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6 December 2006

The Directors
China Coal Energy Company Limited
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CHINA

Dear Sirs,

Independent Technical Adviser Report

The following Report summarises the findings of an independent technical and economic assessment of the coal mines, coal processing plants (CPP's) and exploration areas operated by China Coal Energy Company Limited (Company or China Coal). The Report has been prepared by Steffen Robertson and Kirsten (Australasia) Pty Ltd, trading as SRK Consulting (SRK), located at Level 9, 300 Adelaide Street, Brisbane, Queensland, 4000, Australia.

Purpose of the Report

The purpose of this Report is to provide an independent technical assessment of the Company's mineral assets for inclusion in a prospectus to be issued by the Company to support the proposed listing and fund raising on The Stock Exchange of Hong Kong Limited. The Report is to provide potential investors in the proposed China Coal Initial Public Offering (IPO) with an independent opinion of the condition, production capability and future prospects of the mines and processing facilities that are managed by the Company.

This Report has been prepared in accordance with the Rules Governing the Listing of Securities of The Stock Exchange of Hong Kong Limited, in particular Chapter 18.

The Report set out in Appendix VI to the prospectus of the Company dated 6 December 2006 is the only report provided by SRK and has been compiled to include the details required by the Listing Rules. SRK has no prior association with China Coal in regard to the mineral assets that are the subject of this Report other than the site inspections, data analysis and Report compilation for this report. SRK has no beneficial interest in the outcome of the technical assessment being capable of affecting its independence. Neither SRK nor any of the authors of this Report has any material present or contingent interest in the outcome of this report, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence or that of SRK. Neither SRK nor any of the authors of this Report holds any share capital of the issuer.

Scope of Work

The findings in this Report are based on information gathered prior to and during site inspections made to the mines and processing plants of the Company by SRK personnel and on information subsequently supplied to SRK through e-mail, facsimile messages, physical meetings or various telephone conversations. During site inspections, SRK personnel held detailed and open discussions with site personnel at each mine or processing plant. Visits were made to the operating mines, the CPP's and planning and administration offices.

SRK conducted investigations into and has reported upon various technical areas including geology and resource estimation, mining engineering and reserves estimation, coal processing, environmental and social aspects, statutory requirements including tenement boundaries, company management methods and structure, operating costs and capital investments.

In particular SRK inspected each of the mines and CPPs listed in the following table.

Operating Company and Mine	CPP
Shanxi China Coal Pingshuo Antaibao Coal Co Ltd	
Antaibao Open Pit	Antaibao
Shanxi Pingsuo Anjialing Surface Mine Co Ltd	
Anjialing Open Pit	Anjialing
Anjialing Underground	New Antaibao
	New Anjialing
Antaibao Underground	Muguajie
Pingshuo East Open Pit	—
Shanghai Datun Energy Resources Co Ltd	
Yaoqiao Underground	Datun
Xuzhuang Underground	
Longdong Underground	Longdong
Kongzhuang Underground	Kongzhuang
Huajin Coking Coal Co Ltd	
Shaqu Underground	Shaqu
Wangjialing Exploration Site	
Shanxi Nanliang Co Ltd	
Nanliang Underground	—
Independent China Coal CPPs	
Shuozhou China Coal Pingshuo Energy Co Ltd	Shuozhong
Datong Zhongxin Energy Co Ltd	Zhongxin
Datong China Coal Export Base Development Co Ltd	Dazhong

Resources and Reserves

Coal Resources

SRK's methodology for resource classification has been rigorous, particularly as it relates to both drill-hole spacing and to the treatment of drill-core recoveries. SRK has strictly applied the line spacing criteria as defined by the most recent People's Republic of China (PRC) regulations, resulting in the exclusion of all 'Category C' coal resource blocks from the resources calculation in accordance with the principles of the JORC Code.

Resource estimates are based on estimates that have been validated and authorized by China's leading authority for reporting Chinese resources, the Ministry of Land and Resources (MOLAR). Parameters used by MOLAR are consistent with Chinese standards and include coal seam core recovery >75% from boreholes and categorisation for resources based on the following borehole spacing criteria: Measured: 500 to 1,000metres distance, Indicated: 1,000metres to 2,000metres distance and Inferred: 2,000 to 4,000metres distance.

Coal Reserves

Mine plans reviewed by SRK were prepared on the basis of extraction of the entire resource at each site. Reserves have been estimated incorporating the following parameters:

- Mining recovery factors of 95% for open pit and 75% for underground mines have been applied to the entire resources estimate to estimate recoverable reserves
- A constant beneficiation yield specific to each coal preparation plant and mine site that includes wash plant yield, by-pass coal and rejects sold at a profit, has been applied to estimate marketable reserves for each mine.

Mine plans and supporting information supplied to SRK were used, in principle, to verify the feasibility of mining and recoveries. SRK can deduce from a review of reconciliation of the production records that the reserves estimates are a reasonable indication of future performance of the reserves.

Reporting Standard

The following Report has been prepared to the standard of, and is considered by SRK to be, a Technical Assessment Report under the guidelines of the Valmin Code. The Valmin Code is the code adopted by the Australasian Institute of Mining and Metallurgy (AusIMM) and the standard is binding upon all AusIMM members. It is SRK's opinion that the Report is prepared in accordance with international reporting standards for mineral resources and ore reserves.

In comparing China Coal's practices against international best practice, SRK has made comparisons in the Report which are qualitative in nature. In the case of quantitative comparison, sources of data are provided. This Report is not a Valuation Report and does not express an opinion as to the value of mineral assets. Aspects reviewed in this Report do include product prices, socio-political issues and environmental considerations, however SRK does not express an opinion regarding the specific value of the assets and tenements involved.

Consents

SRK consents to this Report being included, in full, in the China Coal prospectus, in the form and context in which the technical assessment is provided, and not for any other purpose. SRK provides this consent on the basis that the technical assessments expressed in the individual sections of this Report are considered with, and not independently of, the information set out in the complete Report and the Cover Letter.

Yours Sincerely

SRK Consulting

M J Warren, BSc (Mining Eng), MBA, MAusIMM, FAICD
Principal Consultant (Project Evaluations)

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Disclaimer

The opinions expressed in this report have been based on information supplied to SRK Consulting China Ltd (SRK) by China Coal Energy Company Limited (China Coal). China Coal has represented to SRK that full disclosure has been made of all material information and that, to the best of its knowledge and understanding, such information is complete, accurate and true. SRK has no reason to doubt this representation. The opinions in this report are provided in response to a specific request from China Coal to do so. SRK has exercised all due care in reviewing the supplied information. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them.

1 REPORT SUMMARY

1.1 Introduction

China Coal Energy Company Limited (China Coal) requested SRK Consulting China Ltd (SRK) to review the coal mining assets of China Coal to assist with a proposed restructuring and listing of the group. This Competent Persons Report has been prepared in conjunction with the listing of the group on the Stock Exchange of Hong Kong Limited (HKSE), in particular Chapter 18 of the Listing Rules.

Based on our inspection of China Coal's assets and operations, SRK believes China Coal is a well-managed, integrated business enterprise with an excellent portfolio of assets and industry-leading production and distribution capabilities. SRK believes China Coal is well positioned to compete effectively in both the domestic and international markets.

China Coal is one of the largest coal enterprises in China with coal production, sales and trading as their core business. It also has a diversified portfolio of other related operations to supplement its core coal operations. The principal products and services of China Coal include:

- Coal operations, which is the Company's core business and includes coal production, sales, trading and other services
- Coking operations, including the production and sale of coke and coal-based chemicals products
- Coal mining equipment manufacturing operations including coal mining equipment design, research and development, manufacturing and sales operations and after-sale services
- Coal mine design and other related businesses

The locations of China Coal's individual mines are shown in Appendix 1.

China Coal's coal assets are some of the largest and highest quality coal reserves in China with 3.5 Billion tonnes (Bt) of total proved and probable reserves on a 100 percent (%) ownership basis.

The group has:

- Thick seams of good quality coal with reasonable overburden ratios at each of the company's two open-pit mines, at Antaibao and Anjialing (two of China's larger surface mines)
- Varied geological conditions at its seven underground mines, which are supplemented by the use of technologies uniquely tailored to optimise production at each mine
- Coal preparation plants which include some best practice components allowing good product yields and high utilisation
- Contracted access to major rail lines and sea ports
- One of the largest and most experienced coal exporters in China
- A demonstrated commitment to safety and environmental protection

1.1.1 Overview of Findings

SRK's inspection of China Coal's operations revealed well managed and well maintained assets and a demonstrated commitment to providing a safe and efficient workplace at the company's mine sites. Management quality is demonstrated by the good safety record and strong commitment to methane gas management throughout underground operations. SRK also witnessed a strong environmental policy which is effectively implemented and monitored to world class standards.

Open Pit Mines

China Coal's large open-pit mines use modern, imported truck and shovel technology in seams as thick as 22 metres (m) and with strip ratios as low as 5 to 1. China Coal's open-pits are world class assets in terms of both total size and the scale at which the seams are being mined. China Coal operates its machinery efficiently and effectively, and is experimenting with additional improvements to increase efficiency further. China Coal's open cut mines have reasonably flat lying seams.

Underground Mines

China Coal's underground mines have seams which dip as steeply as 40 degrees, and use longwall retreat mining equipment in coal seams of between 1 m and 16 m thickness. The highly productive top caving method has been pioneered in three of the underground mines with thicker seams. This technique allows much improved panel recovery over previous techniques and provides significantly increased resource utilisation.

The Anjialing underground operation has implemented world class infrastructure to support advanced production technology. In particular modern transport facilities and road header technology with continuous haulage systems are utilised, representing leading edge technology for global coal development. Anjialing and Yaoqiao underground mines are highly productive compared to the average of Chinese underground mines. Nanliang mine is likely to become a similarly productive low cost mine following the introduction of longwall mining.

Coal Preparation Plants

The mines transport coal to coal preparation plants (CPPs) which process the coal to remove impurities. China Coal operated nine CPPs in 2004 producing approximately 42 Million tonnes (Mt) of marketable coal, 93% of which was thermal coal and 7% coking coal. During 2005, China Coal expanded existing CPPs, and constructed and commissioned four new CPPs, resulting in production of 44.2 Mt of marketable coal in 2005. China Coal is forecasting an increase in processed output to 52.4 Mt of marketable coal in 2006.

Resources and Reserves

China Coal's resources and reserves provide its mines with an average indicative mine life of 38 years. Two of the group's high production open-pit mines, Anjialing mine and the planned Pingshuo East mine have lives of 26 and 47 years respectively at the current forecast production rate. The resource and reserve estimates have high probability to extend significantly when the available inferred resources are converted to reserves following further in-fill drilling. The mines managed by China Coal have in excess of 4,000 Mt of coal in the inferred resource category which could be converted in this manner. China Coal manages mines which have coal seams of very high quality relative to international standards (due to low ash and low sulphur). The two large and efficient open-pit mines at Antaibao and Anjialing produced 33% and 30% respectively of China Coal's total production in 2005.

Safety

Safety statistics for China Coal's mines are superior to the local industry average. China Coal recorded four fatal accidents at its mines in 2005, and the ratio of fatalities per Mt of production in 2005 of 0.08 is comparable to the best safety performance in the Chinese coal mining industry.

Infrastructure

The mines operated by China Coal are well serviced by existing infrastructure and have reliable supplies of water and electricity, some of which is generated at on-site power stations.

Capital Expenditure

China Coal recorded capital expenditure of RMB1,503 Million (M) in 2004 and RMB1,581 M in 2005, mostly for mine and CPP expansions. Expansion of the Antaibao and Anjialing open-pit mines and the Anjialing underground mine in 2006, 2007 and 2008 is forecast to require capital expenditure for additional mining equipment and modifications to the mines. Construction of the Pingshuo East open-pit mine and the Wangjialing underground mine are scheduled to commence during 2006 and 2007 respectively, which results in a significant increase in total capital expenditure from 2007 onwards.

1.1.2 Overview of Operations

China Coal manages two large open-pit mines and seven underground mines in the Shanxi, Shaanxi and Jiangsu Provinces of China as shown in the following diagram. Location maps for individual mines are set out in Appendix 1.

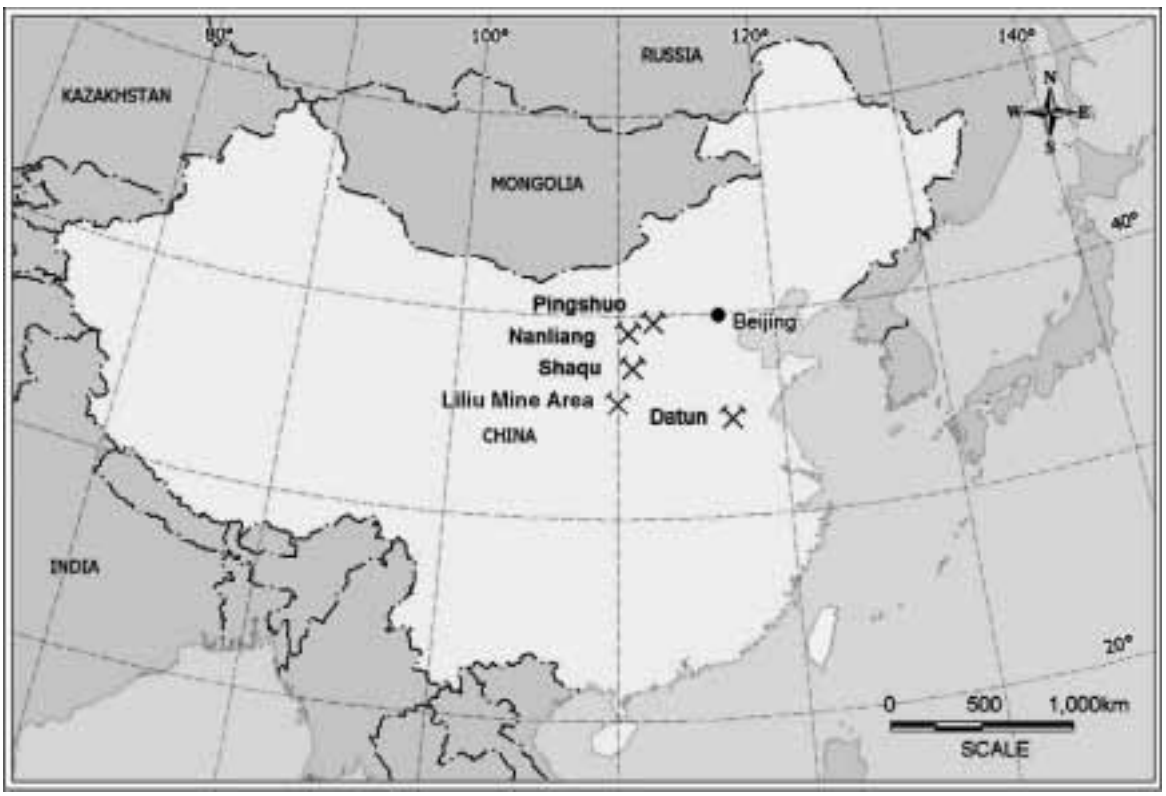


Figure 1-1: Overall Location Map

These mines are conveniently situated with respect to the Chinese rail and port network, as well as key customers. The total managed run-of-mine (ROM) production from these mines for 2005 was approximately 50 Mt of high energy thermal and coking coal. In addition, China Coal has one large open-pit project which will commence with preliminary pre-stripping operations in 2006 and two new underground mines, one of which commenced construction during 2005 and the other planned to commence construction during 2007. The mines managed by China Coal are forecast to produce approximately 64 Mt of ROM coal in 2006. Production from these mines is forecast to increase to approximately 72 Million tonnes per annum (Mtpa) of ROM coal by 2007 and 90 Mtpa by 2008.

1.2 Mining Assets

The group's mining assets have the attributes and characteristics as shown in Table 1-1.

Table 1-1: Mining Assets — China Coal

Operating Company and Mine	Mining Method	Year of Initial Operation	Marketable Reserves[1] (Mt)	Date of MOLAR Reserves Estimate[2]	Product Coal Characteristics		
					Calorific Value (kcal/kg)	Sulphur (%)	Ash (%)
Pingshuo Coal Company[3]							
Antaibao	OP	1987	131	22 June 2005	5,000	1.00-1.70	15-38
Anjialing	OP	2001	572	5 July 2005	5,000	1.00-1.70	15-38
Anjialing	UG	2004	146	5 July 2005	5,000	1.00-1.70	15-38
Antaibao	UG	2008	380	24 Sep 2004	7,700	1.00-1.70	7-8
Pingshuo East[4]	OP	2007	818	28 April 2005	5,600 - 6,000	1.00-1.30	10-20
Shanghai Datun Energy Resources Co., Ltd.							
Yaoqiao	UG	1976	130	20 June 2005	5,500	0.75-0.78	8-10
Xuzhuang	UG	1979	40	15 June 2005	6,500	0.75-0.78	8-10
Longdong	UG	1987	21	15 June 2005	6,500	0.70-0.75	23
Kongzhuang	UG	1977	30	15 June 2005	6,560	0.57	11
Huajin Coking Coal Co., Ltd.							
Shaqu	UG	2004	379	15 June 2005	7,700	0.40-1.00	9-10
Wangjialing	UG	2009	305	11 Nov 2002	8,350	0.50	6.5-8
Shanxi Nanliang Coal Co., Ltd.							
Nanliang	UG	1998	51	26 May 1998	6,050	0.35	8-10
Total			3,003				

(1) Marketable Reserves are shown on a 100% basis at 30 June 2006. See Table 1-10 for Effective Equity Interest

(2) Date of certification by the Ministry of Land and Resources

(3) After this report was written China Coal informed SRK of a restructure in Pingshuo Coal Company (refer structure in Section 1.7)

— Antaibao OP Mine is now owned by Shanxi China Coal Pingshuo Antaibao Coal Co Ltd

— Anjialing OP and Anjialing UG Mines are now owned by Shanxi Pingshou Anjialing Surface Mine Co Ltd

— Antaibao UG Mine is now directly owned by China Coal

— Pingshuo East OP Mine is now directly owned by China Coal

— All of the above assets are collectively referred to in this report under "Pingshuo Coal Company"

(4) A Mining Right for the Pingshuo East OP is expected to be granted in March 2007

Amongst the mining assets listed in Table 1-1 are three which are currently being developed and which are forecast to materially increase China Coal's overall production as shown in Table 1-2.

Table 1-2: Mines under Construction — China Coal

Mine	Mining Method	Year of Construction Commencing	Year of Full Production	Production Rate at Full Scale (Mtpa)
Antaibao	UG	2005	2009	8.0
Pingshuo East[(1)]	OP	2006	2009	20.0
Wangjialing	UG	2007	2010	6.0

(1) A Mining Right for the Pingshuo East OP is expected to be granted in March 2007

Antaibao Underground Mine will utilise top coal caving methods to extract seams up to 16 m thick, and is expected to produce at a low unit cost similar to the Anjialing Underground Mine. Pingshuo East open-pit mine will extract the same seams and have similar strip ratios to both the Anjialing and Antaibao open-pit mines and is therefore expected to produce coal of similarly high quality and low cost. Wangjialing underground mine will utilise longwall methods of mining, and is planning to supply a new CPP and power station in the local area.

Among the mining assets owned and operated by China Coal, Antaibao mine and Anjialing mine are some of the larger open-pit coal mines in China and compare well with large international operations in physical size and output. The seam thickness at the Antaibao and Anjialing open-pit mines is a considerable advantage allowing efficient mining production and low operating costs.

Antaibao and Anjialing open-pit mines use modern shovel and truck mining equipment, imported from manufacturers including Caterpillar, Dresser and Komatsu. The large efficient open-pit mine at Anjialing and the planned mine at Pingshuo East have mine lives in excess of 40 years at the current forecast production rate.

1.3 Coal Processing Assets

China Coal uses dense-media cyclone (DMC) processing methods for over 90% of its coal output, which is the processing method used at best practise CPPs in the coal industry. Details of China Coal's CPPs are shown in Table 1-3.

Table 1-3: Coal Processing Plants — China Coal

Coal Process Plant (CPP)	Design Capacity (Mtpa)	Year of Initial Operation	Output in 2005 (Mt)	Forecast Output in 2006 (Mt)	Processing Method	Fine Coal Process	Coal Yield (%)[1]
Pingshuo Coal Company							
Antaibao	15.00[2]	1997	15.81	19.16[3]	DMC	Bypass	82
Anjialing	15.00[2]	2001	15.54	17.17[3]	DMC	Bypass	80
Muguajie	6.00	2006	—	0.57	DMC	Bypass	80[4]
New Antaibao	10.00	2006	—	3.79	DMC	Bypass	80[4]
New Anjialing	10.00	2006	—	3.30	DMC	Bypass	80[4]
Shanghai Datun Energy Resources Co., Ltd.							
Datun	1.80	1982	1.25	1.25	Jig	Flotation	68
Longdong	1.20	1993	1.25	0.21	Jig	Bypass	85
Kongzhuang	1.05	1991	0.85	0.92	DMC	Flotation	68
Huajin Coking Coal Co., Ltd.							
Shaqu	1.50	1996	0.95	1.57	Jig	Flotation	85
New Shaqu	3.00	2005			DMC	Flotation	85[4]
Independent China Coal CPPs							
Shuozhong	5.00	2004	2.51	1.85	Two stage DMC[5]	Spirals	75
Zhongxin	3.60	2002	2.71	1.01	DMC	Spirals	85
Dazhong	3.60	2001	3.31	1.60	DMC	Spirals	92
Total	76.75		44.18	52.40			

(1) Coal yield is for wash plant yield only

(2) China Coal reported upgrade of plants to 25 Mtpa

(3) China Coal reported coal feed from Anjialing UG sent to Antaibao and Anjialing CPPs from Jan 06 to Jun 06

(4) Design yield

(5) Two stage DMC involves the use of two cyclones in series which can produce two separate products

1.4 Historical and Future Production

China Coal is maintaining production at most mines and increasing coal production by developing new underground and open-pit mines, as shown in Table 1-4. Tonnes of coal planned to be mined under the current mining licences and the renewed mining licence are shown in Table 1-5.

