution that they would become uneconomical.

Dilution due to minimum mining widths, are not especially relevant due to the massive nature of the ore zones. However, historic dilution of ~5% is probably a function of combining both historic open-pit and underground production tonnages.

A 10% reduction was applied to the ore reserve determined by Whittle to allow for mining practicalities. Though reasonable, a detailed final design is required to confirm ore quantities.

ANNEXURE D — SUMMARY RISK ASSESSMENT

Risk Analysis Outline

The report addresses risks throughout each of the relevant mining, geology, processing, and environment and safety sections as they relate to the specific section in discussion. This additional Summary Risk Assessment has been provided to give a more general assessment of risks on a broader level as they relate to the assets as a whole. This section is expected to supplement the discussion of risk conducted in previous sections of the report and not as a replacement.

This section looks at material risks to the achievement of the forecast production and resulting cash flows. The risk analysis does not endeavor to identify and quantify all risks as the list would be extensive. However, the analysis focuses on key, or material, risks and their mitigants.

Any assessment of risk should consider that mining is carried out in an environment where not all events are predictable. Whilst an effective management team can, firstly, identify the known risks, and secondly, take measures to manage and mitigate these risks, there is still the possibility for unexpected and unpredictable events to occur. It is therefore not possible to totally remove all risks or state with certainty that an event that may have a material impact on the operation of a mine, will not occur.

The risks have been ranked in accordance with the guidelines outlined in AS 4360: 1999 Risk Management with the classifications outlined in ***Table D1***.

Table D1 — Qualitative Risk Analysis Matrix

	Consequences				
Likelihood	**Insignificant**	**Minor**	**Moderate**	**Major**	**Catastrophic**
A (almost certain)	S	S	H	H	H
B (likely)	M	S	S	H	H
C (moderate)	L	M	S	H	H
D (unlikely)	L	L	M	S	H
E (rare)	L	L	M	S	S

Risks can be classified from low through to high based on general definitions such as are listed below.

H — High Risk: This implies that there is an immediate danger of failure of a critical project parameter, which if uncorrected, will have a material effect (for example >15 percent) on the project cash flow and performance and could potentially in the worse case lead to loss of life, property, and all production up to and including total project loss or failure.

S — Significant Risk: This implies that there is a danger of failure of a critical project parameter, which if uncorrected, may have a material effect (for example 10 to 15 percent) on the project cash flow and performance unless mitigated by some corrective action.

M — Moderate Risk: Implies a summation of factors, if uncorrected, could have a significant effect (>10 percent) on the project cash flow and performance unless mitigated by some corrective action.

L — Low Risk: Implies that if some factors are uncorrected, it will have little or no effect on project production rates or project economic performance.

General Mining Risks

Historically mining has always been seen as a relatively high risk activity. Whilst there have been many technological advances that help to reduce the risks associated with mining, there are still some instances where failure to anticipate the dynamics of quite complex mining systems has resulted in the loss of production and sometimes in the worst cases, resulting in the loss of life or property.

In reviewing the Sandaozhuang Mine, Minarco has endeavored to analyze areas where there is perceived technical risk to the operation, particularly where the risk component could materially impact the projected production, operating costs and revenues. This assessment is in many areas subjective due to data constraints associated with this type of high level review, however qualitative review and consideration of any other non-measurable operational risks of the operations is still important.

Resources and Reserves

From an economic and production viewpoint, the occurrence of commodities such as industrial minerals and industrial or precious metals and the associated concentrations of these materials cannot always be reliably predicted. Estimations of the tonnes, grade and overall metal content of a deposit are generally unlikely to be precise, as the calculations used to derive resource and reserve quantities are based on interpolation of what should ideally be representative samples from drilling or channel sampling which, even at close sample spacing, may in total only describe the mineral distribution characteristics of a small part of the whole orebody.

There is always a potential error inherent in the extrapolation of sample data when estimating the tonnages and concentrations of mineral or metal commodities within any given rock mass. Significant errors in calculation may occur if the mineral cementations are highly variable or unpredictable due to factors such as complex geology and where for example faulting or folding of rock strata disrupt linear continuity.

Careful review of past production and reserves can confirm the reasonableness of past resource and reserve estimates, but generally, only close attention is paid to factors such as mining recovery and ore loss during the mining process. As a result, such reconciliation reviews may not always confirm the accuracy of resources and reserves with respect to future predictions.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Actual resource and/or reserve tonnage varies significantly from the tonnage estimated by the resource model . .	Unlikely	Moderate	Moderate	Comprehensive exploration program.
Actual resource and/or reserve grade varies significantly from the grade estimated by the resource model	Unlikely	Moderate	Moderate	Comprehensive exploration program supported by positive mining reconciliation.

It should be also noted that when considering the mining project reserves base, the operating revenues used to help determine this are greatly affected by factors such as variations in operating costs, costs of consumables, variations in metal prices and fluctuating exchange rates. Some of the uncertainties relating to these factors can be mitigated or removed through hedging contracts, forward sales, and long term supply contracts.

Given that the extraction behavior of materials and mineral commodities during the actual mining and processing stages can never be wholly predicted, it is generally understood that estimations with respect to project operating costs and project capital will similarly be affected.

Ideally the resources and reserves of mining projects at the planning stage should be estimated to within a level of accuracy of 10 to 15 percent to that of the final project realization.

Mining

The mining methods used by CMOC utilize traditional truck and shovel open cut mining techniques, which have been used to exploit the Sandaozhuang deposit for many years. The methods utilize small scale equipment which allows greater mining flexibility than with bigger equipment but is not necessarily the most efficient. The main downside of using small equipment however is that the large amount of equipment in the pit can lead to congestion on the major haul roads to the in pit crushers. On the upside, small equipment targets both ore and waste from multiple working faces in the pit, reducing the risk associated with operational downtime due to problems at any one working face.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Mining difficulties are experienced leading to substantially lower production levels being achieved	Unlikely	Minor	Low	Simple deposit utilizing large scale conventional open cut mining methods.

The Sandaozhuang deposit was previously exploited using underground mining methods. As a result of these operations, there are significant areas of underground workings and bulk extraction stopes adjacent to the ore targeted for extraction by planned open cut operations. Generally speaking, the majority of underground goaf stope areas are on the north side of the deposit with some smaller areas on the north east side. The old goaf stope areas may represent a mining hazard to both people and equipment working on the surface adjacent to these areas.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Mining difficulties associated with old underground goaf areas lead to lower production levels being achieved	Unlikely	Moderate	Moderate	Stope locations are reasonably well understood and work is ongoing to further improve this knowledge base.

The mining industry worldwide has experienced significant increases in mining costs over the past two to three years. This increase has been observed across the board and has resulted in fundamental increases to the profitability and economic viability of many mining operations. Minarco considers that the risk to CMOC is commensurate with other similar mining operations, although Minarco considers there are a number of opportunities for CMOC to more efficiently mine the deposit and as a result, potentially control operating cost increases. Minarco therefore considers the risk of substantial operating cost increases to be moderate.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Substantial increases in operating costs	Unlikely	Moderate	Moderate	Current operations use small scale mining equipment. There is an opportunity to utilize larger scale mining equipment in the future with potentially lower unit operating costs. Opportunity to optimize existing mine plan to reduce average stripping ratios, particularly in the shorter term.

Primary Processing

The primary processing technique utilized to separate molybdenum from the ore rocks utilizes technology and processes which are both widely used and technically simple. The plants have an operating history, which has achieved on average a slightly lower recovery than is planned for the future, but Minarco believes that the technical upgrades that are currently planned should result in the proposed recoveries being achieved. Minarco therefore considers such risks to be moderate.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Target mineral recovery levels not achieved by processing equipment .	Unlikely	Moderate	Moderate	Plants are currently undergoing a technical improvement program to upgrade plant efficiency. Technology and process technique employed is simple.

The operating costs proposed in the Feasibility Study under estimated the actual operating costs of the plants. The true operating costs of the plants are now well understood based on the plants' recent operating history (particularly No. 2 Processing Plant). Minarco considers that given the plants are already operating at full capacity, and because the grade of ore material is not proposed to change substantially over the life of the project, the risks to substantial operating cost changes are moderate, and are commensurate with other similar processing plants.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Substantial increases in operating costs	Unlikely	Moderate	Moderate	Further technical improvement programs to optimize plant performance and levels of automation.

Secondary Processing

Construction of any new processing plant brings construction risk, and potential delays in the final plant commissioning. Minarco considers that there are no significant risks with the proposed plants that will make the risk of plant commissioning any more significant than with other similar plants. Significant delays (more than a few months) will likely have a material impact on short term cash flows, but in the longer term the effects of such a delay will be minimal.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Significant delays in implementation of additional Tungsten Processing Plants. . . .	Moderate	Moderate	Significant (Short term only)	CMOC Management team has experience in the construction of these types of plants.