Table 1-4: Historical and Future Production — China Coal

Operating Company and Mine	Mining Method	ROM Output (Mt)				Forecast ROM Output (Mt)			Indicative Mine life[1] (years)
		2003	2004	2005	2006H1	2006F	2007F	2008F	
Pingshuo Coal Company									
Antaibao	OP	13.61	14.78	16.44	9.41	19.00	20.00	23.00	6
Anjialing	OP	11.01	14.45	15.01	9.22	18.00	20.00	20.00	26
Anjialing[2]	UG	—	0.91	8.70	6.57	17.00[3]	15.00[4]	20.00	8
Antaibao	UG	—	—	—	—	—	—[5]	4.00	55
Pingshuo East[6]	OP	—	—	—	—	—	6.00	12.00	47
Shanghai Datun Energy Resources Co., Ltd.									
Longdong	UG	1.10	1.20	1.16	0.65	1.15	1.05	1.15	20
Yaoqiao	UG	3.51	3.41	3.40	1.93	3.40	3.40	3.40	47
Xuzhuang	UG	1.45	1.42	1.41	0.82	1.40	1.40	1.40	35
Kongzhuang	UG	1.20	1.15	1.15	0.64	1.05	1.15	1.15	28
Huajin Coking Coal Co., Ltd.									
Shaqu	UG	0.98	1.63	1.87	1.25	2.40	3.00	5.00	85
Wangjialing	UG	—	—	—	—	—	—	—	55
Shanxi Nanliang Coal Co., Ltd.									
Nanliang	UG	0.37	0.78	0.98	0.50	1.00	1.00	1.20	42
Total		33.23	39.73	50.12	30.99	64.40	72.00	92.30	

(1) Based on recoverable reserves and forecast production capacity

(2) Total production from No. 1 and No. 2 shaft

(3) China Coal expects 18 Mt for 2006 with 12.2 Mt actual reported up to Sept 2006 and new longwall face commencing in Aug 2006

(4) China Coal expects higher output (in excess of 17 Mt) — allowance in prediction for incline conveyor upgrades during July 2007

(5) China Coal planning to commence production during 2007 — see Section 3.10.1

(6) A Mining Right for the Pingshuo East OP is expected to be granted in March 2007

Table 1-5: Mining quantities under current licence and renewed licence

Mine	Recoverable Reserves (Mt)	Year licence needs renewal	Tonnes mined under current licence tenure (Mt)	Tonnes mined under renewed licence tenure (Mt)
Pingshuo Coal Company				
Antaibao Open Pit	151	2031	151	0
Anjialing Open Pit	656	2029	575	81
Anjialing Underground	168	2034	168	0
Antaibao Underground	436	2036	240	196
Pingshuo East Exploration Area[(2)]	939	—	—	—
Shanghai Datun Energy Resources Co., Ltd.				
Longdong	23	2029	23	0
Yaoqiao	161	2029	78	83
Xuzhuang	50	2029	32	18
Kongzhuang	33	2029	26	7
Huajin Coking Coal Co., Ltd.				
Shaqu	423	2031	125	298
Wangjialing	330	2031	150	180
Shanxi Nanliang Coal Co., Ltd.				
Nanliang	51	2019	16	35
Total	3,420		1,584	898

(1) Based on recoverable reserves and forecast production capacity

(2) A Mining Right for the Pingshuo East OP is expected to be granted in March 2007

China Coal's total historical ROM coal production has increased by 51% from 2003 to 2005. A further increase of approximately 80% is forecast by 2008, when production is projected to amount to approximately 90 Mtpa, as shown in the following graph (Figure 1-2).

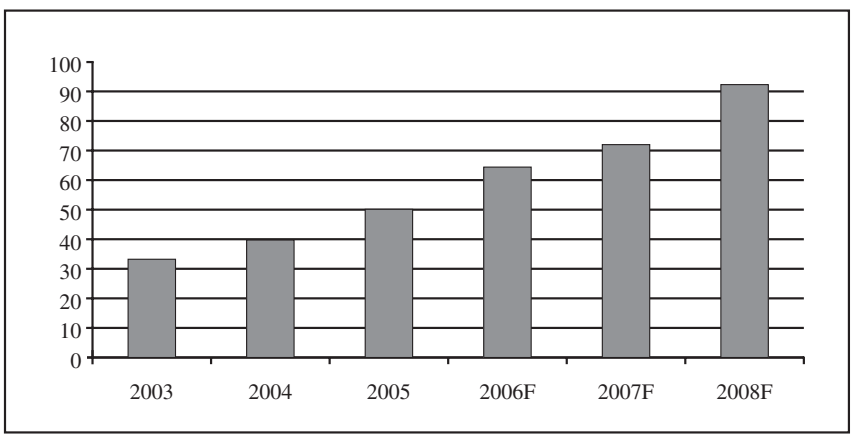


Figure 1-2: China Coal Historical and Forecast Production, 2003 to 2008

While China Coal operates both open-pit and underground mines, production has been dominated by highly productive, low cost open-pit mines using international brands of truck and shovel mining equipment. As shown in the following figure, forecast production over the period from 2005 to 2008 from open-pit mines varies between 57% and 64% and from 37% to 43% from underground mines.

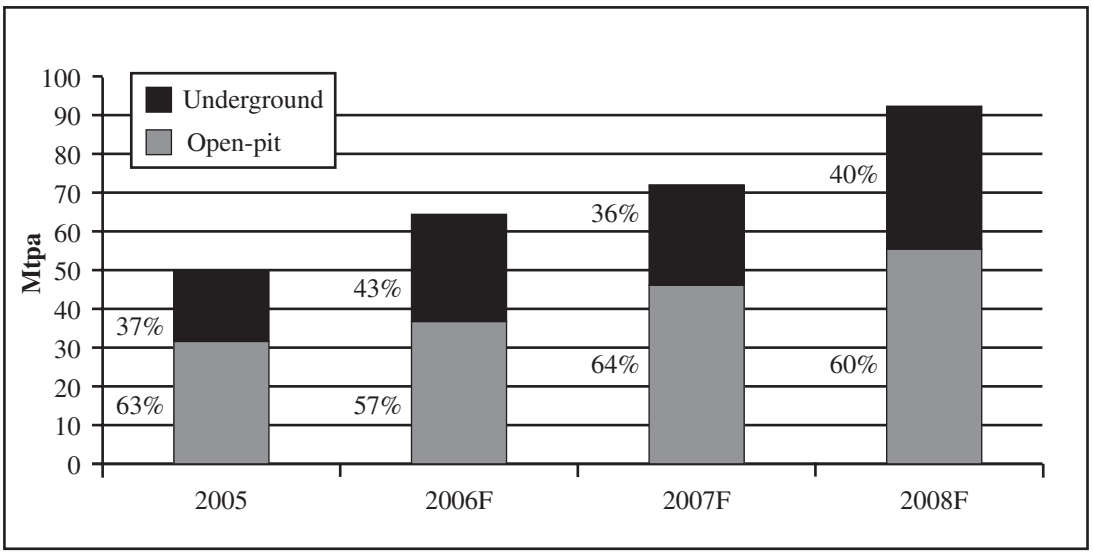


Figure 1-3: China Coal Production by Mining Method, 2005 to 2008

The ROM coal production in 2005 totalled 50.12 Mt with the contribution from each subsidiary company as shown in Figure 1-4 below.

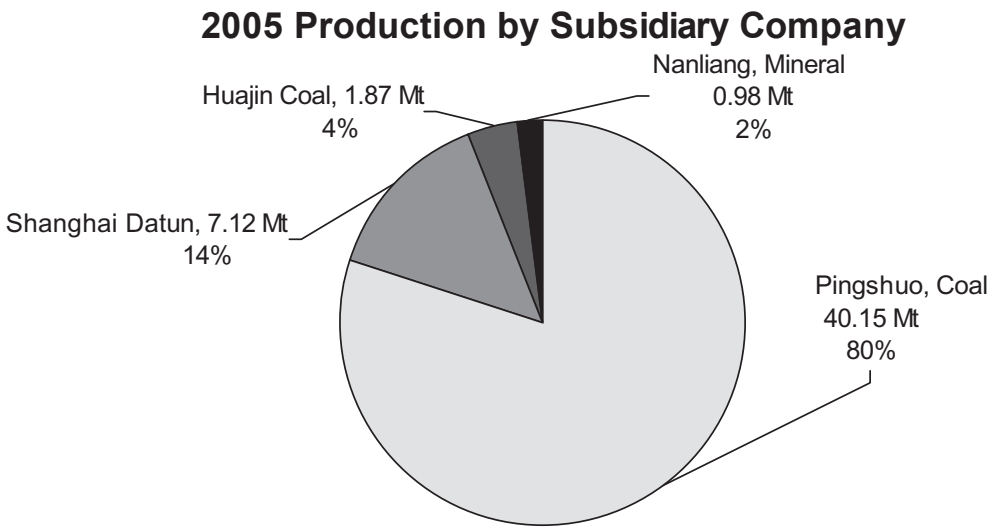


Figure 1-4: China Coal 2005 Production by Subsidiary Company

1.5 Capital Expenditure

China Coal has made considerable investment in production capacity in recent years and plans to invest a further RMB2,840 M in 2006. Forecast capital investment in 2007 and 2008 is RMB5,994 M and RMB5,578 M respectively (Table 1-6) mainly due to increased capital investment for the construction of the Pingshuo East open-pit and Wangjialing underground mine.

Table 1-6: Capital Expenditure — China Coal

Operating Company and Mine	Mining Method	Capital Expenditure (RMB Million) 2003	2004	2005	2006	2007	2008
Pingshuo Coal Company							
Antaibao	OP	87	116	258	652	352	463
Anjialing	OP	539	953	838	353	315	463
Anjialing	UG				830	426	470
Antaibao	UG	—	68	228	298	390	29
Pingshuo East[1]	OP	—	—	—	200	2,447	2,224
Shanghai Datun Energy Resources Co., Ltd.							
Yaoqiao	UG	22	29	15	22	22	30
Xuzhuang	UG	33	32	15	17	17	40
Kongzhuang	UG	33	19	28	24	27	10
Longdong	UG	19	10	8	14	14	40
Huajin Coking Coal Co., Ltd.							
Shaqu[2]	UG	678	247	182	48	902	776
Wangjialing[2]	UG	—	—	—	182	1,070	1,023
Shanxi Nanliang Coal Co., Ltd.							
Nanliang	UG	24	29	9	200	12	10
Total Capital Investment		1,435	1,503	1,581	2,840	5,994	5,578

(1) A Mining Right for the Pingshuo East OP is expected to be granted in March 2007

(2) Capital Expenditure reflects 100% ownership — China Coal Ownership and Contribution 50%

1.6 Operating Costs

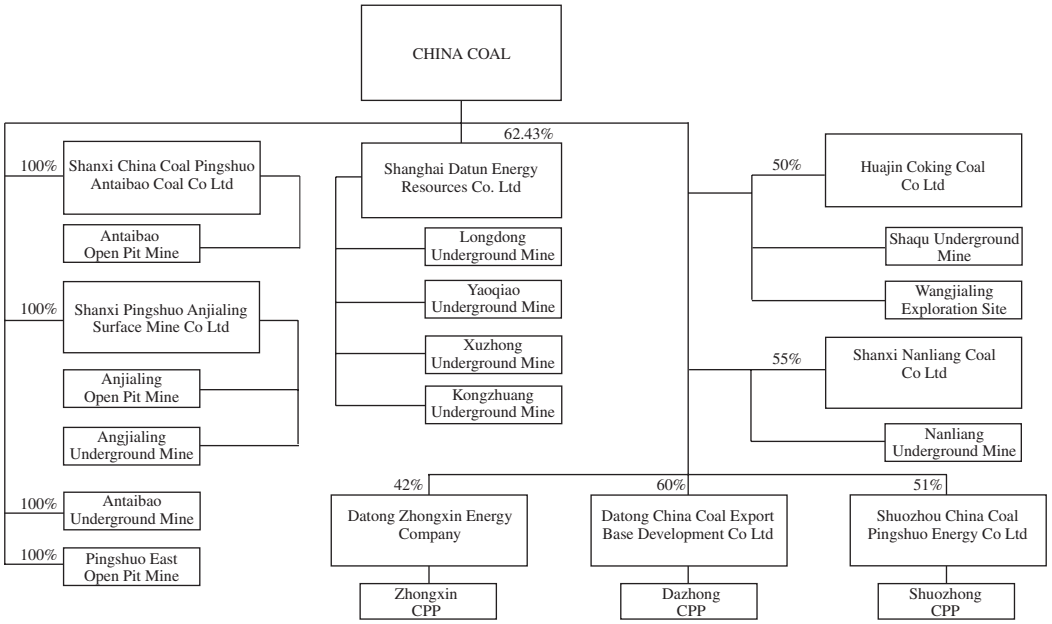
China Coal has provided mine production costs for all of its managed mines for the period 2003 to 2005. SRK has reviewed and accepted these costs as reflecting China Coal's mining operations. Cash production costs are directly associated with coal production (excluding CPPs) and includes but are not limited to, salaries and wages, consumables, electricity and water, maintenance, rehabilitation, materials, explosives and contract operations. China Coal's low-cost structure from a world industry perspective is driven by efficient coal production, especially from the Pingshuo highly productive open-pit mines and Anjialing Underground Mine, and attractive rates for materials and labour. Historic average annual mine cash costs are shown in Table 1-7.

Table 1-7: Average Annual Mine Cash Costs — China Coal

Operating Company and Mine	Mining Method	Cash Operating Cost (RMB/tonne) 2003	2004	2005
Pingshuo Coal Company				
Antaibao	OP	49.55	60.05	77.67
Anjialing	OP	29.90	39.33	56.29
Anjialing	UG	—	—	69.07
Shanghai Datun Energy Resources Co., Ltd.				
Yaoqiao	UG	93.60	135.95	151.44
Xuzhuang	UG	143.23	202.70	238.73
Longdong	UG	149.96	212.36	198.99
Kongzhuang	UG	163.78	230.26	273.65
Huajin Coking Coal Co., Ltd.				
Shaqu	UG	73.00	102.00	118.00
Shanxi Nanliang Coal Co., Ltd.				
Nanliang	UG	60.88	36.00	49.00

1.7 Organisational Structure and Workforce

The following chart summarises China Coal's organizational structure and the operating mines at each of the subsidiary companies. Diagrams of organizational structures of operating companies are shown in Appendix 2.



The workforce employed at China Coal mines as of December 2005 is shown in Table 1-8. Employee numbers reflect the competitive salaries in China compared to most other coal producing countries.

Table 1-8: Workforce — China Coal

Operating Company	Mining Method	Production[1]	Management[2]	Other	Total Employees[3]
Pingshuo Coal Company					
Antaibao	OP	1,464			
Anjialing	OP	774			
Anjialing	UG	609			
Sub-total Pingshuo Coal		2,847	963	4,996	8,806
Shanghai Datun Energy Resources Co., Ltd.					
Yaoqiao	UG	2,833			
Xuzhuang	UG	2,117			
Kongzhuang	UG	2,090			
Longdong	UG	1,749			
Sub-total Datun Coal		8,789	11	766	9,566
Huajin Coking Coal Co., Ltd.					
Shaqu	UG	**1,755**	**10**	**419**	**2,184**
Shanxi Nanliang Coal Co., Ltd.					
Nanliang	UG	**566**	**3**	**38**	**607**
Total		**13,957**	**987**	**6,219**	**21,163**

(1) Production includes permanent and contractor employees involved in mining activities on surface and underground

(2) Management includes senior management only — excludes functional departments e.g. finance and accounting

(3) Employee numbers only include personnel involved with the mines — excludes coal processing plants, rail etc

Labour productivity figures at respective China Coal mines are based on employees and contractors working at the mine sites and involved in the mining process and are shown in Table 1-9.

Table 1-9: Labour Productivity — China Coal

Mine	Mining Method	2005 ROM Output (Mt)	Employees & Contractors[1]	2005 Productivity (ROM Tonnes per Employee-year)
Antaibao	OP	16.44	1,464	11,230
Anjialing	OP	15.01	774	19,393
Total Open Pit		31.45	2,238	14,053
Anjialing	UG	8.70	609	14,286
Yaoqiao	UG	3.40	2,833	1,200
Xuzhuang	UG	1.41	2,117	666
Kongzhuang	UG	1.15	2,090	550
Longdong	UG	1.16	1,749	663
Shaqu[2]	UG	1.87	1,755	1,066
Nanliang	UG	0.98	566	1,731
Total Underground		18.67	11,719	1,593
Total China Coal		50.12	13,957	3,591

(1) Based on workers in production roles only

(2) Shaqu mine not at full production during 2005

1.8 Geology

The geology and types of coal products vary across the mines operated by China Coal, from simple geology to complex and difficult geological conditions and from coking coal to thermal coal suitable for both domestic and export markets.

1.8.1 Pingshuo Coal

At Pingshuo Coal Company, there are two large scale open-pit mines successfully extracting three thick seams (from 2 to 22 m) at depths of up to 200 m. These coal seams are high energy thermal coals. The two basal seams have higher sulphur content and require blending with the upper seam to meet Chinese emission standards. The new Anjialing Underground Mine is performing well as the strata conditions are highly favourable for longwall extraction with the top coal caving method and methane gas levels are very low.

1.8.2 Datun Coal

Geological conditions at Shanghai Datun Energy Resources Co., Ltd. (Datun Coal) operations are quite complex causing difficult conditions for underground extraction of coal seams. Datun Coal has employed good mining strategies to successfully extract coal using mechanised longwall methods. It also uses modern three dimensional (3D) seismic surveys to detect the presence of faulting in the coal seams, allowing more efficient planning of mining. The top two seams are the thickest with best quality coal and are the current mining horizons. The area contains many minor faults which have minimal impact on current mining targets. The lower seam (#17 seam) has a higher sulphur content which will require blending with the upper seams. Datun Coal's products are suited to the domestic coking coal market.

1.8.3 Huajin Coal

Huajin Coking Coal Co., Ltd.'s (Huajin Coal) Shaqu underground mine has relatively high levels of methane gas however these are well managed with gas drainage systems and adequate ventilation. Shaqu mine has excellent geological conditions with good roof conditions and an absence of any imposing structural features. Shaqu mine produces a good domestic coking coal and a smaller quantity of export coking coal.

1.8.4 Nanliang Coal

The Nanliang mine of the Shanxi Nanliang Coal Co., Ltd. (Nanliang Coal) has excellent conditions for underground coal mining including a competent roof, little structural disturbance, no detectable methane gas and produces good quality thermal coal products.

1.9 Resources and Reserves

In order to provide an internationally recognised form of reporting resources and reserves, SRK has used the principles of the Joint Ore Reserves Committee (JORC) Code as guidelines. The methodology employed is set out in greater detail in Section 2.2 of this report.

China Coal has estimated Marketable Reserves of 3 Bt as at 30 June 2006 and 9.5 Bt of coal resources under management, representing a large and high quality resource base for future development. Almost half of this resource base is in measured and indicated categories, and converts to in-situ recoverable reserves of over 3.4 Bt of coal.

As a result of the rigourous methodology applied, the resources reported here are considered by SRK to be conservative relative to other interpretations of the People's Republic of China (PRC) standards, but are

also considered to be highly reliable and transparently verifiable by an independent auditor, thus providing much greater confidence in China Coal's resources.

It is highly probable that a large portion of the inferred resources could be converted to in-situ reserves upon further in-fill drilling. SRK has reached this view because particular assets in the inferred category have a high probability of regular (stable) geology and only reasonably varying quality parameters. These characteristics have been demonstrated, for example, at Shaqu mine.

China Coal is undertaking a resources conversion program well ahead of development and its policy of ongoing exploration is comparable to world best practice in coal asset development and exploration.

SRK is impressed with China Coal's current exploration program, as it includes the use of high technology 3D seismic surveys to map and predict structural and lithological variation ahead of drilling. These predictions allow for efficient utilisation of drilling funds by defining structural variability ahead of drilling.

Using the JORC Code principles as guidelines and incorporating parameters consistent with Chinese industry standards, SRK estimates China Coal's coal resources and reserves as at 30 June 2006 as indicated in Table 1-10 and Table 1-11.

Mining Rights

China Coal holds granted mining rights for each of the mines reviewed in the SRK report. The mining rights are for a defined mining area and for a defined time period. Within these parameters, and as long as China Coal continues to meet its other statutory requirements, the group will continue to enjoy the exclusive rights to mine and process coal from these tenements.

China Coal's mining rights have been renewed over the past six years and provide for mining to continue until approximately 2030 for most mines and until 2020 for the Nanliang mine. Details are provided in the relevant sections of this report.

On the basis of precedent, SRK has assumed that China Coal will be able to renew its mining rights for a further period, possibly 30 years, when the current mining rights are due for renewal.

Table 1-10: SRK JORC Code Resource Categories

Operating Company	Mine[1]	China Coal Effective Equity Interest (%)	Measured Resources (Mt)	Indicated Resources (Mt)	Inferred Resources (Mt)	Measured + Indicated Resources (Mt)	Total Resources (Mt)	Mineable Measured Resources (Mt)	Mineable Indicated Resources (Mt)
Pingshuo Coal Company									
	Antaibao OP	100	151	15	15	166	181	151	15
	Antaibao UG	100	366	295	345	661	1,006	366	295
	Anjialing OP	100	247	475	493	722	1,215	247	475
	Anjialing UG	100	231	24	30	255	285	231	24
	Pingshuo East OP[2]	100	374	659	816	1,033	1,849	374	659
Sub-total Pingshuo Coal			1,369	1,468	1,699	2,837	4,536	1,369	1,468
Shanghai Datun Energy Resources Co., Ltd.									
	Yaoqiao UG	62.43	163	44	174	207	381	163	44
	Xuzhuang UG	62.43	28	42	193	70	263	27	37
	Longdong UG	62.43	21	10	16	31	47	21	9
	Kongzhuang UG	62.43	20	24	97	44	141	20	22
Sub-total Datun Coal			232	120	480	352	832	231	112
Huajin Coking Coal Co., Ltd.									
	Shaqu UG	50	352	584	888	936	1,824	221	324
	Wangjialing UG	50	344	292	1,587	636	2,223	229	196
Sub-total Huajin Coal			696	876	2,475	1,572	4,047	450	520
Shanxi Nanliang Coal Co., Ltd.									
	Nanliang UG	55	35	30	9	65	74	35	30
Total			2,332	2,494	4,663	4,826	9,489	2,085	2,130

(1) The above table shows 100% of the resources at each mine managed by China Coal

(2) A Mining Right for the Pingshuo East OP is expected to be granted in March 2007

Table 1-11: SRK JORC Code Reserve Categories

Operating Company	Mine[1]	Mining Method	China Coal Effective Equity Interest (%)	Proved Reserves[2] (Mt)	Probable Reserves[2] (Mt)	Proved + Probable Reserves (Mt)	Recoverable Reserves[3],[4] (Mt)	Saleable Recovery[5] (%)	Marketable Reserves (Mt)
Pingshuo Coal Company									
	Antaibao	OP	100	143	14	158	151	87.0	131
	Antaibao	UG	100	275	221	496	436	87.0	380
	Anjialing	OP	100	235	451	686	656	87.1	572
	Anjialing	UG	100	173	18	191	168	87.0	146
	Pingshuo East[6]	OP	100	355	626	981	939	87.1	818
Sub-total				1,181	1,331	2,512	2,351		2,047
Shanghai Datun Energy Resources Co., Ltd.									
	Yaoqiao	UG	62.43	122	33	155	161	80.8	130
	Xuzhuang	UG	62.43	20	28	48	50	80.8	40
	Longdong	UG	62.43	16	7	23	23	91.0	21
	Kongzhuang	UG	62.43	15	17	32	33	92.9	30
Sub-total				173	84	257	266		221
Huajin Coking Coal Co., Ltd.									
	Shaqu	UG	50	166	243	409	423	89.7	379
	Wangjialing	UG	50	172	147	319	330	92.6	305
Sub-total				338	390	728	752		684
Shanxi Nanliang Coal Co., Ltd.									
	Nanliang	UG	55	28	23	51	51	100	51
Total				1,720	1,828	3,548	3,420		3,003

(1) The above table shows 100% of the reserves at each mine managed by China Coal

(2) Based on general mining practice, mining recovery for OP mines assumes at 95% and for UG mines at 75%

(3) Based on current mining practices at China Coal and SRK's general experience, mining loss assumed at 13% for OP mines and 6% for UG mines, except Antaibao UG and Anjialing UG assumed 20% and Nanliang assumed 5%

(4) Based on current mining practices at China coal and SRK's general experience, dilution assumed at 10% for all mines except Nanliang assumed dilution of 5%

(5) Includes wash plant yield, by-pass coal and rejects sold at a profit

(6) A Mining Right for the Pingshuo East OP is expected to be granted in March 2007

1.10 Occupational Health and Safety

At all China Coal mining sites, safety meetings are held at the beginning of each day with resources consistently applied in an attempt to achieve the best possible safety record. All sites appoint safety monitors from management and the workforce to inspect safety matters in the mines and implement changes to improve safety conditions and standards.

The mines conduct formal investigations after accidents or incidents to identify the root cause and to communicate and prevent the occurrence of similar incidents. Safety training at all mines is a formalised and scheduled process which includes both permanent and contract employees. In general, good performance was

reflected in safety statistics and some mines have been reporting zero minor or serious injuries for a number of consecutive years.

The safety performance reported for all operating companies between 2003 and 2005 is shown in Table 1-12.

Table 1-12: Safety Performance — China Coal

	Number of Occurrences		
Operating Company	**2003**	**2004**	**2005**
Pingshuo Coal Company			
Fatal[1]	0	6	1
Serious[2]	9	10	7
Minor[3]	18	20	15
Shanghai Datun Energy Resources Co., Ltd.			
Fatal[1]	4	0	3
Serious[2]	4	2	3
Minor[3]	0	15	0
Huajin Coking Coal Co., Ltd.			
Fatal[1]	0	0	0
Serious[2]	1	0	0
Minor[3]	1	3	0
Shanxi Nanliang Coal Co., Ltd.			
Fatal[1]	0	0	0
Serious[2]	0	0	0
Minor[3]	0	4	3

(1) Fatal: accident causing death (number indicates lives claimed)

(2) Serious: accident requiring hospitalisation and do not return to work for more than 24 hours (include fatal incidents)

(3) Minor: accident which does not require hospitalisation and the employee returns to work within 24 hours

1.11 Environmental

SRK found China Coal to be an environmentally pro-active and compliant company across the subsidiary companies assessed. SRK found no incidence of environmental breach and that China Coal's environmental compliance procedures either meet or exceed all requirements placed on the company at all statutory levels. At some sites the company's water recycling and treatment technologies are of world-class standard. Based on information provided by China Coal and inspection of the above listed sites, SRK concludes that it is unlikely that China Coal has any major environmental liability concerns.

1.12 Infrastructure

1.12.1 Water

With regard to water the mine sites are all self-sufficient, with supply from surface boreholes controlled by the respective mines. In all cases the supply of water is in excess of usage, and in most cases the boreholes also supply water to local villages and towns for domestic use. Water collected in the underground mines is generally pumped to the surface and treated for use as sewerage handling on the surface or recycled for underground use. In some cases the mines have an inflow of groundwater with infrastructure established to gather water for underground use or pumping water to the surface for alternative uses.

1.12.2 Electricity

Electricity supply to the mines is through the government-owned public grid except for the Kongzhuang, Yaoqiao and Longdong mines, which are supplied by two local power stations owned by Datun Coal. We understand the supply of power varies from reliable to extremely reliable. The power supply is in excess of the required usage for the mines except at Shaqu mine where power supply is insufficient during four months in spring and winter, causing longwall production to cease for between 5 and 10 days per month. Alternative power supply options are already under investigation with the low cost option of a local gas-fired power station being considered. The supply of methane to the power station is likely to be sourced from the underground network at Shaqu mine.

1.12.3 Ventilation and Dust Prevention

Most of the underground mines operated by China Coal use large ventilation shafts connected to the surface to supply fresh air to underground operations. In all cases ventilation quantities in the underground mines are in compliance with Chinese legislative requirements. Roof and sidewalls are sprayed and washed down with water on a periodic basis as required by Chinese regulation. Zero to very low levels of methane were reported or detected during underground visits, except for Shaqu mine which has been identified as a high methane level mine. This situation is being adequately managed by the use of gas drainage systems and adequate ventilation. Dust prevention measures are implemented and maintained at all the mines and personal protective equipment (PPE) is supplied to personnel when required by environmental conditions.

2 INTRODUCTION AND SCOPE OF REPORT

2.1 Background

2.1.1 Nature of the Brief

China Coal commissioned SRK to provide an independent Competent Persons Report on the assets of the company in connection with the proposed listing of the group on the HKSE. This report describes the mines and processing facilities managed by China Coal and reviews all technical aspects of these assets.

2.1.2 Purpose of the Report

The purpose of this report is to provide potential investors in the proposed China Coal Initial Public Offering (IPO) with an independent opinion of the condition, production capability and future prospects of the mines and processing facilities that are managed by the company.

This report is required to comply with the reporting standards under the listing rules of HKSE and may be included in China Coal's information circular to be prepared in conjunction with the proposed listing of the company. This report does not provide a valuation of the mineral assets or any comment on the fairness and reasonableness of any transactions related to the assets of the company.

2.1.3 Reporting Standard

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

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

tenements involved. SRK has estimated China Coal's resources using the principles of the JORC Code as guidelines and incorporating parameters consistent with Chinese standards.

2.2 Methodology

2.2.1 Resource Classification

SRK's methodology for resource classification has been rigorous, particularly as it relates to both drill-hole spacing and to the treatment of drill-core recoveries. SRK has strictly applied the line spacing criteria as defined by the most recent PRC regulations, resulting in the exclusion of all 'category C' coal resource blocks from the resources calculation in accordance with the principles of the JORC Code.

Resource estimates are based on estimates that have been validated and authorized by China's leading authority for reporting Chinese resources, the Ministry of Land and Resources (MOLAR). Parameters used by MOLAR are consistent with Chinese standards and include coal seam core recovery $>75\%$ from boreholes and categorisation for resources based on the following borehole spacing criteria:

- Measured: 500 to 1,000 m distance
- Indicated: 1,000 to 2,000 m distance
- Inferred: 2,000 to 4,000 m distance

As an example, SRK performed a comparison check using a computer model of a subset of the Antaibao data representing a third of the Antaibao mine area. It was established that the Chinese method of estimation was under-estimating the 'Resources' by 3%, an error well within the limits of the expected 'Measured Resource' estimation accuracy level. In applying additional factors to the conversion/classification of resources, SRK has reviewed the complexity of the geology and overall reconciliation of the operating mines as a guide to future performance of the resource.

2.2.2 Exploration Core Recovery

The JORC Code includes a guideline that exploration core recovery should be greater than 95% for the borehole to be included in 'Resources' calculations. SRK reviewed the core recovery of China Coal exploration boreholes providing an assessment of the quality of the resulting seam core recovery. SRK then assigned each category from the Chinese reserves estimates to equivalent resources categories. As recommended in the guidelines to the JORC Code, where core recovery was less than 95%, SRK assigned the Chinese estimates to a lower resources category.

2.2.3 Coal Resources

Data throughout this report and in the following tables show SRK's resources estimate on a mine site basis and indicate the resources estimate based on 100% ownership of each mine.

2.2.4 Coal Reserves

Mine plans and supporting information supplied to SRK were used, in principle, to verify the feasibility of mining and recoveries. SRK can deduce from a review of reconciliation of the production records that the reserves estimates are a reasonable indication of future performance of the reserves.

Mine plans reviewed by SRK were prepared on the basis of extraction of the entire resource at each site. Reserves have been estimated incorporating the following parameters:

- Mining recovery factors of 95% for open-pit and 75% for underground mines have been applied to the entire resources estimate to estimate recoverable reserves

- A constant beneficiation yield specific to each CPP and mine site that includes wash plant yield, by-pass coal and rejects sold at a profit, has been applied to estimate marketable reserves for each mine

2.2.5 Environmental

SRK completed an environmental assessment of all China Coal's mines. In addition to assessing the actual mine sites, relevant infrastructure associated with coal mining, handling, processing and transporting operations were inspected and reviewed.

2.2.6 Work Program

The SRK work program included the following items:

- Desktop review of data provided by the group and planning for site visits
- Travel to China to inspect assets and discuss technical aspects with the group staff.
- Compilation of a draft report
- Data analysis and completion of draft report
- Review of draft report by China Coal, its lawyers, accountant and advisers, who provided comments to SRK
- Report editing by SRK as required
- Finalisation of the report

SRK relied upon China Coal for the provision of production and cost data which was reviewed and analysed by SRK to confirm the reasonableness of the information.

2.3 Risk analysis

SRK has reviewed a range of risk issues at each mine and CPP operated by China Coal. SRK does not regard China Coal's mining operations to be high risk, inadequately managed or otherwise unduly susceptible to major events. There is no basis to predict or otherwise anticipate major operational shortfalls at any of China Coal's mining operations. China Coal's management is aware of potential risk issues and the sustained proactive safety and engineering controls are an essential component of operations management to minimise and manage risk. Within the context of event risks, it must be recognized that while such events are rare, there is no allowance in China Coal's plans and projections for major production shortfalls. China Coal's major mines are planned to operate at capacity, and in the unlikely case that a material failure occurs at one of China Coal's major mines, there is no excess production capacity available to offset the loss of production and associated revenue stream from the affected mine.

2.4 SRK Consulting

2.4.1 Statement of SRK Independence

Neither SRK nor any of the authors of this report have any material present or contingent interest in the outcome of this report, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence or that of SRK.

SRK has no prior association with China Coal in regard to the mineral assets that are the subject of this report. SRK has no beneficial interest in the outcome of the technical assessment being capable of affecting its independence.

SRK's fee for completing this report is based on its normal professional rates, plus reimbursement of incidental expenses. The payment of that professional fee is not contingent upon the outcome of the report.

2.4.2 Warranties

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

2.4.3 Indemnities

As recommended by the Valmin Code, China Coal has provided SRK with an indemnity under which SRK is to be compensated for any liability and/or any additional work or expenditure resulting from any additional work required:

- which results from SRK's reliance on inaccurate information provided by China Coal or relates to China Coal not providing material information, or
- which relates to any consequential extension workload through queries, questions or public hearings arising from this report.

2.4.4 Project Team

The SRK team has extensive experience in reviewing coal mines, coal processing plants, infrastructure and environmental aspects of coal operations. SRK team members who reviewed the operations of China Coal are:

Mr Mike Warren, Principal Consultant (Project Evaluations), BSc (Mining Eng), MBA, MAusIMM, FAICD, is a mining engineer with over 25 years experience. He specialises in open-pit and underground mining analysis, due diligence reports and mine valuations. Mr Warren is a JORC Code competent person.

Dr Yonglian Sun, Managing Director of SRK China, B Eng, PhD (Mining Eng), MIEAust, is a geotechnical engineer with over 16 years experience. He specialises in geotechnical investigation and design aspects of open-pit, underground mines, slope stability analysis, rock mechanics, and numerical modelling for open-pits, underground mining as well as civil tunnels, and assessment of geo-material properties.

Mr Pat Hanna, Principal Consultant (Coal Geology), BSc (Applied Geology), FAusIMM, CPGeo, has more than 25 years experience as a coal geologist in the areas of exploration and evaluation of coal mining projects in Australia, Indonesia and China. He contributed to the Guidelines on Black Coal Resource and Reserve Estimation sub-committee and as a Joint Ore Reserves Committee (JORC) member. Mr Hanna is a JORC Code competent person. China Coal can seek technical advice in relation to its exploration activities from Mr Hanna who is employed by SRK Australia which has an office located at Level 9, 300 Adelaide Street, Brisbane, 4000, Queensland, Australia.

Mr Jack Steenekamp, Principal Consultant (Coal Mining), B.Eng (Mining) (Hons), B.Eng (Mechanical), MBA, FAusIMM has over 15 years experience in the coal mining industry. He has managed major projects for the establishment of surface and underground infrastructure on underground coal mines, and has also led and been involved in various studies for the establishment of new infrastructure and mines. Mr Steenekamp is a JORC Code competent person.

Dr Stuart Winchester, Senior Consultant (GeoEnvironmental), MSc, PhD, has over nine years experience in environmental assessment and has expertise in mine site environmental management, environmental auditing, environmental monitoring and reporting, environmental site investigations and rehabilitation and acid mine drainage management.

Mr Peter Newling, Associate Principal Processing Engineer, BE (Chem. Eng) (Hons II), has over 30 years experience in the coal mining and steel making industries. He has supervised and managed a number of coal processing plants and inspected a wide range of Australian coal processing plants. Mr Newling also has experience in construction and commissioning of coal processing plants.

2.4.5 SRK Experience

SRK was formed over 30 years ago and is an independent consulting group which provides advice to the mining and finance industries on a wide range of geo-scientific disciplines including geology, geo-statistics, geotechnical engineering, hydro-geology, mining engineering and environmental engineering. SRK is wholly owned by its staff. The Group employs approximately 500 professionals internationally and has 25 permanently staffed offices in eight countries on six continents. In Australia SRK has approximately 70 staff in four offices in Perth, Sydney, Maitland and Brisbane.

SRK has provided Competent Persons Reports for the following companies:

Company	Year	Nature of transaction
Yanzhou Coal Limited	2000	Sale of Jining III coal mine by parent company to the operating company
Chalco (Aluminium Corporation of China)	2001	Listing on HKSE and New York Stock Exchange
Fujian Zijin Gold Mining Company	2004	Listing on HKSE
Lingbao Gold Limited	2005	Listing on HKSE
Yue Da Holdings Limited	2006	Acquisition of a shareholding in mines operated by Feilong Holdings Limited

3 PINGSHUO COAL COMPANY

3.1 Introduction

China Coal owns 100% of Pingshuo Coal Company which has three operating companies namely, Pingshuo No. 1 Coal Company, Pingshuo Anjialing OP Coal Company and Pingshuo East OP Mine. These companies own and operate the Antaibao open-pit mine and CPP, the Anjialing open-pit mine and CPP and the Anjialing Underground Mine and Muguajie CPP. The company is proposing to construct a new mine to the east of the existing mines (known as Pingshuo East or the Donglutian Project) and an underground mine (Antaibao underground) to the north of the current Antaibao open-pit mine. The company is actively seeking to expand existing mines and production facilities. Two new CPPs are in final stages of construction and another CPP is proposed to be constructed within the next two years to wash the coal produced at Pingshuo East mine.

In 2004 Pingshuo Coal mined 30.1 Mt of raw coal, purchased 9.1 Mt of raw coal and processed 35.3 Mt of coal to produce 29.7 Mt of product coal. Approximately one-third was exported via the port at Qinhuangdao and approximately two-thirds was sold to power generating stations on the east coast of China.

3.2 Corporate Management Structure

Pingshuo Coal uses a hierarchical management structure as shown in Appendix 2.

Workforce numbers for Pingshuo Coal are shown in Table 3-1.

Table 3-1: Workforce Numbers — Pingshuo Coal

Category	Employees
Production[1]	
Antaibao OP	1,464
Anjialing OP	774
Anjialing UG	609
Management[2]	963
Other[3]	4,996
Total	8,806

(1) Permanent and contractor employees involved in mining activities

(2) Senior management — excludes functional departments

(3) Only personnel involved with the mines — excludes Coal Handling Preparation Plants, rail etc

Salaries for junior staff are generally RMB1,500 per month, those for skilled underground miners are approximately RMB2,000 per month, and those for senior staff are as high as RMB8,000 per month.

3.3 Occupational Health and Safety

Pingshuo Coal has a senior manager who is responsible for safety and training. The mine uses a system of safety monitors appointed from management and staff as well as from underground workers at the mines. The company has an accident and injury reporting system which adheres to Chinese industry standards. The recent accident statistics for Pingshuo Coal are shown in Table 3-2. These figures include the Antaibao open-pit, Anjialing open-pit and Anjialing Underground Mines and the three CPPs. These figures relate to employees of the company and contractors working on the mine sites.

Table 3-2: Accident Statistics, 2003 to 2005 — Pingshuo Coal

Category	2003	2004	2005
Fatal[1]	0	6	1
Serious[2]	9	10	7
Minor[3]	18	20	15

(1) Accident causing death (number indicates lives claimed)

(2) Accident requiring hospitalisation and do not return to work for more than 24 hours (includes fatal incidents)

(3) Accident which does not require hospitalisation and employee returns to work within 24 hours

Three fatalities in 2004 occurred in the CPPs. No fatalities occurred in the open-pit mines, however three fatalities occurred to contractors during 2004 at the Anjialing Underground Mine. One fatality occurred at the Anjialing underground operation during 2005.

The safety statistics for Pingshuo Coal are superior to the average of the Chinese coal industry. The ratio of fatalities to Mt of production in 2005 was a relatively low 0.025. Formal investigations are conducted after an incident to establish the root cause and to formally communicate findings to employees and other mines (if relevant) at the start of shift safety meetings. This communication is delivered by the team leader to company employees.

The company provides a reward of RMB100 to workforce members who report safety hazards. Safety training is conducted annually and amounts to between 48, 60 and 120 hours/year depending on the position of the employee. Pingshuo Coal focuses on safety initiatives and procedures and provides induction and safety training for new employees and contractors.

3.4 Environmental Assessment

3.4.1 Introduction, Scope and Background

SRK conducted an environmental assessment of all Pingshuo Coal's mines including interviews with key environmental staff members of Pingshuo Coal, inspection of relevant environmental documentation and interpretation of responses to an environmental questionnaire provided by SRK.

This environmental assessment is reported entirely at corporate level. This approach was adopted as Pingshuo Coal maintains an environmental group within its technical division located at head office that oversees all operations. Pingshuo Coal's company-wide environmental management model has been developed to allow feedback from all three operational mines, with site-specific variations as required. Comments specific to a particular mine are detailed as appropriate throughout the text of this environmental assessment.

3.4.2 Corporate Environmental Awareness

Pingshuo Coal has ISO14001:1996 accreditation for its environmental management system at the Antaibao open-pit mine and for the management of its residential facilities and infrastructure in Pingshuo town proper. Antaibao open-pit mine is also accredited under ISO9001:2000 for quality system management. Pingshuo Coal has applied for both ISO14001:1996 and ISO9001:2000 accreditation for its Anjialing open-pit mine which was pending in 2005. Anjialing Underground Mine has only been producing coal since 2003 and as a result, Pingshuo Coal has not yet applied for either ISO14001:1996 or ISO9001:2000 but plans to do so in future years. The company has applied for OHSAS18000 safety accreditation for Antaibao and Anjialing open-pit mines, in addition to Anjialing Underground Mine. A decision on accreditation was still pending at the time of this report.

3.4.3 Mining Title and Royalty Payments

Pingshuo Coal is licenced to mine at Antaibao and Anjialing open-pit mines, and also at Anjialing Underground Mine. Pingshuo Coal currently holds an exploration licence for the proposed Pingshuo East open-pit mine, and has received official mining approval from MOLAR, and is currently awaiting receipt of its mining licence. Pingshuo Coal submitted a feasibility study to MOLAR in November 2004 to mine 8 Mtpa from the proposed Antaibao Underground Mine. MOLAR has issued an exclusive resource rights certificate to Pingshuo Coal for the area, and Pingshuo Coal has also received a mining licence for 6 Mtpa from MOLAR, dated 30 August 2006. Mining licence details are provided in Table 3-3.

Pingshuo Coal holds the surface rights on all mining sites, with the only options being held by the government. Pingshuo Coal is not permitted to divest mining licences to other commercial operations. Should Pingshuo Coal still have mineable coal reserves following expiration of the mining licences, the standard accepted procedure is to apply for a new or extended licence. All mining licences were issued by MOLAR.

Table 3-3: Mining Licence Details — Pingshuo Coal

Mine	Mining Licence No.	Mining Area (km^2)	Issue Date	Licence Tenure
Antaibao Open-Pit	1000000120004	24.0	Sept 2004	27 years
Anjialing Open-Pit	1000009940011	54.7	May 1999	30 years[1]
Anjialing Underground	1000009940027	10.7	July 2004	30 years[1]
Pingshuo East Exploration Area	1400000330067 (Exploration licence)[2]	48.7	May 2003	30 years (anticipated)[1]
Antaibao Underground	1000000610106	19.2	August 2006	30 years

(1) The maximum permissible mining tenure under the Mineral Resources Law (1996 as amended) is 30 years

(2) Pingshuo Coal has received MOLAR approval to mine an area of 48.7 km^2, and is presently awaiting a mining licence which is expected in March 2007

Pingshuo Coal pays mining royalties and taxes according to Chinese Mineral Resources Law.

3.4.4 Environmental Licensing, Compliance and Reporting

For all new projects in China, it is a statutory requirement that environmental considerations are factored into a detailed project feasibility study which is presented to the Environmental Protection Bureau of the respective province in which the operation is located (Shanxi in this instance). This environmental component is essentially akin to an environmental impact assessment report. The various operational environmental licences are then granted to the mining company based on the sustainability of the operation according to the environmental feasibility study, in addition to its ability to manage environmental obligations under the National Environment Protection Law (1989).

For Pingshuo Coal operations, operational licences were granted at provincial level for Antaibao open-pit and Anjialing underground and open-pit mines for boundary noise, gaseous emissions and water discharge. Pingshuo Coal maintains licences at individual mine levels from the local Shouzhou County Water Resource Management Commission for groundwater extraction. In 2005 Pingshuo Coal was in the process of applying to the local, provincial and state governments' Environmental Protection Bureaus for individual environmental emission and discharge licences (e.g. water, waste, gaseous emissions etc.) as a new licencing system is being implemented. The project feasibility study for the proposed Pingshuo East open-pit coal mine has been submitted for approval to the Shanxi Environmental Protection Bureau.

Each mine operated by Pingshuo Coal prepares an individual environment report to the Chinese (State) Environmental Protection Bureau, the Shanxi Environmental Protection Bureau and the local Shouzhou Environmental Protection Bureau twice yearly. The reports incorporate information regarding volumes of solid waste generated, noise data, wastewater data, gaseous emissions data, environmental budgets and completed rehabilitation. The reports are passed down from state to provincial regulators for approval, then to local county environmental regulators who conduct random inspections. Pingshuo Coal must, therefore, remain environmentally vigilant and be prepared for random checks, which are carried out by both provincial and local environment agencies several times a year to ensure compliance. In addition, Pingshuo Coal submits a twice-yearly summary environmental planning report to the State Environmental Protection Bureau.