The feed grade of the tungsten material is highly variable due to the tungsten being targeted only as a secondary product. The recovery will therefore change significantly resulting in a different final grade of product. This is difficult to mitigate without changing the mine schedule to target a more consistent feed grade of tungsten. Given that the tungsten recovery is only a secondary activity, Minarco considers the risk to be moderate.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Target mineral recovery levels not achieved by processing equipment due to feed grade variability	Unlikely	Moderate	Moderate	Currently, tungsten is considered a by product, and as a result its costs of production are very low.

The proposed new secondary processing plants are planned to be constructed over the next 12 to 18 months. There is a risk that the actual cost to commission these plants will be more than the budget estimate. Minarco considers this risk to be moderate and largely mitigated by the Company's experience in construction of similar processing plants.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Substantial blow outs in forecast construction cost estimates associated with Tungsten Recovery Plants.	Unlikely	Moderate	Moderate	CMOC have prepared cost forecasts based on detailed engineering assessment.

The secondary processing plants are subject to the similar operating cost risks as the primary processing plants. The key difference relates to the fact the secondary processing plants only process a tailings product, and therefore there are no associated upfront crushing and grinding costs.

Production Targets

The proposed production targets for the future are substantially similar to those that are currently being achieved (with the exception of some downstream processing plants which have not been looked at in detail by Minarco). In this regard, Minarco considers that there is moderate risk that forecast production will not be met.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Production targets not being met	Unlikely	Moderate	Moderate	Company does not plan any significant changes to production targets from current levels.

Environment and Safety

The two key environmental risk areas relate to major failures of either one of the tailings dams or slag (waste) dumps.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Major tailings dam failure resulting in significant environmental damage	Rare	Major	Significant	All dams have been constructed in accordance with national safety and environment guidelines.

Tailings dam failure presents a risk to operations via loss of production and risks to the environment and safety due to mass movement down-valley and into water courses. The risk is managed by ensuring appropriate design, construction and maintenance of tailings dams and regular review and inspection of these structures.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Failure of major slag dumps resulting in significant environmental damage	Rare	Moderate	Moderate	All dams have been constructed in accordance with national safety and environment guidelines.

Slag dump failure represents a risk to operations via temporary loss of production and risks to the environment and safety due to mass movement down-valley and into water courses. The risk is similarly managed by ensuring appropriate design, construction and management of slag dumps, regular inspection of these emplacement structures and rehabilitation incorporating revegetation and drainage management.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Safety Event occurs which results in multiple fatalities	Rare	Moderate	Moderate	Mine has current approved safety program in place.

Numerous safety risks are associated with mining and processing operations and these are well understood in the international minerals industry. Minarco considers that these risks are not excessive or significantly different to any other well managed operations in the minerals industry and are unlikely to present any material risks for ongoing operations. Safety systems and practices are in place which satisfy the necessary Government requirements and are continually being developed to manage risks.

Transport

The mine currently sends ore to a number of processing plants using either truck or conveyor. The transport risk is mitigated by the number of different transport options which are available to move the ore. Minarco considers transport risk to be low.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Difficulty in transporting ore to processing plants which results in substantial operating delays at the process plants.	Rare	Minor	Low	Mine sends ore to multiple process plants for processing.

Final products are sold in a highly concentrated form and as such there are minimal volumes of material that actually need to be transported. As such, Minarco considers that transport risks associated are very low.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Difficulty in transporting final products to end markets	Rare	Minor	Low	Final products are sold in a highly concentrated form requiring minimal vehicle movements.

Infrastructure and Utilities

The key infrastructure that the mine relies on including roads, power and water related infrastructure are all in place and are currently meeting the requirements of the mine. Management has advised that the planned Tungsten Recovery plants will have adequate power and water supplies.

Event	Likelihood	Consequence	Level of Risk	Mitigant
Extended production delays caused by long term power outage. . .	Rare	Minor	Low	Electricity supply to all major infrastructures is both established and adequate.

Minarco considers infrastructure and utilities risk to be low.

Commodity Prices

Minarco has specifically excluded any discussion of commodity prices in this report as it has been outside of Minarco's engagement. Minarco would however like to highlight that both molybdenum and tungsten prices have exhibited substantial volatility over the past 20 years and as such this represents perhaps the most significant risk to the cashflows of the entity.