SRK completed random inspections of the following environmental reports and found that all reported environmental data were within relevant guidelines and standards, including:

- Half-yearly Pingshuo Coal corporate summary environmental planning report to the State Environmental Protection Bureau (2004)
- Residential area waste water treatment plant proposed expansion report (2004)
- Application report for ISO14001:1996 compliance at Anjialing open-pit mine (2004)

To date, Pingshuo Coal has not been fined for any breach of environmental non-compliance.

3.4.5 Environmental Staff

Pingshuo Coal has two environmental professionals located in its corporate office, in addition to one environment manager located at Antaibao and another at Anjialing who look after both the underground and open-pit mines. In addition to these four environmental staff, there are up to approximately 30 additional technical and operational staff assisting with data capture and day-to-day environmental assistance across the

sites. Pingshuo Coal ensures that its environmental managers are suitably qualified. In addition to these staff, the waste water treatment plants owned and operated by Pingshuo Coal have a dedicated environmental staff member who oversees environmental issues.

3.4.6 Environmental Planning and Budgets

Pingshuo Coal is proactive in its environmental budgeting, having invested over RMB5.2 M towards mine site rehabilitation at both Antaibao and Anjialing open-pit mines for the year 2004 as reported in the Pingshuo Coal 2004 Annual Environmental Report. A similar amount was spent on noise, dust, water and emissions management equipment and monitoring across the company. A further RMB6.6 M was spent on improvements and upgrades to the Pingshuo 'life area' located in the town proper, which included landscaping, waste water management and heating. A further, RMB11.5 M has been allocated for environmental protection measures for the proposed Antaibao Underground Mine as stated in the 2004 feasibility study. Environmental planning at the mines comprises 10 year progressive rehabilitation and environmental management plans, which is in line with both Chinese and western standards.

3.4.7 Water Management

Pingshuo Coal has a strong company-wide emphasis on water conservation, as demonstrated by extensive on-site recycling. This policy extends across the mines, coal washing plants and waste water treatment plants (WWTP). These plants are all working towards a zero water discharge policy. The town's WWTP, which is operated by Pingshuo Coal, releases water that meets relevant criteria into the Qili River during the wet season.

Pingshuo Coal recently completed an upgrade of its water holding reservoir located between Antaibao and Anjialing open-pit mines. Pingshuo Coal has a recycled water policy with zero discharge during agricultural irrigation periods, and a 95% re-use criterium during non-irrigation periods. The 5% balance is discharged into Dashna Creek under licence. Any surplus run-off water is used for dust suppression on the mines, while treated sewage water is used for coal washing and on rehabilitated areas.

Supplementary water is sourced for the mines from 10 groundwater wells approved by local authorities and located at Liu Jiakou. The majority of this water is used for coal washing. Surface water is managed across the mine sites by a series of drains and sedimentation dams.

3.4.8 Waste Rock, Tailings and Rehabilitation Management

The Chinese mining industry is regulated by MOLAR under the Mineral Resources Law (1996 as amended). Under this law no rehabilitation bond or surety is required, however if mining activities result in damage to arable land, grassland or afforested areas, the mining operator must take appropriate measures to return the land to a suitable condition within a prescribed time frame. Any entity or individual that fails to fulfil its rehabilitation obligations may be fined and denied application for land use rights for new land. Government regulators routinely inspect the progress of rehabilitation in this regard.

Waste rock at both Antaibao and Anjialing open-pit mines is disposed of within the mine voids, though out-of-pit disposal was required during the initial mine development stages at both mines. The waste rock is a mixture of silicious sandstone, calcite and claystone. The claystone contains some visible pyrite, though as the waste is disposed of within the mine pits and subsequently buried, it is not considered to be a potential contamination issue as any sulphides will be stored in an anoxic environment. The minimal volumes of waste rock generated from Anjialing Underground Mine are disposed of in Anjialing open-pit mine. The same waste management and disposal policy is planned for Antaibao Underground Mine. SRK believes that these waste management policies are logical given the centralised location of the coal wash and power station

infrastructure relative to the mine sites. Any potential lack of space in the open-pits due to the 'bulking' of waste rock upon removal is compensated for by the additional space generated by coal extraction from the pits. Waste (or tailings) from the coal wash plants is either burnt in the on-site power station or disposed of in pit. Following completion of the new coal wash plants and upgrades to existing plants, 100% of coal wash rejects will be used as fuel in the power plant. Total solid waste volumes as reported in 2004 across all operations were approximately 5.6 Mt, of which over 99% was waste rock.

Both of the two out-of-pit waste rock dumps at Antaibao open-pit mine have been rehabilitated using a 1.5 m thick clay cap and revegetated using local species. The local clay soil used as a capping layer has a pH value of approximately 8, and therefore has a slightly neutralising effect on any acid generated as a result of oxidising sulphide minerals. Surface water on the dumps is redirected through a series of channels and sedimentation dams. Work is soon to begin on progressive rehabilitation of Anjialing open-pit waste rock dumps.

3.4.9 Dust Management

Dust is managed on-site at the open-pit mines by recycling surface run-off water. Antaibao open-pit has six operating water tankers while Anjialing has five. In addition, dust is suppressed at Anjialing Underground Mine through the use of water sprays attached to the longwall mining equipment. Dust is monitored monthly on the open-pit mine sites by automatic laser sampling methods in line with environmental compliance requirements. A computerised dust monitoring system is operational at Anjialing Underground Mine.

3.4.10 Social and Regulatory Relations

Following discussions with Pingshuo Coal representatives it appears that relations with both local residents and regulatory bodies are sound. Good relations with the local community are primarily due to Pingshuo Coal providing continued local job opportunities and employment for a large number of individuals, with positive flow-on effects on the local and regional economy in service industries. Residents directly affected by both underground and open-pit mining operations are compensated by Pingshuo Coal and relocated from the area as required under the Mineral Resources Law (1996).

In accordance with the legal requirements for rehabilitation of affected agricultural land and re-settlement and compensation of affected persons, Pingshuo Coal includes a budgetary allocation for such activities. One notable impact of Pingshuo Coal's mining activities is surface subsidence, which is the lowering of the land surface due to the extraction of subsurface coal, often with concomitant surface cracking. Pingshuo Coal has removed any such impacts on local landowners at Anjialing Underground Mine by purchasing the surface rights to the land. Pingshuo Coal plans to manage these impacts at the proposed Antaibao Underground Mine by relocating small villages and financially compensating any affected persons, plus financially compensating farmers whose land is affected by subsidence so that rehabilitation may be effected. The budgeted financial consideration will also be used to temporarily relocate any major infrastructure including roads and powerlines prior to sub-surface mining, as SRK observed almost 100% surface expression of the extracted coal seam height due to a combination of its relatively shallow sub-surface depth and the nature of the overlying stratigraphy. In addition, Pingshuo Coal plans to leave coal pillars below major settlements that are not relocated to avoid impacts from surface subsidence.

All indications are that relations with statutory bodies are sound. It should be noted that Pingshuo Coal has never been fined for any environmental mishaps. Pingshuo Coal possesses documentation from the local regulators supporting its environmental record. Further, rapid approval of proposed mining at Pingshuo East and Antaibao underground is testimony to the sound relationships with regulatory authorities.

3.4.11 Environmental Assessment Conclusion

Following interviews with key Pingshuo Coal environmental staff and inspection of environmental documentation and operational sites, it is apparent that Pingshuo Coal takes its environmental responsibilities very seriously. SRK found that Pingshuo Coal has a sound and proactive approach to its environmental responsibilities and is managing its operations in compliance with its environmental obligations. This opinion is supported by the fact that Pingshuo Coal has not been fined for any environmental incident to date across its operations. Specific focus is on water management and conservation, with several plans in place for increasing the use of recycled water.

3.5 Coal Processing and Transport

All coal produced by the Pingshuo Coal mines is washed before it is sold to customers. Two-thirds of the product is sold to power stations in the coastal areas of China, although the majority is handled through port facilities at Qinhuangdao before distribution to customers. The balance of the product is exported through the port. Pingshuo Coal purchases external coal to supply the demand of customers, with between 2.8 Mt and 7.4 Mt purchased per annum over the last four years.

The Materials Handling and Process Plant flowsheets are similar for all CPPs in the Pingshuo area and are applicable to the operating plants, i.e. Antaibao and Anjialing, and the newly constructed plants, i.e. Muguajie and the new Antaibao and Anjialing CPPs. A copy of a typical Materials Handling and Process Plant flowsheet is attached in Appendix 3. Operating plants at Antaibao and Anjialing and the Muguajie plant are all equipped with their own on-site magnetite mills.

Pingshuo Coal utilises the government rail network to rail its coal within the 750 kilometre (km) railway system which is capable of transporting 200 Mtpa. The company has a contractual agreement with Datong Rail for the use of its rail loop, and although this agreement lapsed on 31 July 2004, it remains in place unless further negotiations are called by either party. A separate fee is then paid for use of the government railway system which is controlled by the China National Railway Ministry.

3.5.1 Antaibao CPP

Materials Handling

Three hoppers each with a capacity of 1,800 tonnes per hour (tph) have been installed at the CPP. The feed passes to a single stage plant that can either by-pass ROM coal to product (1,600 tph maximum) to produce high ash power plant product or direct the coal to the CPP. Product bins are dedicated for 120,000 tonne (t) fine coal, 15,000 t low sulphur coal and 15,000 t high sulphur coal. A reject bin accepts the reject stream and no tailings are raised as all fines are included in the product.

Process Plant

The CPP consists of three identical modules each nominally 783 tph and operating to 800 tph. Each module consists of:

- Dense medium bath for 50 millimeter (mm) × 13 mm
- Dense medium cyclone for 13 mm × 0.5 mm
- Drying only for 0.5 mm × 0 mm

A workforce of 242 operates and maintains the Antaibao CPP.

Capital Works

Three new remote dump hoppers are being installed to reduce travel distance of the mine trucks. The raw coal from these hoppers is conveyed to a new ROM area that includes rill towers. The fines are dried in a two-stream drying plant, however this is being replaced by a four-unit hyperbaric filter installation which is in the commissioning phase. The purpose of this is to save power and decrease cost, however the fines product moisture will rise from 10% to 20%. As the fines are a small component of the total product, total product moisture will only increase by a small amount and should not affect the sales price.

Rejects and CPP Yield

Tailings are added into the product stream and the large reject returns to the open-pit. A yield of 75% to 80% is achieved from the CPP which is reasonable.

3.5.2 Anjialing CPP

The construction of this plant commenced in 1998. In 2005 it processed 15.54 Mt and operated at 65 t per man shift.

Materials Handling

Coal handling consists of two feed lines, each with a capacity of 2,500 tph and containing a primary and a secondary MMD crusher. Coal is dumped in two bins of 1,700 and 2,500 t capacity respectively and a rill tower. The dump hoppers are situated 2.2 km from the plant.

Process Plant

There are three, two-stage modules for production of high grade product and middlings and two single stage modules for domestic thermal coal production. A new line with a capacity of 1,300 tph has been added for plant bypass. Scheduled plant maintenance is carried out for 32 hours twice per month and modular maintenance is carried out for eight hours each week. Availability is reported to be above 90%.

The operational capacity of the plant is 2,400 tph and the total capacity including bypass amounts to approximately 17.5 Mtpa. Yield was reported as 75% to 80% and magnetite usage is 1.4 kilograms (kg) per ROM t.

A workforce of 161 operates the plant with an additional 100 people forming the maintenance pool. The plant is generally well-maintained and in very good order.

Quality

Coal quality as shown in Table 3-4 applies to both Anjialing and Antaibao, as both plants are on adjacent sites.

Table 3-4: Coal Quality Parameters, Coal Processing Plants — Pingshuo Coal

		Ash (%)	CV (kcal/kg)	Sulphur (%)	TM (%)
Feed	#4 Seam	37	—	0.6	—
	#9 Seam	28	—	2.0	—
	#11 Seam	37	—	2.0	—
Product	High Grade	15 to 38	—	1 to 1.7	<10
	Middlings	22 to 25	5,000	1 to 1.2	<7.5

3.5.3 Muguajie CPP

Muguajie CPP is a new plant which was commissioned during 2005.

Materials Handling

The plant has been provided with a large ROM area set up with two large rill towers, one for each seam. The product area has three similar rill towers and the stated capacity for each tower is 1 Mt. The Muguajie plant is very closely situated to a plant belonging to another company which will enable sharing of the train loading loop. Each plant will however be equipped with its own loading bin.

Process Plant

Two single stage modules process coal for domestic thermal markets with each module rated at 750 tph. The plant is set up for:

- Dense medium bath for 50 mm x 13 mm
- Dense medium cyclones for 13 mm x 0.5 mm
- Fines unwashed to product for 0.5 mm x 0 mm

Production is budgeted for 300 days/year and 14 hours/day. The plant has a budgeted design rate of 6 Mtpa but is expected to operate at 10 Mtpa. The two bath modules are set up opposing each other with one constructed from imported equipment and the other with locally manufactured equivalent.

The plant will operate with 57 operators and 100 maintenance personnel.

Coal Quality

Quality figures for the feed stream and the product at Muguajie plant are shown in Table 3-5.

Table 3-5: Quality Parameters, Muguajie Coal Processing Plant

		Ash (%)	Sulphur (%)	TM (%)
Feed	#4 Seam	33.5	0.51	6.0
	#9 Seam	27.0	1.20	6.0
Product		17.9	0.88	8.8

3.5.4 New CPPs for Antaibao and Anjialing Underground

Two new plants are in the final stages of construction in close vicinity to the two existing CPPs of the open-pit mines. Each plant is reported to have the same flow chart as Muguajie and has been designed with three modules for a capacity of 10 Mtpa each. These sites were inspected by SRK during May 2005, and at the time the plant at Anjialing was approximately 30% complete. The construction of the body of the plant was well underway, the thickener shell was complete and the conveyor transfer towers were in progress. The plant at Antaibao was approximately 15% built during the site visit, with the rill towers erected and the ground floor of the plant completed.

3.5.5 Coal Production History

The historical production for the Pingshuo Coal processing plants is shown in Table 3-6, Table 3-7 and Table 3-8.

Table 3-6: Coal Processing Plants Production History, 2003 to 30 June 2006 — Antaibao

		2003	2004	2005	30 June 2006
Washed Coal	Mt	7.97	8.68	8.89	5.17
Middlings	Mt	6.50	5.95	6.92	4.22
Raw Coal and Waste	Mt	0	0	0	3.11
Total	Mt	14.47	14.63	15.81	12.50

Table 3-7: Coal Processing Plants Production History, 2003 to 30 June 2006 — Anjialing

		2003	2004	2005	30 June 2006
Washed Coal	Mt	6.44	7.02	5.79	3.31
Middlings	Mt	4.83	8.05	9.75	5.54
Raw Coal and Waste	Mt	0	0	0	3.05
Total	Mt	11.27	15.07	15.54	11.90

Table 3-8: Coal Processing Plants Production History, Jan to June 2006 — Muguajie

		30 June 2006
Washed Coal	Mt	0
Middlings	Mt	0.57
Raw Coal and Waste	Mt	0.18
Total	Mt	0.75

3.6 Long Term Plans

Pingshuo Coal demonstrates a determined approach to expansion and production increase through the development of Pingshuo East open-pit and the Antaibao underground mine, as well as a significant production increase planned for the Anjialing underground mine. In the meantime, if there are good opportunities, China Coal proposes it will acquire mines in the Pingshuo area, to further increase their reserves and production.

3.7 Antaibao Open Pit Mine

3.7.1 Introduction

The Antaibao open-pit coal mine was established as a joint venture between China Coal and Island Creek Coal Company of the United States of America. Design work and construction was completed in 1986 and production commenced in 1987. Antaibao took 100% control when Island Creek Coal Company of the United States of America exited the joint venture. Antaibao uses mostly imported mining equipment and produced 14.8 Mt of raw coal during 2004 and 16.4 Mt in 2005. The coal preparation plant processed 15.8 Mt of product coal during 2005. Antaibao open-pit coal mine produces 100% thermal coal with a contracting company employed to conduct pre-stripping operations.

3.7.2 Geology and Mineral Resources

The topography consists of undulating hills with an elevation range from 1,200 to 1,500 m above sea level. The variation is primarily due to the large river systems that wind through the region.

The stratigraphy of the Pingshuo mines is outlined in Table 3-9.

Table 3-9: Stratigraphic Sequence — Antaibao and Anjialing

Stratigraphic Unit	Thickness Range (m)	Average Thickness (m)
Quaternary	0 to 63	25
Tertiary	0 to 59	23
Upper Permian	0 to 148	25
Upper Lower Permian	0 to 97	49
Lower Lower Permian (Shanxi Group)	11 to 98	60
Upper Carboniferous (Taiyuan Group)	57 to 105	79

The Quaternary material is usually unconsolidated and weathered soil, clays, sands and gravel deposited by recent river systems. The Tertiary material, although generally semi-consolidated sediments, has some hard bands of sandy siltstone interspersed throughout the sequence. The Tertiary sediments constitute the bulk of the overburden material and unconformably overlie the Permian sediments.

The #1 seam to the #3 seam belong to the Shanxi Group. Generally the #1 to the #3 seams are either too thin or not present due to being eroded away by the overlying Tertiary sediments. The #4 to the #11 seams are of the Taiyuan Group. Most of the seams are too thin or absent and are not recovered in the mining operations. Only the #4, the #9 and the #11 seams are mined. The #4 seam is often found directly below the unconformity between the Tertiary and Permian sediments. The overburden averages 100 m to the #4 seam, but due to topographic variation the #4 seam can be found as close as 40 m to the surface (see Table 3-10). The top 1 m of the #4 seam is weathered and a parting band at the base of this weathered zone is the marker for the top of the working section.

Table 3-10: Open-pit Seam Statistics — Antaibao

Seam	Thickness Range (m)	Average Thickness (m)	Average Interburden (m)
#4	8 to 14	10	100 (to surface)
#9	10 to 17	14	31
#11	3 to 6	4.5	15

The interburden between the #4 and the #9 seams ranges from 30 to 40 m and is generally comprised of sandstone with minor siltstone and claystone. These sediments are strong, requiring blasting prior to removal. Between the #9 and the #11 seams the interburden ranges from 10 to 20 m. The sediments between the #9 and the #11 seams are generally sandstones and siltstones. The siltstones display abundant pyrite on the bedding planes. As well, extremely hard ironstone nodules (up to 10 centimetres (cm) in diameter) are found to occur in the sandstone sediments which themselves are extremely hard due to silicification.

Structure

The Antaibao area is bound to the east and the west by major faults trending N20°E. Faults within the Antaibao area are small scale (less than 5 m throw), with normal faults trending N15°W, and have little or no affect on the mining recovery of the seams.

Antaibao has one main fold feature 475 m along an axis of N60°W, with dips of 3 to 4 degrees on the flanks of the fold. There is no evidence of igneous activity in the Antaibao coalfield.

Coal Quality

All coal mined at Antaibao produces thermal coal products, primarily for power station use. Although the majority of products are utilised in the domestic market, the lower ash products are generally sold on the export market.

All ROM coal is washed through a dense medium cyclone wash plant at the mine site (see Coal Processing section for more details). The typical quality parameters of each seam are summarised in Table 3-11.

Table 3-11: Typical Coal Quality — Antaibao Open Pit Seams

Seam	Inherent Moisture % (ad)	Raw Ash % (ad)	Washed Ash F1.60 % (ad)	Raw Sulphur % (ad)	Washed Sulphur % (ad)
#4	2.8	27.0	14.0	0.40	0.68
#9	2.1	25.0	13.0	1.50	2.18
#11	2.0	33.0	14.5	3.00	2.17

Resource Estimation

There have been three phases of drilling at Antaibao, each having different levels of reliability in terms of seam tonnage and coal quality.

In the 1960s drilling was performed by the Chinese Central Government using NQ-size (47.6 mm diameter) core drilling equipment. These boreholes were found to have a low core recovery rate (usually less than 90%) but are considered to be reasonably reliable in terms of coal thickness (due to the use of geophysical logs). In the resource estimation process, government boreholes were given a lower reliability rating in accordance with the Chinese Resource Estimation rules.

The second drilling program was conducted in the 1980s using a drilling rig imported from the United States of America. This rig provided PQ-size (85 mm diameter) and proved to be successful in attaining a coal seam recovery rate greater than 95% on average. If the core recovery was lower, the borehole was re-drilled.

The third drilling program commenced in the 1990s and continues on an ongoing basis. The drilling techniques of the 1980s program are the same as used in the third program. A geologist is in attendance at the drilling rig at all times to record chip samples and to determine coring intervals. Seams are sampled as one complete ply for analytical testing and average borehole spacing is 300 m.

Therefore, in terms of reliable data, the boreholes of the 1980s and 1990s (to current) are regarded as highly reliable data points for use in the estimation of coal resources.

The parameters used to estimate coal reserves for all the Pingshuo Coal mines are as follows:

- Minimum coal seam thickness of 1 m
- Maximum ash content of 40% (air dried)
- Maximum sulphur content of 3%
- Tonnage is calculated using coal density only and does not include partings (e.g. for the #11 seam, actual density ranges from 1.5 tonnes per cubic metre (t/m^3) to 1.7 t/m^3, but for resource calculations, a density of 1.42 t/m^3 is used)
- Partings greater than 5 mm within a coal seam have been excluded from the thickness used to estimate coal resources

- For areas where no coal was found or where coal is oxidised, the reserve estimate projects coal to half-way between drill holes
- For known faults with 10 m throw or greater, a zone of 50 m either side of the fault is down-graded to the next category

The coal resources for Antaibao mine are shown in Table 3-12 and were current as at 30 June 2006.

Table 3-12: Coal Resources — Antaibao Open Pit

Seam	Resources (Mt) Measured	Indicated	Inferred	Total Resources (Mt)	Mineable Resources (Mt)
#4	28	15	15	58	43
#9	93	0	0	93	93
#11	30	0	0	30	30
Total	**151**	**15**	**15**	**181**	**166**

3.7.3 Coal Reserves

SRK has applied a 95% mining recovery factor to the coal resources to allow for those resources which will not be accessible in a practical mine design, such areas as final batters and pit end-walls. Mining loss and mining dilution factors have also been applied to calculate recoverable reserves. A saleable recovery percentage was then applied to calculate marketable reserves. The resulting coal reserves are shown in Table 3-13.

Table 3-13: Coal Reserves — Antaibao Open Pit

Mining Recovery (%)	Proved Reserve (Mt)	Probable Reserve (Mt)	Proved + Probable Reserve (Mt)	Mining Loss (%)	Mining Dilution (%)	Recoverable Reserves (Mt)	Saleable Recovery (%)	Marketable Reserves (Mt)
95	143	14	158	13	10	151	87	131

3.7.4 Mining and Operations

The length of the Antaibao mining area is 4.9 km and the width 2.1 km with the depth of the pit varying between 180 and 240 m. The layout of the seams and open-pit mines is shown in Figure 3-1.

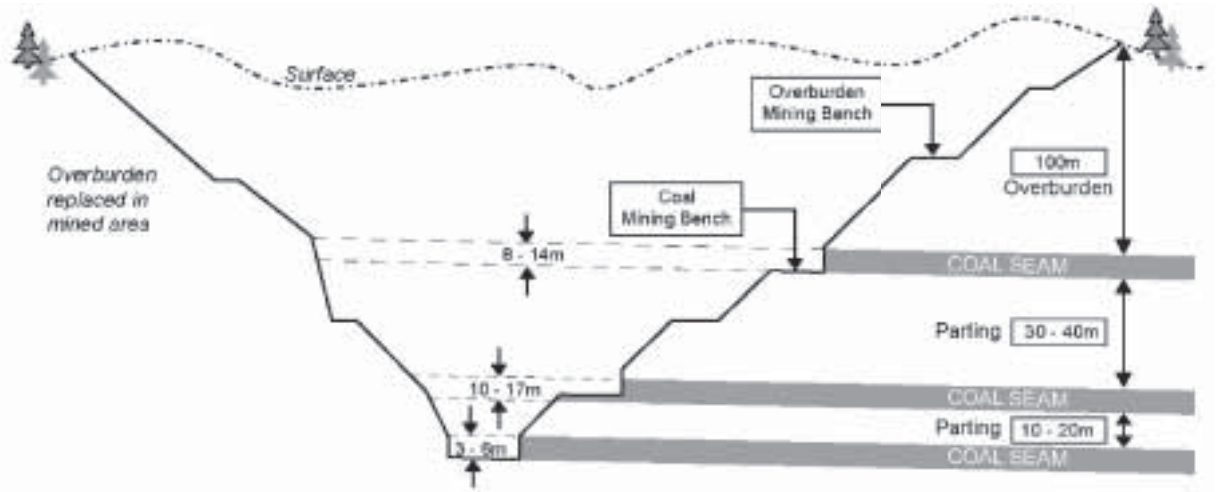


Figure 3-1: General Diagram of Antaibao and Anjialing Open Pit Coal Mines

Antaibao open-pit coal mine uses modern truck and shovel mining methods to remove waste and to mine coal from the #4, #9 and the #11 coal seams. In the pit, drilling is completed by 9 Ingersoll Rand mast drills which can drill the 15 m bench in one pass. Blasting is done using non-electric initiation and ammonium nitrate/fuel oil (ANFO) explosive. 13 P&H 2800XPB electric shovels load blast waste rock into a fleet of trucks of 150 t to 170 t capacity. The truck fleet is a mixture of Caterpillar 789, Dresser R190 and Komatsu 730E trucks. The total truck fleet consists of 125 trucks with 89 trucks in operation at the same time. The mining process at Antaibao mine is supported by 32 track dozers, 14 tyre dozers, 7 graders and 6 water trucks. The strip ratio in 2005 was 6.12 m^3 of waste to 1 t of in-situ coal (6.12:1). Coal is loaded into the truck fleet by 11 front-end loaders (FELs). The trucks transport the coal up the ramp to a dump hopper. The trucking distance is reduced by the dump hopper being located close to the top of the ramp.

Coal loss during mining is estimated by the company at 12.6% and dilution by waste rock is estimated at 10%. Historical production statistics are shown in Table 3-14.

Table 3-14: Mine Production History, 2003 to 30 June 2006 — Antaibao Open Pit

		2003	2004	2005	30 June 2006
Pre-strip	million m^3	13.23	33.55	29.25	11.75
Overburden and inter-burden removed	million m^3	74.33	60.64	71.42	43.97
Total Waste	million m^3	87.56	94.19	100.67	55.72
Strip Ratio	m^3/t	6.43	6.37	6.12	5.92
Total Raw Coal Mined	Mt	13.61	14.78	16.44	9.41

3.7.5 Infrastructure

Electrical power is supplied to Antaibao mine by a connection to the provincial government-owned grid. The 220 kilovolt (kV) supply is fed through the Pushang substation which is situated 13 km from the

mine site. The substation is equipped with a 240 megavolt-ampere (MVA) transformer and feeds the mine at 110 kV via overhead lines. The power supply is stepped down from 110 to 35 kV and subsequently to 6 kV for supply to the open-pit mines. The power supply to site is very reliable with minimum negative impact to the mining operation.

The water source for the Antaibao mine is a borefield at Liujiakou in which 10 bores have been drilled with a production capacity of 34 megalitres (Ml)/day. The borefield is 7 km from the mine and also supplies water to Anjialing open-pit and underground coal mines. Water for domestic use in town is supplied by separate boreholes. The mines are reported to have a usage of 19 Ml/day and 3 Ml/day is also supplied to external parties. At times, the usage can rise to near the capacity of the borefield, but storage facilities of 18 Ml are available on surface. A supplementary water supply is available from the nearby town of Gengzhuang but has not been required recently. Pingshuo Coal is considering construction of a dam on a local river as an alternative supply source for both mines. An application for government approval for this dam construction has been submitted.

3.7.6 Capital and Operating Costs

The historical and forecast capital expenditure for Antaibao open-pit mine is indicated in Table 3-15 and the average annual historical operating expenditure in Table 3-16. Although the cash operating cost has been increasing over the past three years, Antaibao open-pit achieved very competitive unit cost results with the high levels of production realised.

Table 3-15: Capital Expenditure — Antaibao Open Pit

Operating Company and Mine	Mining Method	Capital Expenditure (RMB Million) 2003	2004	2005	2006	2007	2008
Pingshuo Coal Company							
Antaibao	OP	87	116	258	652	352	463

Table 3-16: Average Annual Mine Cash Costs — Antaibao Open Pit

Operating Company and Mine	Mining Method	Cash Operating Cost (RMB/tonne) 2003	2004	2005
Pingshuo Coal Company				
Antaibao	OP	49.55	60.05	77.67

3.8 Anjialing Open Pit Mine

3.8.1 Introduction

Construction at the Anjialing open-pit mine started in May 1998 with production commencing in 2001. Conditions are very similar to Antaibao as the mines are located adjacent to one another and similar seams, i.e. #4 seam, #9 seam and #11 seam, are mined. The mine mainly uses imported equipment and has significantly increased production since 2002 to produce 14.5 Mt during 2004 and 15 Mt in 2005. The mine has adopted a staffing approach of employing young people and actively trains young graduates for the company. A contracting company is employed to conduct pre-stripping operations.

3.8.2 Geology and Mineral Resources

The topography consists of undulating hills with an elevation range from 1,160 to 1,410 m above sea level. The variation is primarily due to the large river systems that wind through the region.

The stratigraphy of Anjialing coal mine is outlined in Table 3-17. The Quaternary and Tertiary material is similar to that at Antaibao. The seams mined in Anjialing are the same as those mined at Antaibao, with the addition of #7 seam which is found in mineable localities. There is less weathering of the top of the #4 seam in Anjialing than in Antaibao.

Table 3-17: Seam Statistics — Anjialing Open Pit

Seam	Thickness Range (m)	Average Thickness (m)	Average Interburden (m)
#4	0.8 to 18.9	9.45	100 (to surface)
#7	0.0 to 2.39	0.59	19
#9	8.2 to 22.4	14.4	11
#11	2.1 to 9.8	4.2	15

The interburden between the #4 and the #9 seams ranges from 30 to 40 m and generally comprises sandstone with minor siltstone and claystone. These sediments are fresh and competent, requiring blasting prior to removal.

The #7 seam occurs sporadically throughout the Anjialing lease, and will be mined in areas where it is thicker than 0.3 m and economically viable.

Between the #9 and the #11 seams the interburden ranges from 10 to 20 m. Sediments between the #9 and the #11 seams are generally sandstones and siltstones. The siltstones display abundant pyrite on the bedding planes. As well, extremely hard ironstone nodules (up to 10 cm in diameter) are found to occur in the sandstone sediments which themselves are extremely hard due to silicification.

Structure

Anjialing geology is more structurally complex than that of Antaibao. At Anjialing, a series of synclines and anticlines cross the area. A major syncline/anticline feature strikes ENE and stretches some 6 km in length, with dips between 5 and 9 degrees. Smaller synclines are oriented NS and EW.

A series of reverse and normal faults are generally found striking in a NNE or NE direction. These faults have significant vertical displacements ranging from 10 to 125 m. These faults will modify the shape and economics of the open-pit design, but will not significantly affect the overall reserves of the mine. There is no evidence of igneous activity in Anjialing coalfield.

Coal Quality

As in Antaibao, all the coal mined at Anjialing produces thermal coal products.

All the ROM coal is washed through a dense medium cyclone wash plant at the mine site (see Coal Processing section for more details). The typical quality parameters of each seam are summarised in Table 3-18.

Table 3-18: Typical Coal Quality — Anjialing Open Pit Seams

Seam	Inherent Moisture % (ad)	Raw Ash % (ad)	Washed Ash % (ad)	Raw Sulphur % (ad)	Washed Sulphur % (ad)
#4	2.8	27.0	17.0	0.61	0.68
#7	2.3	24.7	16.0	3.11	2.30
#9	2.1	22.4	15.0	2.19	2.18
#11	2.0	29.8	18.0	2.75	2.17

Resource Estimation

As Anjialing commenced construction in 1998, the drilling program was executed as recently as the 1990s using a drilling rig imported from the United States of America. Consequently, all boreholes have a high level of reliability due to the excellent core recovery achieved.

The coal resources for Anjialing mine are shown in Table 3-19 and were current as at 30 June 2006.

Table 3-19: Coal Resources — Anjialing Open Pit

Seam	Resources (Mt) Measured	Indicated	Inferred	Total Resources (Mt)	Mineable Resources (Mt)
#4	51	184	147	382	235
#7	3	15	25	43	18
#9	144	206	263	613	350
#11	49	70	58	177	119
Total	247	475	493	1,215	722

3.8.3 Coal Reserves

Similar recovery factors, mining dilution factors and mining losses to Antaibao as indicated in Section 3.7.3 were applied to determine the coal reserves for Anjialing. The resulting figures are shown in Table 3-20.

Table 3-20: Coal Reserves — Anjialing Open Pit

Mining Recovery (%)	Proved Reserve (Mt)	Probable Reserve (Mt)	Proved + Probable Reserve (Mt)	Mining Loss (%)	Mining Dilution (%)	Recoverable Reserves (Mt)	Saleable Recovery (%)	Marketable Reserves (Mt)
95	235	451	686	13	10	656	87.1	572

3.8.4 Mining and Operations

The Anjialing mining operation covers an area of 48 km^2 with the pit bottom in 2005 being mined to a length of 900 m. The layout of the seams and open-pit mines is shown in Figure 3-1. Anjialing coal mine uses standard truck and shovel mining methods. Pre-stripping is completed by a local contractor using a fleet of 5 m^3 FELs and 25 t capacity trucks. In the pit, drilling is completed by 10 Ingersoll Rand mast drills which can drill the 15 m bench in one pass. Blasting is done using non-electric initiation and ANFO explosive. Seven P&H 2800XPB electric shovels load blasted waste rock into a fleet of trucks of 150 to 170 t capacity.

The fleet of 49 trucks is a mixture of Caterpillar 789C, Dresser Haulpack and Komatsu 730E trucks. Anjialing open-pit also operates 13 track dozers, 4 tyre dozers, 5 water trucks and 8 graders. The strip ratio in 2005 was 4.6 m^3 waste to 1 t of in-situ coal (4.6:1). Coal is loaded by two FELs. The trucks transport the coal up the ramp to a dump hopper. The trucking distance is reduced by the dump hopper being located close to the top of the ramp.

Historical production statistics are shown in Table 3-21 below.

Table 3-21: Mine Production History, 2003 to 30 June 2006 — Anjialing Open Pit

		2003	2004	2005	30 June 2006
Pre-strip	million m^3	14.96	25.29	20.14	21.72
Overburden and inter-burden removed	million m^3	36.29	45.13	48.90	21.05
Total Waste	million m^3	51.25	70.42	69.04	42.77
Strip Ratio	m^3/t	4.65	4.81	4.60	4.64
Total Raw Coal Mined	Mt	11.01	14.45	15.01	9.22

3.8.5 Infrastructure

Electrical power is provided to Anjialing mine from the same grid supplying Antaibao open-pit mine with similar reliability. Due to the large demand from electric shovels, electric drills, the CPP and the worksite, Pingshuo Coal receives preferential supply reliability from the provincial suppliers.

The water source for the Anjialing mine is the same borefield which supplies Antaibao coal mine. To conserve water supplies, Anjialing has constructed a dam on the mine site to retain some flood waters during the wet months of June to August every year.

3.8.6 Capital and Operating Costs

Historical capital expenditure for Anjialing open-pit has been reported as a combined number with Anjialing Underground Mine as indicated in Table 3-22. Planned capital expenditure until 2008 has been indicated separately. Similar to Antaibao open-pit mine, cash operating cost has increased since 2003, but Anjialing open-pit has historically achieved very competitive unit cost results as indicated in Table 3-23.

Table 3-22: Capital Expenditure — Anjialing Open Pit and Underground

Operating Company and Mine	Mining Method	Capital Expenditure (RMB Million)					
		2003	2004	2005	2006	2007	2008
Pingshuo Coal Company							
Anjialing	OP	539	953	838	353	315	463
Anjialing	UG				830	426	470

Table 3-23: Average Annual Mine Cash Costs — Anjialing Open Pit

Operating Company and Mine	Mining Method	Cash Operating Cost (RMB/tonne)		
		2003	2004	2005
Pingshuo Coal Company				
Anjialing	OP	29.90	39.33	56.29

3.9 Anjialing Underground Mine

3.9.1 Introduction

The Anjialing Underground Mine is an extension of the Anjialing open-pit operation to curb the higher strip ratios in this part of the coal reserve. Construction commenced in 2003 and the mine produced 8.7 Mt during 2005. The underground mine consists of two shaft systems (No. 1 and No. 2 shaft), which are totally independent of each other for ventilation, coal conveyance and man and material transport and access purposes. Each shaft is equipped with a longwall mining system cutting at 3.2 m, while both utilise the top coal caving method of heights up to 10 m.

The design capacity of the mine incorporating both shaft systems and including upgrades to infrastructure and expansion to production equipment, has been estimated at 20 Mtpa through a feasibility study completed by the Design Institute in October 2005. Pingshuo Coal plans to invest RMB1,726 M from 2006 to 2008 as sustaining capital and to implement two additional longwall systems and upgrade current infrastructure to increase production from the two shafts to a combined 20 Mtpa during 2008. Mining is currently done in the #4 and the #9 seam at No. 1 shaft and in the #9 seam at No. 2 shaft.

3.9.2 Geology and Mineral Resources

The topography consists of undulating hills and is similar to that of Anjialing.

The stratigraphy of Anjialing Underground coal mines is outlined in Table 3-24. The Quaternary and Tertiary material is similar to that at Anjialing open-pit mine. The seams mined in Anjialing Underground are the #4^1, the #4^2, the #9 and the #11 seams. The #4 seam has split into the #4^1 and the #4^2 seams in Anjialing underground. There is little or no weathering of the top of the #4^1 seam in Anjialing underground.

Table 3-24: Seam Statistics — Anjialing Underground Mine

Seam	Thickness Range (m)	Average Thickness (m)	Average Interburden (m)
#4^1	4.6 to 14.4	7.3	100 (to surface)
#4^2	0.9 to 4.8	3.1	1
#9	9.9 to 16.5	13.8	45
#11	0.4 to 7.7	3.7	15

The interburden between the #4^1 and the #4^2 seams ranges from 0.5 to 2 m and generally comprises siltstone and claystone.

Between the #4^2 and the #9 seams the interburden ranges from 40 to 50 m, generally consisting of sandstones and siltstones. It is considered that this interval is adequately thick and competent to allow for the subsequent extraction of the #9 seam.

Between the #9 and the #11 seams the interburden ranges from 10 to 20 m. The sediments between the #9 and the #11 seams are generally sandstones and siltstones which are quite strong due to the siliceous cement. It is considered that this interval is also adequately competent to allow for the subsequent extraction of the #11 seam.

Structure

Anjialing underground geology is not as structurally complex as that of Anjialing open-pit. At Anjialing underground, one major syncline crosses the area striking N50°E and stretching for some 6.75 km in length, with dips from 5 to 12 degrees.

Two major faults have been delineated at this stage from exploration drilling. Fault F25 is a normal fault striking N20°E, stretching for 1.5 km in length and with vertical displacements ranging from 40 m to 60 m. Fault F30 is also a normal fault striking N45°W, stretching for 1.1 km in length and with a vertical displacement of 20 m. F30 will only affect Anjialing underground over a 95 m interval. There is no evidence of igneous activity in Anjialing underground coalfield.

Coal Quality

As in Anjialing open-pit, all the coal mined at Anjialing underground produces thermal coal products.

All the ROM coal is washed through a dense medium cyclone wash plant at the mine site (see Coal Processing section for more details). The typical quality parameters of each seam are summarised in Table 3-25. Coal quality at Anjialing underground is very similar to that of Anjialing open-pit.

Table 3-25: Typical Coal Quality — Anjialing Underground Seams

Seam	Inherent Moisture % (ad)	Raw Ash % (ad)	Washed Ash F1.60 % (ad)	Raw Sulphur % (ad)	Washed Sulphur % (ad)
#4[1]	2.8	27.0	17.0	0.61	0.55
#4[2]	2.8	37.0	20.0	0.61	—
#9	2.1	22.4	15.0	2.19	1.70
#11	2.0	29.8	18.0	2.75	2.00

Gas

Methane gas concentration levels have not been measured in the #9 and #11 seams, however gas monitoring in the #4[1] seam indicates low levels (0.01 to 0.03%) of methane, which is expected to be the general case for the rest of the #4[1] and #4[2] seams.

Resource Estimation

As Anjialing underground is a relatively new project, the drilling program was executed as recently as the 1990s using a drilling rig imported from the United States of America. Consequently, all boreholes have a high level of reliability due to the excellent core recovery achieved.

The coal resources for Anjialing Underground Mine are shown in Table 3-26 and were current as at 30 June 2006.

Table 3-26: Coal Resources — Anjialing Underground

Seam	Resources (Mt) Measured	Indicated	Inferred	Total Resources (Mt)	Mineable Resources (Mt)
#4[1]	80	0	7	87	80
#4[2]	0	24	1	25	24
#9	127	0	15	142	127
#11	24	0	7	31	24
Total	231	24	30	285	255

3.9.3 Coal Reserves

SRK has applied a 75% mining recovery factor to the coal resources to allow for those resources which will not be accessible in a practical mine design. This has been assumed to allow for areas which will not be mineable or fully extractable, such as faults and intrusions, gateroads, main development entries etc.

A recovery factor of 80% has been applied as a mining loss based on the practical experience gained with the top coal caving method applied to mining heights in excess of 10 m during the last year, and mining dilution factors have also been applied to calculate recoverable reserves. A saleable recovery percentage was then applied to calculate marketable reserves. The resulting coal reserves are shown in Table 3-27.

Table 3-27: Coal Reserves — Anjialing Underground

Mining Recovery (%)	Proved Reserve (Mt)	Probable Reserve (Mt)	Proved + Probable Reserve (Mt)	Mining Loss (%)	Mining Dilution (%)	Recoverable Reserves (Mt)	Saleable Recovery (%)	Marketable Reserves (Mt)
75	173	18	191	20	10	168	87	146

3.9.4 Mining and Operations

Anjialing Underground Mine utilises the longwall mining method of extraction with top coal caving behind the hydraulic shields. Coal is extracted at 3.2 m height with the shearer, and coal left in the roof up to a thickness of 10 m cave in when the shields are advanced. This coal is transported with a separate armoured face conveyor (AFC) installed behind the shields, and conveyed through a crusher before the coal is loaded onto a conveyor for transport to surface.

The longwall system at No. 1 shaft commenced production during 2004 and produced 913,000 t combined with development production. The longwall system at No. 2 shaft was commissioned during May 2005, with a combined production of 8.7 Mt achieved between the two systems during 2005 as indicated in Table 3-28. Planned maintenance in the mining panels is scheduled every morning from 08:00am to 12:00pm. All longwall mining equipment has been manufactured and supplied locally in China, except for internationally supplied high-pressure pumps and switchgear. The shearer models are MGTY400/930-3.3D with 800 t, ZFS8000/23/37 shields installed along the mining faces. Pingshuo Coal has planned for additional capital expenditure of RMB360 M during 2006 to install two additional longwall systems and ancillary equipment at each shaft respectively to achieve the increased production capacity of 20 Mtpa in 2008. The implementation of the second longwall system at No. 1 shaft occurred in August 2006 and the additional system at No. 2 shaft is planned to occur during early 2007.

Table 3-28: Mine Production History, 2003 to 30 June 2006 — Anjialing Underground

	2003	2004	2005	30 June 2006
Total Output (Mtpa)	—	0.91	8.70	6.57
Development (m)	—	—	23,867	15,885

Development in the mine is done by a combination of fully mechanised mining systems and blasting operations. The mechanised development panels are equipped with Chinese supplied S-150 roadheaders and the panels utilise continuous haulage for conveyance and hand bolting practices for roof support. Primary development of roadways is conducted with blasting methods.

The longwall faces are approximately 240 m wide and up to 3 km long. The life of mine extends to the western part of the reserve block and longwall panels in this area have been designed up to 6 km long.

Ground conditions are generally good except for localised areas where faults and intrusions occur in the coal seam. Standard bolting patterns require the installation of anchor and cable bolts with mesh as required for specific conditions and steel arches are utilised at spacings of between 0.3 and 2.7 m when required. Standard bolting requirements were displayed in the development panel during SRK's site visit.

No stonedusting practices are employed at the mine. Sidewalls and roof are washed down periodically with water according to the requirements of Chinese legislative requirements. Water barriers are in use as required by local legislation.

Ventilation quantities are generally lower than international standards but comply with local requirements. The quantity reported for the longwall panel is 25 cubic metres per second (m^3/sec) and for the development panel 5 m^3/sec. Low methane levels were reported and detected underground. In-time methane monitoring is available on the surface in a centralised control room and equipment underground is interlocked to trip power when methane levels exceed 1% concentration. Heat is generated during winter months and pumped into the mine to curb the extremely cold conditions experienced during winter.

Dust measurements are taken twice per month and are kept in compliance with legislation. No excessive dust levels were obvious underground during SRK's site visit.

Anjialing Underground Mine utilises modern methods of transportation which allow for lower installation and maintenance cost with flexibility to adapt to production and operational requirements. Coal is transported from the panels to surface by rubber belt conveyor systems and personnel and material are transported by diesel rubber-tyred equipment. Diesel equipment utilised underground complies with statutory flameproof requirements.

3.9.5 Infrastructure

The underground mine is equipped with six shafts. No. 1 shaft system has two incline shafts, one for coal conveyance by conveyor belt to surface and one for men and material transport. The third shaft is vertical for ventilation extraction from the mining area. No. 2 shaft is also equipped with three shafts, with all three constructed as incline shafts.

Capital of RMB2.6 M has been provided during 2006 for additional stockholding of conveyor equipment and parts to ensure minimum impact on the increased production capacity due to possible delays on the coal conveyor systems. China Coal acknowledges the importance of high capacity and reliable incline conveyor systems to convey the coal from underground to surface, and distribute the coal to the various coal handling stations on surface. Therefore, additional capital expenditure of RMB73.4 M(RMB25.6 M for No. 1 shaft and RMB47.8 M for No. 2 shaft) has been provided during 2007 to increase the belt widths at both incline shafts to 2.0m and increase conveyance capacity to approximately 6,000 tph each. Both conveyor systems will be equipped with variable frequency 'soft start' drive systems and the capital provision includes upgrading and replacement of the conveyor drives and control systems as required. The replacement and upgrade plan allows six months for placement of orders and delivery to site, with one month allocated per shaft system to remove the existing conveyor system and replace with the upgraded system. China Coal has reported that it is in the process of planning an increase in production levels during the remaining 11 months of 2007 to ensure minimum negative impact on forecast production levels for the year.

The feasibility study indicated that the current ventilation capacity at No. 2 shaft will require doubling to provide for the ventilation requirements with an increased production capacity of 10 Mtpa. It has been established that this will be achievable by adjusting blade angles on the surface fan, however Pingshuo Coal additionally provided for capital investment in 2007 to the value of RMB1.8 M to install a higher capacity ventilation system and ensure a more reliable system with redundancy.

As reported, the water supply network for the underground mine is similar to the open-pit mines'. Water is recycled for underground use through a surface dam. The approval for the expansion of the water supply network will also serve the underground mine.

The current power supply system has been reliable after a few minor problems were rectified during 2004. The same power supply network for the open-pit mines is used for the underground mine and reports on reliability are consistent with feedback from the open-pit operations. Power is supplied via the two surface substations and supplied to the underground mine at 35 kV. Four lines supply the underground network and the feeds are transformed to 10 kV through two underground 1,250 kVA transformers and distributed to the underground workings. The installed capacity of the supply network currently exceeds the maximum usage of the mine. Pingshuo Coal has provided for additional capital expenditure of RMB25 M during 2006 to upgrade the current distribution system to allow for the increased capacity envisaged for the mine in future.

Capital and Operating Costs

Capital and operating costs for Anjialing Underground Mine are shown in Table 3-29 and Table 3-30. Anjialing Underground Mine commenced operations in 2004, with 2005 the first year to measure and report representative unit operating costs. Production figures increased sharply from 2004 resulting in a very competitive cost result for an underground operation as indicated for 2005. Capital expenditure has been planned separately from Anjialing open-pit mine from 2006 onwards, and an increased expenditure has been allowed for 2006 to fund the upgrading of equipment and infrastructure to increase the production capacity of the mine.

Table 3-29: Capital Expenditure — Anjialing Underground

		Capital Expenditure (RMB Million)					
Operating Company and Mine	**Mining Method**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
Pingshuo Coal Company							
Anjialing	OP	539	953	838	353	315	463
Anjialing	UG				830	426	470

Table 3-30: Average Annual Mine Cash Costs — Anjialing Underground

		Cash Operating Cost (RMB/tonne)		
Operating Company and Mine	**Mining Method**	**2003**	**2004**	**2005**
Pingshuo Coal Company				
Anjialing	UG	—	—	69.07

3.10 Antaibao Underground Mine

3.10.1 Introduction

Pingshuo Coal commenced the establishment of an underground mine to the north of the current Antaibao open-pit mine during 2005. Two of the three shaft systems have been developed to the coal seam and the auxiliary shaft construction has commenced but has been awaiting the anticipated government approval for a mining licence by October 2006 before completion. A mining licence has subsequently been received, dated 30 August 2006.

A feasibility study was completed by the Design Institute in November 2004 to establish an underground operation with an annual capacity of 8 Mt. A schedule of implementation and commissioning

indicates the commencement of one longwall operation 14 months after government approval has been received, with a second longwall unit commencing production 12 months later.

The feasibility study provides for the extraction of the total seam with top coal caving methods similar to the highly successful method applied at the adjacent and operating Anjialing Underground Mine.

As the mining licence for Antaibao underground has been issued earlier as anticipated on 30 August 2006, China Coal management has indicated that all available resources will be applied to further improve on the construction and implementation schedule of the longwalls, and commence production within a reduced timeline compared to that indicated in the feasibility study. It has also been indicated that plans are being developed to implement the two longwall systems simultaneously to reach maximum production levels in the shortest possible time period.

Total project value has been estimated at RMB1.013 Billion with RMB296 M expended up to the end of 2005.

3.10.2 Geology and Mineral Resources

The topography consists of undulating hills and broad valleys and is similar to that of Antaibao open-pit mine.

The stratigraphy of Antaibao underground coal mine is outlined in Table 3-31. The Quaternary and Tertiary material is similar to that at Antaibao open-pit mine. The seams mined in Antaibao underground are the #4 and the #9, while it is planned to mine the #11 seam in the future. There appears to be a washout zone in the #11 seam in the northern part of the area where the seam thins to 0.35 m. Coal less than 0.7 m in this area has been excluded from the resource, however China Coal plans to utilise ploughs or similar technology to mine the thinner areas of the #11 seam between 0.7 and 1.5 m thickness. There is some weathering of the top of the #4 seam in Antaibao underground and these weathered areas have been defined by the borehole data and excluded from the resource estimation.

Table 3-31: Seam Statistics — Antaibao Underground

Seam	Thickness Range (m)	Average Thickness (m)	Average Interburden (m)
#4	5.1 to 15.9	10.5	120 (to surface)
#9	6.7 to 18.6	12.8	40
#11	0.95 to 6.5	2.9	15

The interburden between the #4 and the #9 seams averages 38m to 40m and generally consists of sandstones and siltstones. It is considered that this interval is adequately thick and competent to allow for the subsequent extraction of the #9 seam.

Between the #9 and the #11 seams the interburden ranges from 10m to 20m. The sediments between the #9 and the #11 seams are generally sandstones and siltstones which are quite strong due to the siliceous cement. It is considered that this interval is also adequately competent to allow for the subsequent extraction of the #11 seam.

Seams #6, #8 and #10 have some areas of potential resources, however they are generally thin seams (about 1m thick), have limited aerial extent and have limited borehole data available. Therefore, these three seams have been excluded from the resource estimation for the Antaibao Underground Mine.

Structure

From the current borehole data and resultant structural contour plans of each seam roof, it is deduced that Antaibao underground geology is not structurally complex. The seams are generally flat with the average dip of 5 degrees near the subcrop and less than 2 degrees further down dip. At Antaibao underground, one major fault near the southern boundary of the project area trends East-West and stretches for some 5 km in length. Resources for the project have excluded coal south of the fault.

Minor faults have been delineated but their location and displacement have yet to be accurately defined. These minor faults are expected to have little impact on the mining operations.

Coal Quality

As in Antaibao open-pit, all the coal mined at Antaibao underground will produce thermal coal products.

All the ROM coal will be washed through a heavy-dense medium cyclone wash plant at the mine site (see Coal Processing section for more details). The typical quality parameters of each seam are summarised in Table 3-32. The coal quality at Antaibao underground is very similar to that of Antaibao open-pit.

Table 3-32: Typical Coal Quality — Antaibao Underground Seams

Seam	Inherent Moisture % (ad)	Raw Ash % (ad)	Washed Ash % (ad)	Raw Sulphur % (ad)	Washed Sulphur (ad)
#4	2.0	28.0	8.1	0.42	0.48
#9	2.2	20.7	7.1	2.46	1.05
#11	2.5	23.9	—	2.02	1.27

Gas

Gas samples have been taken for seams #4 and #9 from the boreholes drilled in the Antaibao underground area. All tests indicate very minor volumes of gas (generally less than 1 m^3/tonne) and minor methane content (<5%). No results were available for the #11 seam at the time of writing to assess the concentration of gas in this seam.

Methane gas monitoring in the #4 and #9 seams indicates low levels (0.01 to 0.03%) of methane, which is expected to be the general case for the rest of the resource for these seams.

Resource Estimation

Two phases of drilling were completed in the Antaibao underground mining area. Most of the boreholes were drilled in the 1980s, and subsequently 12 boreholes were completed in 2005. The quality of the results is similar in both programs. Generally the core recovery was less than 90%.

The parameters used to estimate the coal reserves are as follows:

- Minimum coal seam thickness of 0.7 m
- Maximum ash content of 40% (air dried)
- Maximum sulphur content of 3%
- Tonnage is calculated using coal density only and does not include partings (e.g. for the #11 seam, actual density ranges from 1.5 to 1.7 t/m^3, but for resource calculations, a density of 1.42 t/m^3 is used)

- Partings greater than 5 mm within a coal seam have been excluded from the thickness used to estimate the coal resources
- For areas where no coal was found or where coal is oxidised, the reserve estimate projects coal to half-way between drill holes
- For known faults with 10 m throw or greater, a zone of 50 m either side of the fault is down-graded to the next category

A MOLAR approved resources report was completed in 2006 for the northern half of Antaibao underground. However, as the report for the other half of the deposit was not finalised at the time of writing this report, resource estimates are conservatively based on the MOLAR approved report dated 2004.

The coal resources for the Antaibao underground coal mine are shown in Table 3-33 and were current as at 30 June 2006.

Table 3-33: Coal Resources — Antaibao Underground

	Resources (Mt)			Total Resources (Mt)	Mineable Resources (Mt)
	Seam Measured	Indicated	Inferred		
#4	94	96	115	305	190
#9	231	143	170	544	374
#11	41	56	60	157	97
Total	366	295	345	1,006	661

3.10.3 Coal Reserves

SRK has applied a 75% mining recovery factor to the coal resources to allow for those resources which will not be accessible in a practical mine design. This has been assumed to allow for areas which will not be mineable or fully extractable, such as faults and intrusions, gateroads, main development entries etc. A recovery factor of 80% has been applied as a mining loss based on the practical experience gained with the top coal caving method applied to mining heights in excess of 10 m at Anjialing underground during the last year, and mining dilution factors have also been applied to calculate recoverable reserves. A saleable recovery percentage was then applied to calculate marketable reserves. The resulting coal reserves are shown in Table 3-34.

Table 3-34: Coal Reserves — Antaibao Underground

Mining Recovery (%)	Proved Reserve (Mt)	Probable Reserve (Mt)	Proved + Probable Reserve (Mt)	Mining Loss (%)	Mining Dilution (%)	Recoverable Reserves (Mt)	Saleable Recovery (%)	Marketable Reserves (Mt)
75	275	221	496	20	10	436	87	380

3.10.4 Mining and Operations

According to the feasibility study, longwall production is planned to commence 14 months after government approval for a mining licence has been received. Construction of the shaft systems commenced during the first half of 2005 and orders have already been placed for three roadheader machines to enable development activities to commence immediately after approval has been received.

Mining will commence in the #9 seam and the mining schedule indicates the commissioning of a second longwall system a year later in the #4 seam. A feasibility study was completed in November 2004 to

this effect, forecasting the mine to reach 8 Mtpa at full production levels. The longwall systems will be set up to cut at 3.2 m high with the rest of the coal seam to be extracted with the top coal caving method.

It has been budgeted to implement similar modern transport arrangements with rubber-tyred vehicles to those successfully implemented at Anjialing Underground Mine.

3.10.5 Infrastructure and Coal Processing

Three shaft systems are planned for Antaibao Underground Mine. All three shafts are incline shafts, with the following levels of development advance completed in June 2006.

- Main shaft for coal conveyance at 14 degrees — reached the #9 seam with a length of 487 m
- Auxiliary shaft for transport of men and material at 5.5 degrees — developed 240 m and awaiting government approval. Total shaft length to the #9 seam is planned at 1,300 m
- Ventilation shaft at 20 degrees — length of 359 m and intersected the #9 and the #11 seam

The main shaft reaches the surface within the confines of the Muguajie CPP providing for limited overland conveyance of the ROM coal to the wash plant for processing.

3.10.6 Capital Costs

The forecast capital for the Antaibao Underground Mine are shown in Table 3-35. Capital expenditure is predicted to increase further during 2006 and peak at almost RMB400 M in 2007 with the installation of the longwall unit.

Table 3-35: Capital Expenditure — Antaibao Underground

Operating Company and Mine	Mining Method	Capital Expenditure (RMB Million) 2003	2004	2005	2006	2007	2008
Pingshuo Coal Company							
Antaibao	UG	—	68	228	298	390	29

3.11 Pingshuo East (Donglutian Project — Pingshuodong Open Pit)

3.11.1 Introduction

A request for a feasibility study of the mine was submitted to the Design Institute by Pingshuo Coal at the end of April 2005 with the report completed in June 2005. Verification and approval of the feasibility study report was expected to determine the mining method and other detailed information.

Pingshuo Coal has received approval to mine an area of 48.7 km^2 within the lease, and is presently awaiting a mining licence. Preliminary construction activities and the establishment of services have commenced during 2006 to enable pre-stripping operations.

3.11.2 Geology and Mineral Resources

The topography consists of undulating hills and is similar to that of Anjialing open-pit mine.

Table 3-36: Stratigraphic Sequence — Pingshuo East

Stratigraphic Unit	Thickness Range (m)	Average Thickness (m)
Quaternary	0 to 63	25
Tertiary	0 to 59	23
Upper Permian	0 to 148	25
Upper Lower Permian	0 to 97	49
Lower Lower Permian (Shanxi Group)	11 to 98	60
Upper Carboniferous (Taiyuan Group)	57 to 105	79

The Quaternary and Tertiary material is similar to that at Anjialing. The seams to be mined in Pingshuo East are the #4, #5, #6, #7, #8, #9 and the #11 seams. There is little weathering off the top of the #4 seam.

Table 3-37: Seam Statistics — Pingshuo East

Seam	Thickness Range (m)	Average Thickness (m)	Average Interburden (m)
#4	4.4 – 25.7	14.0	100 (to surface)
#9	6.0 – 22.4	13.95	37
#11	0.5 – 10.1	5.4	6

The interburden strata at Pingshuo East are similar in nature to those of Anjialing mine. Samples taken of immediate roof and floor material adjacent to the seams were analysed and showed high sulphur contents:

- The #9 seam roof material averages 10% sulphur (max 14%)
- The #11 seam floor material averages 15% sulphur

Structure

As with Anjialing, Pingshuo East geology is structurally complex. Dips up to 30 degrees and evidence of large scale faults have been interpreted from exploration drilling.

Similar to Anjialing, this complex structure will modify the shape and economics of the open-pit design, but will not significantly affect the overall reserves of the mine. There is no evidence of igneous activity in the Pingshuo East area.

Coal Quality

The coal mined at Pingshuo East will produce thermal coal products.

The ROM coal will be washed through a dense medium cyclone wash plant. The typical quality parameters of each seam are summarised in Table 3-38. Information for seams #5, #6, #7 and #8 is not abundant as reflected in the resource classification.

Table 3-38: Typical Coal Quality — Pingshuo East Seams

Seam	Inherent Moisture % (ad)	Raw Ash % (ad)	Washed Ash % (ad)	Raw Sulphur % (ad)	Washed Sulphur % (ad)
#4	2.3	30.5	16.0	0.49	0.40
#9	3.4	27.7	15.0	2.36	2.20
#11	1.5	33.9	16.0	2.96	2.20

Resource Estimation

The drilling program in the Pingshuo East area was executed in the 1990s using a drilling rig imported from the United States. All boreholes have a high level of reliability due to the excellent core recovery achieved.

The coal resources for Pingshuo East mine are shown in Table 3-39 and were current as at 30 June 2006.

Table 3-39: Coal Resources — Pingshuo East

Seam	Resources (Mt)			Total Resources (Mt)	Mineable Resources (Mt)
	Measured	Indicated	Inferred		
#4	165	336	260	761	501
#5	0	0	23	23	0
#6	0	12	32	44	12
#7	0	0	6	6	0
#8	0	7	33	40	7
#9	180	248	361	789	428
#11	29	56	101	186	85
Total	374	659	816	1,849	1,033

3.11.3 Coal Reserves

SRK has applied a 95% mining recovery factor to the coal resources to allow for those resources which will not be accessible in a practical mine design, including such areas as final batters and pit end-walls. Mining loss and mining dilution factors have also been applied to calculate recoverable reserves. A saleable recovery percentage was then applied to calculate marketable reserves. The resulting coal reserves are shown in Table 3-40.

Table 3-40: Coal Reserves — Pingshuo East

Mining Recovery (%)	Proved Reserve (Mt)	Probable Reserve (Mt)	Proved + Probable Reserve (Mt)	Mining Loss (%)	Mining Dilution (%)	Recoverable Reserves (Mt)	Saleable Recovery (%)	Marketable Reserves (Mt)
95	355	626	981	13	10	939	87.1	818

3.11.4 Capital Costs

The forecast capital expenditure for the Pingshuo East mine is shown in Table 3-41.

Table 3-41: Capital Expenditure — Pingshuo East

Operating Company and Mine	Mining Method	Capital Expenditure (RMB Million) 2003	2004	2005	2006	2007	2008
Pingshuo Coal Company							
Pingshuo East[1]	OP	—	—	—	200	2,447	2,224

(1) A Mining Right for the Pingshuo East OP is expected to be granted in March 2007

The capital expenditure is being used to construct the new mine and associated infrastruture. Pingshuo East mine is forecast to produce at the rate of 20 Mtpa at full production which is scheduled to occur in 2009. The capital expenditure predicted includes the construction of a CPP and rail facilities with improvement to port facilities as required, to an amount of approximately RMB1,000 M, to support a 20 Mtpa production capacity.

4 SHANGHAI DATUN ENERGY RESOURCES COMPANY

4.1 Introduction

China Coal is the major shareholder (62.43%) in the Shanghai Datun Energy Resources Co., Ltd. (Datun Coal) which owns and operates four underground mines in close vicinity (10 to 20 minutes drive) to the town of Datun. Datun is one hour's drive from Xuzhou in Jiangsu province. The head office of the company is located in the centre of town and staff provide strategic direction for the company. An extensive maintenance facility is also located in town to refurbish the underground mining equipment after use and is leased back to the mines as agreed with the head office in their yearly plans.

Datun Coal operates the Longdong, Yaoqiao, Xuzhuang and Kongzhuang underground mines and also supplies coal to the two power stations owned by the company. The power plants supply electricity for internal and local use with excess sold to the provincial grid. A small portion of the coal product is destined for export purposes. The company also owns a railway line of 86 km to the city of Xuzhou for the transportation of coal and people.

The underground mines operate in difficult to very difficult mining conditions (up to 30 degrees dip in the coal seam in local areas at Kongzhuang mine) and are either currently mining or planning to mine under the Zhaoyang and Weishan Lakes. The mines are operating from 280 to 780 m below surface with sufficient clay content in the overlaying strata to isolate the mines from any inflow of surface water from the lakes.

During 2005, Datun Coal produced a total of 7.12 Mt of raw coal between the four underground mines.

4.2 Corporate Management Structure

Datun Coal management structure is shown in Appendix 2 and workforce numbers are shown in Table 4-1.

Table 4-1: Workforce Numbers — Datun Coal

Category	Employees
Production[1]	
Longdong UG	1,749
Yaoqiao UG	2,833
Xuzhuang UG	2,117
Kongzhuang UG	2,090
Management[2]	11
Other[3]	766
Total	**9,566**

(1) Permanent and contractor employees involved in mining activities

(2) Senior management — excludes functional departments

(3) Only personnel involved with the mines — excludes CHPP, rail etc

The minimum wage paid by the company is RMB900 per month. Salaries and wages are as far as possible set at the same level between the mines with cost figures indicating the average salary at RMB1,690 per month.

4.3 Occupational Health and Safety

The mines in Datun Coal have all implemented a typical structure of a safety vice-president at the mine sites with safety monitors from head office and at the sites to conduct inspections and improve safety conditions. Employees are also encouraged to identify and report hazards and recognition is given by financial means or otherwise when employees participate in this process.

Accident and incident investigations are conducted after an incident occurs in an attempt to determine the root cause. Safety procedures are in place and developed through the accident investigations to prevent a re-occurrence of a similar incident. This information is also communicated at the other mine sites to prevent future occurrences. Safety training is conducted with all personnel on an annual and bi-annual basis.

Safety statistics for the four mines combined since 2003 are listed in Table 4-2.

Table 4-2: Accident Statistics, 2003 to 2005 — Datun Coal

Category	2003	2004	2005
Fatal[1]	4	0	3
Serious[2]	4	2	3
Minor[3]	0	15	0

(1) Accident causing death (number indicates lives claimed)

(2) Accident requiring hospitalisation and do not return to work for more than 24 hours (includes fatal incidents)

(3) Accident which does not require hospitalisation and employee returns to work within 24 hours

SRK observed at all the mines operated by Datun Coal that safety is a significant consideration with resources consistently applied to achieve the best possible result. The safety statistics reflect good performance compared to the Chinese average.

4.4 Environmental Assessment

4.4.1 Introduction, Scope and Background

An environmental assessment of Datun Coal was completed to assess environmental management across its operations. The primary reason for assessing Datun Coal's environmental management was to identify any potential financial liabilities arising from its operations, which include:

- Longdong, Yaoqiao, Xuzhuang and Kongzhuang underground coal mines and associated infrastructure
- Auxiliary facilities located in and around the town of Datun, including a mining equipment maintenance facility, two power plants and a waste water treatment plant

In addition to visiting the above listed major sites, the environmental assessment included interviews with key environmental staff members of Datun Coal, inspection of relevant environmental documentation and interpretation of responses to an environmental questionnaire provided by SRK.

This environmental assessment is reported entirely at corporate level. This approach was adopted as Datun Coal maintains an environmental group within its technical division located at head office that oversees all operations. Its company-wide environmental management model has been developed so that it is reproduced almost identically at all four operational mines, with minor site-specific variations as required. The model allows for site feedback to head office to provide input to fine tune annual environmental plans, a method which appears to operate well. Comments relevant to the operational facilities in the Datun township are incorporated as appropriate.

4.4.2 Corporate Environmental Awareness

In 2005 Datun Coal had ISO14001:1996 accreditation for its corporate environmental management systems, which incorporates the management of Longdong, Yaoqiao, Xuzhuang and Kongzhuang underground mines, as well as the auxiliary facilities in and around Datun township.

In addition to ISO14001:1996 accreditation, Datun Coal also has ISO9001:2000 quality assurance and Chinese GB/T28001 occupational health and safety accreditation, which also incorporates the management of all four mines and auxiliary facilities. All three accreditations are valid until 2007. Independent audits are completed yearly by the China Quality Association to maintain these accreditations. Datun Coal also has a continual environmental improvement program in place across its operations.

4.4.3 Mining Title and Royalty Payments

Datun Coal is licenced to mine coal at all four of its underground mines, each of which were inspected by SRK. Mining licence details are provided in Table 4-3. Datun Coal has surface rights on the mining sites for 50 years, with all mining licences valid until April 2029. Should Datun Coal still have mineable coal reserves following expiration of mining licences, it has the priority right to apply for a new or extended licence. All mining licences were issued by MOLAR. It is understood by SRK that all four mining licences have been transferred from Datun Coal to China Coal for the purpose of the IPO.

Table 4-3: Mining Licence Details — Datun Coal

Mine	Mining Licence No.	Mining Area (km^2)	Issue Date	Licence Tenure
Yaoqiao	1000000020071	63.8	April 2000	29 years
Xuzhuang	1000000320025	38.4	August 2003	26 years
Longdong	1000000020073	25.0	April 2000	29 years
Kongzhuang	1000000020072	44.1	April 2000	29 years

Datun Coal pays mining royalties and taxes according to the Mineral Resources Law (1996 as amended). There are no options held over the mining land other than by the government and Datun Coal is not permitted to divest mining licences to other commercial operations.

4.4.4 Environmental Licencing, Compliance and Reporting

For Datun Coal operations, operational licences were granted at provincial level for boundary noise, gaseous emissions and water discharge. Further to these environmental licences, Datun Coal maintains licences at individual mine level from the local Pei County Water Resource Management Commission for groundwater extraction, in addition to licences from Xuzhou Xushou Public Security Bureau for fuel storage.

Each mine operated by Datun Coal prepares an individual annual environment report to the Chinese (State) Environmental Protection Bureau. This report incorporates information on waste volumes generated, noise data, wastewater data and gaseous emissions data. The report is passed down from state to provincial regulators for approval, then to the local county environmental regulators, both of which conduct random inspections. In this regard, Datun Coal must remain environmentally vigilant and be prepared for these random checks, which are carried out by the provincial agency approximately every six months and by the local agency on average once per month.

Should Datun Coal not meet relevant Chinese National Standards for gaseous emissions, water and noise, it faces either a warning, financial penalty, or criminal liability in extreme cases. Datun Coal ensures it is well prepared for such inspections by maintaining its own in-house environmental monitoring station which collects data on noise, water and emissions to monitor its continued compliance. SRK completed a random check on monthly water quality discharge data from Datun Coal's town WWTP. This data was reported by the local county environment officials to meet national standard GB8978-1996. SRK found that all discharge data was within the relevant criteria. SRK also inspected the Annual Environment Report for Kongzhuang Mine and found all environmental data to be in compliance with relevant criteria.

In addition to these local and provincial environment inspections at the individual mine operational level, the China Quality Association audits Datun Coal annually to maintain its corporate ISO14001:1996 accreditation for environment management systems. Datun Coal has sound results in regard to environmental credentials, with zero fines to date, as well as continued ISO14001:1996 accreditation. SRK has observed that Datun Coal has proactively implemented a continuous environmental improvement program, and it is SRK's opinion that there is a strong likelihood that Datun Coal will maintain its unblemished environmental record.

4.4.5 Environmental Staff

Datun Coal's commitment to the environment is reflected in its allocation of human resources. The head office technical centre has two environmental managers supervising approximately 30 technical staff, with an additional 10 staff employed in a separate environmental monitoring station. Each individual mine has between four and six environmental managers overseeing between 20 and 60 general staff who assist with day-to-day environmental management on site. Auxiliary facilities in Datun township also have at least one on-site

staff member responsible for environmental management. Although none of the operational workforce responsible for environmental management have tertiary qualifications in environmental studies, Datun Coal ensures that environmental managers are suitably qualified. SRK observes that Datun Coal's commitment to its environmental management responsibilities is suitably reflected in the number of staff dedicated to the environment across all operations.

4.4.6 Environmental Planning and Budgets

Datun Coal produces annual environment plans and budgets that are overseen and compiled at corporate level, with input and feedback from the individual mine level throughout the preparatory stages. Individual mines are autonomous with respect to spending the allocated environmental funding, however final sign-off responsibility remains at corporate level.

SRK inspected Datun Coal's 2005 annual environmental plan and budget, which contained details of company-wide environment projects primarily focused on:

- Improving water use and treatment efficiency
- Improving energy efficiency through heating and lighting
- Dust management
- Noise reduction schemes
- Environmental audits
- Purchasing environmental data management software

The environmental plan showed that Datun Coal had allocated approximately RMB4.4 M for environmental projects during 2005. This figure excludes an additional environment budget of RMB18.5 M across all four mines solely dedicated to land rehabilitation over the next five years.

4.4.7 Water Management

Datun Coal has a company-wide emphasis on water conservation, as demonstrated by extensive use of on-site treatment and recycling. SRK visited the water treatment facility on Kongzhuang Mine where American-made reverse osmosis technology was being utilised to treat water to potable standards. This water is re-used across the mine in other applications including staff showering and coal washing. While this technology is not present across all Datun Coal facilities, industrial waste water recycling is. This policy extends across the mines, coal washing plants, site WWTP and power stations, with these plants having a zero water discharge policy. Some treated water that meets relevant criteria is discharged in Datun township from the WWTP, which is owned and operated by Datun Coal as required.

Supplementary water is sourced at each mine and at town facilities by a series of groundwater wells approved by local authorities. Use of this groundwater is being phased out for dust suppression in the underground mines in favour of using recycled water. Similarly, Datun Coal has long term plans to upgrade its WWTP to treat water to potable standards. Surface water is well managed across the mine sites by a series of drains, sedimentation dams and treatment methods.

4.4.8 Waste Rock, Tailings and Rehabilitation Management

Due to the underground nature of all four mines at Datun Coal, the generation of waste rock is significantly less than for an open-pit mine. The waste rock is typically shale, which is non-reactive when exposed to oxygen. Visible pyrite was however noted in the waste rock at the Longdong mine, though no geochemical data was available to review. Each mine has a temporary waste rock stockpile where shale is

stored prior to being re-used to infill mine subsidence in addition to road building. Despite the presence of visible pyrite in the waste, the regulators encourage the re-use of all waste rock as backfill and road base. SRK inspected a rehabilitated area near the Longdong mine and noted after discussion with local residents that they (local residents) appeared to be satisfied with the roads and fish breeding ponds constructed by Datun Coal. Tree planting and landscaping had also been completed on the rehabilitated areas by sub-contractors. There was no visible pyrite or secondary salts evident on road surfaces and SRK noted the presence of near-surface limestone quarries locally, evidence of the potential acid-neutralising capability of the local geology. Datun Coal is also completing a feasibility study to determine if the waste shale can be used in the brick making industry.

Discussions with environment managers at each mine indicated that the temporary waste rock stockpiles were all decreasing in size as wastes were beneficially re-used. All environment managers indicated that they were confident this trend would continue. Environmental management on the waste rock dumps included dust suppression and diversion trenches for surface water run-off that leads to sedimentation ponds. There was also sufficient storage capacity at all four mines for the waste rock generated.

As noted earlier, Datun Coal has a five year budget of RMB18.5 M across all four mines solely dedicated to land rehabilitation over the next five years. No long term closure plans have been compiled as yet, although head office does maintain five year progressive rehabilitation plans, commensurate with the management of mine subsidence.

Coal wash tailings from the Datun Coal wash plant located in Datun township proper are transferred via conveyor to the adjacent power plant and beneficially re-used as fuel. Tailings from the two coal wash plants at Longdong and Kongzhuang mines are either dried and sent to the second Datun Coal power plant in the mine precinct, or sold cheaply to local brick makers as fuel for their kilns. The waste has been classified locally as 'Grade A' and has been approved for re-use. Power plant ash is then sold to the local cement plant where it is also beneficially re-used.

4.4.9 Dust Management

Datun Coal regularly monitors dust as environmental best practice. In this regard, dust is monitored at the underground longwall working face for employee occupational health and safety. Dust suppression underground occurs in the form of water sprays at the longwall working face. Dust suppression also occurs via water sprays on waste rock stockpiles and on conveyors in the coal washing plants.

4.4.10 Social and Regulatory Relations

Following discussions with Datun Coal representatives it appears that relations with both local residents and regulatory bodies are sound. Good relations with the local community are primarily due to continued job opportunities, with approximately 28,000 people employed across all sectors of Datun Coal's business. Employment for this large number of individuals also has positive downstream effects on the local and regional economy in service industries and the like.

Residents directly affected by underground mine site operations are compensated by Datun Coal and relocated from the area. Datun Coal compensates residents for loss of land and as Datun Coal rehabilitates land subsidence into fish breeding ponds, local residents also have access to these facilities.

Relations with statutory bodies are also sound as evidenced by the fact that Datun Coal has never been fined for any environmental incidents. It is SRK's opinion that Datun Coal's proactive approach in addressing its environmental responsibilities helps to maintain these positive relationships with relevant regulatory staff.

4.4.11 Environmental Assessment Conclusions

Following interviews with key Datun Coal environmental staff and inspection of environmental documentation and operational sites, it is apparent that Datun Coal views itself as a champion of environmental management in China and prides itself on its environmental performance to date. SRK believes that Datun Coal has a sound and proactive approach to its environmental responsibilities and is managing its operations in compliance with its environmental obligations. This opinion is supported by the fact that Datun Coal has not been fined for any environmental breaches across its operations to date. Specific focus appears to be on water management and conservation, with several plans in place for increasing the use of recycled water. Plans to increase water recycling is evident both in investment in plant and equipment to treat and re-use water, as well as through messages displayed around various sites reminding staff to minimise their water use. Several constructive plans are also in place to reduce energy use and discharge of emissions.

4.5 Coal Processing and Transport

The CPPs are situated very close to the mines with Yaoqiao and Xuzhuang mines sharing a plant, while Longdong and Kongzhuang are both provided with separate CPPs. Rejects are used in the company-owned power stations in the area, while product coal is railed for 86 km on a company-owned railway to Xuzhou. A small portion of the coal is destined for the export market through Shanghai via Nanjing.

4.5.1 Datun CPP

Datun CPP processes coal from the Yaoqiao and Xuzhuang mines. This processing plant is a jig plant which was constructed in 1996. The plant is well maintained and in good operating order. The ROM feed is delivered by train and dumped with a tippler to two 3,700 t capacity bins. The coal is then screened and the oversize handpicked before it is crushed to 50 mm top size. The full size range is fed to four three-product 2 m jigs. These jigs appeared to be operating overloaded and with insufficient expansion of the bed of solids, resulting in less than optimum separation of waste from coal. This situation provides an opportunity for further performance improvement.

Reject is either used as power station fuel or dumped. A reject pile was examined and no coal was observed. Middlings are stored in a 2,800 t bin for supply to a small power station on an adjacent site which is owned by others. The jig product is de-slimed and the fines reported to a flotation plant. Fine coal is dried with centrifuges and the flotation product is dried with disc vacuum filters. The flotation tailings are dried with plate and frame filters and added to the jig middlings. The train loading station operates at a rate lower than 1,000 tph.

Process Plant

The plant is budgeted to operate for 300 days/year. The ROM stream operates 24 hours a day, seven days a week and the plant operates for 14 hours a day, seven days a week. The capacity of the plant is 428 tph which delivers the required throughput of 1.8 Mtpa. Availability for the plant in 2004 was 76% which is lower than for comparable plants and therefore offers considerable potential for improvement. No flocculent is used in the thickener or filter feed.

Total workforce numbers including train loading and maintenance personnel are approximately 600.

Efficiency

The plant's efficiency is calculated by comparison of plant yield achieved and the software prediction of yield from washability data. The information made available was a predicted yield of 71%, an actual yield of 63% and an efficiency of 63/71 which equates to 88%. Based on these calculations, it is not a good result.

However the near gravity content of the feed was quoted as ± 0.1 Specific Gravity (SG), which equates to near gravity material at 14% of the feed. These tight operating conditions of ±0.1 SG is regarded by SRK as a difficult operating range for jigs. SRK observed the operating jigs and the low froth mobility on the cells, and believes the poor efficiency quoted indicates a real opportunity for improvement. The auto samplers in the plant are also primitive and could provide biased sampling results.

Quality

The plant yield for commercially traded coal is 68% and the product is sold as a blending coal. Ash and sulphur values are indicated in Table 4-4 below.

Table 4-4: Quality Parameters — Datun CPP

		Ash (%)	CV (kcal/kg)	Sulphur (%)	TM (%)
Feed	#7 Seam	21	—	0.9	—
	#8 Seam	24	—	0.7	—
Product	High Grade	7.7	6,500	0.55	11
	Middlings	9.2	6,500	0.7	11

4.5.2 Longdong CPP

The Longdong plant is a small, low capital CPP with the allocated maintenance budget obviously affecting plant condition. It is however in good operating condition but visibly not as tidy as the other CPPs. Due to capital considerations and constraints the plant is operated as a 'lump jig plant'.

It is equipped with a small single elevator jig that washes the 50 mm x 13 mm size range while the 13 mm x 0 mm size is all bypassed to product.

The plant is rated at 200 tph and is budgeted to run 300 days/year but only runs for approximately 10 hours/day as it is constrained by mine output. Availability was not identified as a limiting factor. The raw feed ash content is 20 to 35% and product quality (Calorific Value) is 6,500 kilocalories per kilogram (kcal/kg) for lumps and 5,500 kcal/kg for the fines product. Sulphur is reported to be between 0.70 and 0.75%. The total yield of the plant is approximately 85% including bypass and the entire product is sold as steaming coal. Quality parameters are shown in Table 4-5.

Table 4-5: Quality Parameters — Longdong CPP

		Ash (%)	CV (kcal/kg)	Sulphur (%)	TM (%)
Feed	#7 Seam	27	—	0.7	—
Product	High Grade	23	6,500	0.7	4.5

Total workforce at the Longdong plant is 245.

4.5.3 Kongzhuang CPP

Kongzhuang CPP is small in terms of throughput, however physically it is a very large plant. It has been converted from jig operation to dense medium operation with two new thermal drying units being commissioned. The plant is situated at the head of the mine drift and fed from skips. The plant was observed to be very clean and in good condition.

Materials Handling

The skips report to a single ROM bin with a capacity of 3,000 t. The plant is equipped with three product bins at 1,200 t capacity each, six middling bins with a total capacity of 2,000 t and two reject bins each with a capacity of 400 t. Train loading is done at 1,200 tph for product and 300 tph for middlings.

Process Plant

The 50 mm x 0.5 mm coal is washed in two stages. The first stage is by a Chinese manufactured Larcodem style dense media cyclone. The reject is rewashed in the same medium in a DMC with a wheel-driven shaft in the top to change cut point.

The 0.5 mm x 0 mm is floated in 'jet cells'. The product is dried on a vacuum filter and the tailings are dried on plate frame presses. The fines are planned to be dried further on the thermal driers when they are fully operational. One drier is already operational and is preceded by a feeder and pelletiser. The yield figures for the plant are:

- Product 68%
- Middlings 17%
- Tailings 4%
- Reject 11%

Budgeted operation is 300 days/year and 14 hours/day. Actual operation is 16 hours/day and the total throughput in 2005 was 0.85 Mt ROM.

The Kongzhuang plant is operated and maintained with a workforce of 420.

Quality

The quality parameters at the Kongzhuang plant were quoted as shown in Table 4-6.

Table 4-6: Quality Parameters — Kongzhuang CPP

		Ash (%)	CV (kcal/kg)	Sulphur (%)	TM (%)
Feed	#7 Seam	20	—	0.5	—
	#8 Seam	16	—	0.7	—
Product	High Grade	11	6,500	0.6	11.5

4.5.4 Coal Production History

The historical production for the Datun Coal processing plants is shown in Table 4-7, Table 4-8 and Table 4-9.

Table 4-7: Coal Processing Plants Production History, 2003 to 30 June 2006 — Datun

		2003	2004	2005	30 June 2006
Washed Coal	Mt	0.96	0.95	0.91	0.51
Middlings	Mt	0.32	0.20	0.35	0.04
Raw Coal and Waste	Mt	0.08	0.04	0.29	0.27
Total	Mt	1.36	1.19	1.55	0.82

Table 4-8: Coal Processing Plants Production History, 2003 to 30 June 2006 — Longdong

		2003	2004	2005	30 June 2006
Washed Coal	Mt	0.15	0.22	0.20	0.09
Middlings	Mt	0	0	0	0.01
Raw Coal and Waste	Mt	0	0	0	0.03
Total	Mt	0.15	0.22	0.20	0.13

Table 4-9: Coal Processing Plants Production History, 2003 to 30 June 2006 — Kongzhuang

		2003	2004	2005	30 June 2006
Washed Coal	Mt	0.66	0.70	0.70	0.38
Middlings	Mt	0.24	0.17	0.20	0.05
Raw Coal and Waste	Mt	0.15	0.15	0.10	0.04
Total	Mt	1.05	1.02	1.00	0.47

4.6 Long Term Plans

Datun Coal's strategy for the future is to focus on the expansion of the four underground mines to maintain production at very similar rates to current levels. The ROM production volumes for the four mines and the group until 2008 are indicated in Table 4-10.

Table 4-10: ROM Production Forecast per Mine — Datun Coal

	2006 (Mt)	2007 (Mt)	2008 (Mt)
Yaoqiao UG	3.40	3.40	3.40
Xuzhuang UG	1.40	1.40	1.40
Longdong UG	1.15	1.05	1.15
Kongzhuang UG	1.05	1.15	1.15
Total	7.00	7.00	7.10

4.7 Kongzhuang Underground Mine

4.7.1 Introduction

Mine development activities at Kongzhuang commenced during 1971 and longwall mining activities started in 1977. The mine is equipped with an operating longwall system and a 'standby' longwall system that is utilised for pre-installation purposes for the next longwall panel. A top coal caving method is utilised for extracting the total coal seam of 5 m during longwall operations.

Two seams are mined at three levels at the Kongzhuang mine, i.e. the #7 and #8 seams. The top level caving method is used in the #7 seam and a slicing method of first taking the top part of the seam and then the lower part, is applied in the #8 seam. The seams mined vary from 375 up to 785 m below surface. Kongzhuang mine is undermining the Weishan Lake, however no inflow of water from the lake is evident due to the composition and thickness of the overlying strata. The mine achieved 1.15 Mt during 2004 and 2005 compared to the respective plans of 1.05 Mtpa.

4.7.2 Geology and Mineral Resources

Topographic relief for the Datun region is considerably flat, averaging 35 m above sea level. The majority of the mining areas underlie farming land.

The general trend of the geology for the Datun region is characterised by the more simple geology occurring in the northern part of the area (Longdong mine) where the Permian strata dip is 10 degrees, with the geology increasing in complexity towards the south (Kongzhuang mine) where the seams are deeper, steeper (25 to 30 degrees) and have higher gas content.

Kongzhuang mine covers an area of approximately 44 km^2. The area is 13.8 km in length along the strike (EW direction) and about 5 km in width. The Permian strata dips to the north and varies from 24 degrees to 31 degrees.

The Kongzhuang area contains a large igneous intrusion in the east, eliminating almost half of the coal resources in the area. Consequently, only the western half of the area can be mined but still contains a large Marketable Reserve.

The stratigraphy of Kongzhuang coal mine is outlined in Table 4-11.

Table 4-11: Stratigraphic Sequence — Kongzhuang

Stratigraphic Unit	Thickness Range (m)	Average Thickness (m)
Quaternary	0 to 195	140
Jurassic and Cretaceous	0 to 320	0(1)
Upper Permian (Shang Shi Hi Zi Group)	200 to 320	270
Upper Lower Permian (Xia Shi Hi Zi Group)	185 to 295	225
Lower Lower Permian (Shanxi Group)	90 to 135	100
Upper Carboniferous (Taiyuan Group)	135 to 160	155

(1) Zero indicates unit does not exist in mining area but range reflects regional geology beyond mining area

The Quaternary material is usually unconsolidated and weathered soil, clay and sand. The Cretaceous and Jurassic material is generally semi-consolidated sediments, but these units have been intersected in only one borehole. Therefore, the Quaternary material is generally found to directly overlie (unconformably) the Permian sediments.

The #1 to the #4 seams belong to the Xia Shi Hi Zi Group. Generally the #1 to the #4 seams are either thin or not present due to being eroded away by the overlying Quaternary sediments. The #5 to the #8 seams belong to the Shanxi Group. Generally the #5 and the #6 seams are too thin for underground mining extraction. The #7 and the #8 seams are both mined at Kongzhuang mine. The #9 to the #22 seams belong to the Taiyuan Group. Most of the seams are generally too thin and cannot be recovered with underground mining operations. The #17 seam is planned to be mined.

The #7 seam is the main seam mined at Kongzhuang. The seam averages 4.9 m in thickness and is extracted using top level caving in longwall panels. The roof conditions are very favourable for this method of mining and the recovery of the total seam is good with minimal dilution involved. The #8 seam is extracted with the slicing method if the seam is too thick for one pass with the longwall shearer. The interburden between the #7 and the #8 seams is between 8 to 20 m thick. It was noted in sections of the main roadways and some gateroads that the floor on the #7 seam level was heaving and consequently pinching the working height. Although this did not prohibit mining, it may cause delays and poor strata conditions as the two seams deepen. The thicknesses and interburdens for the various seams are indicated in Table 4-12.

Table 4-12: Seam Statistics — Kongzhuang

Seam	Thickness Range (m)	Average Thickness (m)	Average Interburden (m)
#7	2.2 to 8.3	4.9	600 (to surface)
#8	0 to 7.5	3.1	16
#17	0.3 to 3.3	0.8	98

The #17 seam is yet to be mined. Two-thirds of the mineable area is situated below a lake.

Structure

The geology at Kongzhuang area is regularly disrupted with faults. The major structural features trend NE-SW, are generally normal faults and have vertical displacements up to 150 m. The average fault has between 3 and 8 m throw which causes minor disruption to the mining operation. Seismic surveys using modern 3D techniques have been conducted over about a 4 km^2 area, with many of these larger faults detected prior to mining.

During the mine inspection, six faults of less than 5 m throw were encountered along one gateroad. These caused minimal disruption to the mining operations.

The western part of Kongzhuang area is affected by igneous activity, prohibiting the mining of coal in this area. In the eastern part of Kongzhuang, there is minor igneous activity in the way of dykes and small areas intruded by sills.

Coal Quality

All the coal mined at Kongzhuang produces coking coal products, primarily for domestic use.

All the ROM coal is washed through a dense medium cyclone wash plant at the mine site (see Coal Processing section for more details). The typical quality parameters of each seam are summarised in Table 4-13.

Table 4-13: Typical Coal Quality — Kongzhuang Seams

Seam	Inherent Moisture % (ad)	Raw Ash % (ad)	Washed Ash % (ad)	Raw Sulphur % (ad)	Washed Sulphur % (ad)	Crucible Swelling Index	Raw Phosphorus % (ad)
#7	2.0	14.9	6.3	0.53	0.56	6	0.014
#8	2.0	12.9	5.5	0.97	1.34	6	0.015
#17	2.0	19.1	8.4	2.82	2.09	6	—

Gas

There were only a few gas samples taken from the bore cores during the exploration program. Very few gas samples have ever been taken from the lower #17 seam.

Gas samples taken from bore cores for the #7 seam indicate generally low levels (less than 0.5 m^3/t) of methane. However, one borehole measured 4.8 m^3/t and pockets of gas (in the order of 5 m^3/t to 8 m^3/t) have been encountered during hydraulic mining of the #7 seam. To date, these areas of higher gas have been well managed by the company.

Resource Estimation

The majority of the exploration boreholes were drilled in the 1970s, while a few were drilled more recently in the 1990s. In general, the core recovery of the seams averaged around 75% of the coal in each of the target seams. Most if not all boreholes were logged using geophysical logging tools to accurately measure the seam thickness which allows the coal tonnage to be accurately calculated.

The coal resources for Kongzhuang mine are shown in Table 4-14 and were current as at 30 June 2006. The #17 seam has been excluded by SRK due to the low seam thickness and high sulphur content.

Table 4-14: Coal Resources — Kongzhuang

Seam	Resources (Mt)			Total Resources (Mt)	Mineable Resources (Mt)
	Measured	Indicated	Inferred		
#7	12	12	51	75	24
#8	8	10	36	54	18
#17	0	2	10	12	0(1)
Total	20	24	97	141	42

(1) #17 seam excluded due to low seam thickness and high sulphur content

4.7.3 Coal Reserves

SRK has applied a 75% mining recovery factor to the coal resources to allow for those resources which will not be accessible in a practical mine design. This has been assumed to allow for areas which will not be mineable or fully extractable, such as faults and intrusions, gateroads, main and development entries. Mining loss and mining dilution factors have also been applied to calculate recoverable reserves. A saleable recovery percentage was then applied to calculate marketable reserves. The resulting coal reserves are shown in Table 4-15.

Table 4-15: Coal Reserves — Kongzhuang

Mining Recovery (%)	Proved Reserve (Mt)	Probable Reserve (Mt)	Proved + Probable Reserve (Mt)	Mining Loss (%)	Mining Dilution (%)	Recoverable Reserves (Mt)	Saleable Recovery (%)	Marketable Reserves (Mt)
75	15	17	32	6	10	33	92.9	30

4.7.4 Mining and Operations

Coal production is achieved with longwall mining methods supported by development blasting operations and a hydraulic cutting panel. Very difficult mining conditions exist at the mine as the coal seam is extracted at 25 degrees dip and in some localised areas up to 30 degrees.

Development activities are conducted with blasting operations of which five panels mine in coal for longwall panel formation and five panels mine in rock for future mine development. The mine also has access to two roadheaders (Chinese-supplied S-100) for coal development if required.

A panel applying hydraulic cutting methods is operational in the south-eastern part of the mining reserve delivering 300,000 tonnes per annum (tpa). This mining method was implemented to extract coal in the highly faulted areas of the reserve. Total production figures just in excess of 1 Mtpa have been achieved for the mine during the last five years, but the plan is to expand to 1.8 Mtpa. This production expansion will be

achieved by phasing out and replacing the current hydraulic cutting method with an additional longwall system within the next five years. Historical production figures for the mine are shown in Table 4-16.

Table 4-16: Mine Production History, 2003 to 30 June 2006 — Kongzhuang

	2003	2004	2005	30 June 2006
Longwall (Mtpa)	1.20	1.15	1.15	0.64
Development (m)	15,058	15,666	14,506	1,085

Very difficult mining conditions were evident during the site visit underground. The depth of mining and the severe dip in the coal seam contribute to broken roof conditions developing in the coal seam which requires excessive support in localised areas where high levels of stress are concentrated. Intensive support is generally required during development to keep roadways up and to prevent premature collapse during longwall mining. Poor stability is exacerbated in the areas where the slicing method of mining is used and the roadways have to withstand two mining sequences. Normal support during development includes steel and cable anchors combined with wire mesh. Steel straps and steel arches are also utilised as required, with the placement of mechanical and hydraulic props closer to the longwall mining face.

All development for access to future mining panels is carried in rock to assist in stability and to ensure longevity over the mining life of the panels. These roadways are also developed in an arch to further enhance stability for the longer term at a width of 4.2 m and a cross-section of 13.65 m^2. After applying shotcrete, the net area of the roadway is 11.88 m^2. A canal is also formed and grouted on ground level in the corner of the roadway to provide a water channel for water management in the roadways.

No stonedusting practices are employed at the mine. Sidewalls and roof are washed down periodically with water according to the requirements of Chinese legislative requirements. Water barriers are in use as required by local legislation.

Ventilation quantities are generally lower than international standards but comply with local requirements. The airflow quantity reported for the longwall panel is 14 m^3/sec and for the development panel 5 m^3/sec. A total of 150 m^3/sec is circulated through the mine. Low methane levels are reported and detected underground. In-time methane monitoring is available on the surface in a centralised control room and equipment underground is interlocked to trip power when methane levels exceed 1.5% concentration. Heat experienced is high and temperatures measured underground in the panels indicated 27 degree Celsius (°C) and 28°C dry-bulb.

Dust levels were evident and measurements are taken every week in identified areas in compliance with legislation. The following methods to prevent dust generation are implemented:

- Water injection to coal seam prior to mining (holes up to 100 m length)
- Water sprays on production machines
- Water fog in development panels
- Washing of sidewalls and roof on a frequent basis

Kongzhuang mine utilises conventional methods of transportation underground. Coal is transported from the longwall panel to the surface by rubber belt conveyor systems and in development panels initially by a scraper chain conveyor and subsequently by the rubber belt conveyor system. Electric trains are utilised to transport personnel closer to the mining panels and chairlift systems transport personnel between the different levels of the mine. Material and waste are transported by conventional winch and skip systems.

4.7.5 Infrastructure

The mine is serviced by four vertical shaft systems of which two serve as ventilation extraction shafts at a depth of approximately 180 m in the south and east of the mining reserve. The other two shafts are respectively equipped with gear to transport coal, men and material. The main shaft is utilised to convey coal to the surface and has an annual capacity of 1.5 Mt, while the auxiliary shaft is utilised to convey men and material to and from the surface. The depth of the auxiliary shaft is 410 m and is situated very closely to all surface infrastructure and facilities.

Water for underground use is captured in underground dams from the inflowing groundwater in the strata which is the main supply of water for underground use and can be supplemented from a surface reservoir fed by boreholes. The boreholes are situated 200 m from the ventilation shaft in the east and the water supply is piped through the eastern shaft to the underground workings. This supplementary water supply is mainly used to supplement water supply for dust suppression services.

The mine is supplied with electricity by two 35 kV surface substations feeding with a total of four supply lines. The one substation situated at the main shaft is equipped with two 12,500 kVA transformers and the other substation at the east ventilation shaft with two 6,000 kVA transformers. Reports indicate that the maximum power usage for 2004 reached 14,400 kWh with an average of 10,083 kWh. Ringfeeds have been implemented underground with the supply reported as very reliable.

4.7.6 Capital and Operating Costs

Capital cost for Kongzhuang mine has varied historically but is forecast to stabilise at very similar levels to 2005 for 2006 and 2007 and to drop off again in 2008 (refer Table 4-17). The operating unit cost for Kongzhuang mine shows a steady increase during the last three years (refer Table 4-18).

Table 4-17: Capital Expenditure — Kongzhuang

Operating Company and Mine	Mining Method	Capital Expenditure (RMB Million) 2003	2004	2005	2006	2007	2008
Shanghai Datun Energy Resources Co., Ltd.							
Kongzhuang	UG	33	19	28	24	27	10

Table 4-18: Average Annual Mine Cash Costs — Kongzhuang

Operating Company and Mine	Mining Method	Cash Operating Cost (RMB/tonne) 2003	2004	2005
Shanghai Datun Energy Resources Co., Ltd.				
Kongzhuang	UG	163.78	230.26	273.65

4.8 Xuzhuang Underground Mine

4.8.1 Introduction

Construction of the mine commenced in 1970 and longwall production started in 1979. Xuzhuang mine has increased its production level during the life of the mine from 0.9 Mtpa in 1985 up to 1.5 Mtpa in 1997. Production for 2004 totalled 1.42 Mt compared to a plan of 1.35 Mtpa and 1.41 Mt during 2005 compared to a plan of 1.40 Mt, all within the mine design capacity of 1.5 Mtpa.

Mining at Xuzhuang is conducted at a depth of approximately 400 m and future plans include mining the lower seam at a depth of 750 m. The mine is equipped with two longwall systems employed in different areas of the mine.

4.8.2 Geology and Mineral Resources

Topography in the Xuzhuang area is flat and similar to that of Kongzhuang. The stratigraphic sequence of Xuzhuang coal mine is outlined in Table 4-19.

Table 4-19: Stratigraphic Sequence — Xuzhuang

Stratigraphic Unit	Thickness Range (m)	Average Thickness (m)
Quaternary	0 to 195	140
Jurassic and Cretaceous	0 to 522	0(1)
Lower Permian (Shang Shi Hi Zi Group)	153 to 242	220
Lower Permian (Shanxi Group)	73 to 123	102
Upper Carboniferous (Taiyuan Group)	150 to 164	158

(1) Zero indicates unit does not exist in mining area but range reflects regional geology beyond mining area

Xuzhuang mine covers an area 10 km in length along the strike (EW direction) and about 3.8 km in width. The Permian strata dips to the north and varies from 15 to 30 degrees, averaging around 18 degrees. The stratigraphy of Xuzhuang is outlined in Table 4-20. The Quaternary material is similar to that at Kongzhuang. The seams mined in Xuzhuang are the same as those for Kongzhuang.

Table 4-20: Seam Statistics — Xuzhuang

Seam	Thickness Range (m)	Average Thickness (m)	Average Interburden (m)
#7	1.4 to 8	5	400 (to surface)
#8	0.6 to 6.6	2.9	8
#17	0.2 to 2.4	1.1	110

The #17 seam is yet to be mined.

Structure

The geology at Xuzhuang is similar to the Kongzhuang area. It is frequently disrupted with faults of less than 1 m throw. The major structural features trend NE-SW, are generally normal faults and have vertical displacements up to 70 m. The average fault has between 3 and 8 m throw which causes minor disruptions to the mining operation.

Two dykes have been intersected in old mine workings. It is not expected that any significant igneous intrusions will be found in future workings.

Coal Quality

Coal mined at Xuzhuang produces thermal coal products.

All the ROM coal is washed through a dense medium cyclone wash plant at the mine site (see Coal Processing section for more details). The typical quality parameters of each seam are summarised in Table 4-21.

Table 4-21: Typical Coal Quality — Xuzhuang Seams

Seam	Inherent Moisture % (ad)	Raw Ash % (ad)	Washed Ash % (ad)	Raw Sulphur % (ad)
#7	1.35-1.8	14.2	6.7	0.78
#8	1.35-1.8	12.6	5.7	1.10
#17	1.35-1.8	18.7	13.3	2.14

Gas

There were very few gas samples taken from the bore cores during the Xuzhuang exploration program. Gas samples taken from bore cores for the #7 seam indicate generally low levels (less than 1.5 m^3/tonne) of methane, however one borehole measured 3.7 m^3/tonne.

Resource Estimation

The majority of the exploration boreholes were drilled in the 1970s, while a few were drilled more recently in the 1990s. In general, the core recovery of the seams averaged around 75% of the coal in each of the target seams. Most if not all boreholes were logged using geophysical logging tools to accurately measure the seam thickness which allows the coal tonnage to be accurately calculated.

Coal resources for Xuzhuang mine are shown in Table 4-22 and were current as at 30 June 2006. The #17 seam was excluded by SRK due to low seam thickness and high sulphur content.

Table 4-22: Coal Resources — Xuzhuang

Seam	Resources (Mt) Measured	Indicated	Inferred	Total Resources (Mt)	Mineable Resources (Mt)
#7	23	20	120	163	43
#8	4	17	24	45	21
#17	1	5	49	55	0(1)
Total	28	42	193	263	64

(1) #17 seam excluded due to low seam thickness and high sulphur content

4.8.3 Coal Reserves

SRK has applied a 75% mining recovery factor to the coal resources to allow for those resources which will not be accessible in a practical mine design. This has been assumed to allow for areas which will not be mineable or fully extractable, such as faults and intrusions, gateroads, main and development entries. Mining loss and mining dilution factors have also been applied to calculate recoverable reserves. A saleable recovery percentage was then applied to calculate marketable reserves. The resulting coal reserves are shown in Table 4-23.

Table 4-23: Coal Reserves — Xuzhuang

Mining Recovery (%)	Proved Reserve (Mt)	Probable Reserve (Mt)	Proved + Probable Reserve (Mt)	Mining Loss (%)	Mining Dilution (%)	Recoverable Reserves (Mt)	Saleable Recovery (%)	Marketable Reserves (Mt)
75	20	28	48	6	10	50	80.8	40

4.8.4 Mining and Operations

Two longwall systems operate in the mine, within difficult mining conditions. The average dip of the seam is at 18 degrees and in localised areas up to 22 degrees. A single lift is taken by the longwall to extract the 3.7 m seam with a panel width of 180 m and generalised length of 1 km per panel. Chinese-supplied longwall equipment is used, namely a MG-475 shearer and 105 shields along the width of the face each rated at 360 t.

Development is done by a combination of roadheader and blasting techniques. Two roadheader panels are in operation producing at an average of 10 m/day. Development is driven through coal for the establishment of gateroads for the longwall and through rock to establish main entries to new areas of the mine to ensure stability in the longer term. Handbolting practices are employed in all development panels. The historical production figures for Xuzhuang for the last three years are shown in Table 4-24.

Table 4-24: Mine Production History, 2003 to 30 June, 2006 — Xuzhuang

	2003	2004	2005	30 June 2006
Longwall (Mtpa)	1.45	1.42	1.41	0.82
Development (m)	13,879	12,520	13,333	1,220

Very difficult mining conditions were present in 2005 requiring intensive support during the development cycle. Areas in the roadways were fractured and broken and required additional support to secure these areas effectively. Roadways are developed at a width of 4.2 m and a height of 2.7 m. Normal support during development includes steel and cable anchors combined with wire mesh. Channel steel beams are installed as required and tensioned by the cable anchors. Hydraulic props are placed closer to the longwall mining face.

The roadways developed in rock are profiled in an arch to further enhance stability for the longer term at a width of 4.6 m and a cross-section of 15.41 m^2. After applying shotcrete the net area of the roadway is 13.76 m^2. A canal is also formed and grouted on ground level in the corner of the roadway to provide a water channel for water management in the roadways.

No stonedusting practices are employed at the mine. Sidewalls and roof are washed down periodically with water and water barriers are in use at strategic points.

Ventilation quantities are in compliance with Chinese legislation. The ventilation quantity reported for the longwall panel is 9 m^3/sec and for the development panel 3 m^3/sec. A total of 103 m^3/sec is circulated through the mine. Low methane levels are reported and detected underground. Real-time methane monitoring on the surface is not available but fixed monitors are fitted in the production panels. Production equipment underground is interlocked to trip power when methane levels exceed 1.5% concentration. Alarm levels are set at 1% concentration and the source of methane is investigated and addressed as soon as alarms are activated. Temperature in the mining panels is high with high levels of humidity present.

Dust in the underground mine were visible at the time of the SRK inspection. Measurements for respirable dust are taken twice a month and are taken at identified areas in production faces and conveyor roadways in compliance with legislation. All other dust measurements are conducted once a month. The following methods to prevent dust generation are relevant to Xuzhuang mine:

- Water sprays on production machines
- Water sprays on conveyor transfer points
- Water curtains 50 m behind roadheaders in development panels

- Washing down of production faces
- Washing of sidewalls and roof on a frequent basis
- PPE for operators exposed to high dust levels, i.e. dust masks

The mine utilises conventional methods of transportation underground. Coal is transported from the longwall panel to the surface by rubber belt conveyor systems and in development panels initially by a scraper chain conveyor and subsequently by the rubber belt conveyor system. Electric trains are utilised to transport personnel closer to the mining panels and chairlift systems transport personnel between the different levels of the mine. Material and waste are transported by conventional winch and skip systems.

4.8.5 Infrastructure

Electricity supply to the mine is via four incoming supply lines at 35 kV. The power station is situated 3 km from the mine and owned by the local government, with a generating capacity of 645 MW. The supply is fed through a surface substation with 2 x 12,500 kVA capacity and distributed to the underground workings at 6 kV. Ringfeeds underground distribute the supply to the various working areas. The shearers operate at 1,100 volts (V) and the development panels at 690 V. The installed underground power capacity is 8,000 kW. Power supply is very reliable with no interruptions or downtime reported, resulting in an availability of 100%.

Water supply for the mining process is sourced from boreholes on the surface and groundwater from the overlying strata. Used water from underground is pumped to a main dam in close proximity to the auxiliary shaft and from there pumped to surface at 250 m^3 per hour. The water is treated in a water treatment plant to be re-used for sewerage handling on the surface and grouting and fire prevention underground. The recycled water is piped back underground through the ventilation shaft.

Two surface boreholes are situated at 100 and 150 m respectively from the mine and are used to supply Xuzhuang mine only. The two boreholes can each deliver at 40 m^3 per hour and store water in two surface reservoirs of 100 and 600 m^3 respectively. Water usage at 5,000 m^3/day, half of which is for domestic use in the adjacent workers' village, is less than the current available supply. In the event of a shortage of water, a fall-back position is available to source water from Weishan Lake or Gang River situated 800 m from the mine.

The mine is equipped with three vertical shafts for ventilation and transportation purposes. One shaft is equipped as a ventilation shaft, the main shaft with an elevator system to convey coal to the surface and the auxiliary shaft to transport men and material to and from the surface.

4.8.6 Capital and Operating Costs

Actual capital expenditure at Xuzhuang mine from 2003 to 2005 and planned expenditure to 2008 is shown in Table 4-25.

The operating unit cost at the mine increased from 2003 to 2005 as indicated in Table 4-26. The significant increase in 2004 was reported as a change in accounting practices and reporting.

Table 4-25: Capital Expenditure — Xuzhuang

Operating Company and Mine	Mining Method	Capital Expenditure (RMB Million)					
		2003	2004	2005	2006	2007	2008
Shanghai Datun Energy Resources Co., Ltd.							
Xuzhuang	UG	33	32	15	17	17	40

Table 4-26: Average Annual Mine Cash Costs — Xuzhuang

Operating Company and Mine	Mining Method	Cash Operating Cost (RMB/tonne) 2003	2004	2005
Shanghai Datun Energy Resources Co., Ltd.				
Xuzhuang	UG	143.23	202.70	238.73

4.9 Longdong Underground Mine

4.9.1 Introduction

Longdong mine started production during 1987 and has been designed to produce at 1.2 Mtpa. One longwall face is operational at the mine with five development panels both in coal and rock. In 2005 the mine was extracting one seam, i.e. the #7 seam at a depth varying from 200 to 230 m below the surface, and future plans include the extraction of two lower seams, i.e. the #17 and #21 seams. The slicing method of coal extraction is used in the #7 seam where the top part of the seam is extracted and then the longwall returns to extract the bottom part of the seam.

A production level of 1.2 Mtpa was achieved during 2004 compared to a plan of 900,000 t for the year, and 1.16 Mt was produced in 2005.

4.9.2 Geology and Mineral Resources

Longdong mine is the most northern of the Datun Coal leases and covers an area of 10 km in length along the strike (EW direction) and about 4 km in width. Topography at Longdong is flat, similar to that of Kongzhuang. The Permian strata dips to the north and varies from 3 to 8 degrees, averaging around 5 degrees.

The stratigraphic sequence of Longdong coal mine is outlined in Table 4-27.

Table 4-27: Stratigraphic Sequence — Longdong

Stratigraphic Unit	Thickness Range (m)	Average Thickness (m)
Quaternary	154 to 207	195
Jurassic and Cretaceous	0 to 488	0(1)
Upper Permian (Shang Shi Hi Zi Group)	0 to 59	0(1)
Lower Permian (Shang Shi Hi Zi Group)	270 to 298	285
Lower Permian (Shanxi Group)	89 to 116	103
Upper Carboniferous (Taiyuan Group)	146 to 181	166

(1) Zero indicates unit does not exist in mining area but range reflects regional geology beyond mining area

The stratigraphy of Longdong is outlined in Table 4-28. The Quaternary material is similar to that at Kongzhuang.

The #7 seam is the main seam mined at Longdong. The seam averages 5.5 m in thickness and is extracted using two passes with the longwall shearer. Since the roof conditions are not ideal, wire mesh is placed at the roof on the first pass so as to hold the roof up for the shearer on the second pass.

Table 4-28: Seam Statistics — Longdong

Seam	Thickness Range (m)	Average Thickness (m)	Average Interburden (m)
#7	1.4 to 8	5.5	400 (to surface)
#17	0.1 to 1.2	0.7	100

The #17 seam has yet to be mined.

Structure

The geology at Longdong is considered to be the least complex geology of the four Datun mines. It has gently dipping strata and very few major faults. There are major normal faults (between 50 and 100 m throw) to the north which form the northern boundary of Longdong mine. A major structure forms the southern boundary between Longdong and Yaoqiao mines.

Longdong is transected by a syncline in the northern half of the area and an anticline in the southern half of the area, both trending EW. Many minor faults and fractures are associated with the hinges of these folds causing minor difficulty to mining conditions. The minor faults (generally less than 5 m throw) cannot be detected from either drilling or from 3D seismic surveys which have a minimal vertical resolution of 5 m. These faults are encountered in the gateroads and have minimal affect on the mining operations.

Igneous dykes have minimal affect on the mining operations.

Coal Quality

Coal mined at Longdong produces thermal coal products. All the ROM coal is washed through a dense medium cyclone wash plant at the mine site (see Coal Processing section for more details). The typical quality parameters of each seam are summarised in Table 4-29.

Table 4-29: Typical Coal Quality — Longdong Seams

Seam	Inherent Moisture % (ad)	Raw Ash % (ad)	Raw Sulphur % (ad)	Raw Phosphorus % (ad)
#7	2.1	15.9	0.90	0.002
#17	1.8	14.9	2.50	0.002

Gas

Sixteen gas samples were taken from the bore cores during the Longdong exploration program. Only seven of the results were deemed reliable by Datun Coal.

Gas samples taken from bore cores for the #7 seam indicate generally low levels (less than 0.5 m^3/tonne) of methane. However, two boreholes measured high levels of methane, one recording 5.9 m^3/tonne while the other recorded 11 m^3/tonne. To date, these areas of higher gas have been managed well by the company.

Resource Estimation

The majority of the exploration boreholes were drilled in the 1970s, while a few were drilled more recently in the 1990s. In general, the core recovery of the seams averaged around 75% of the coal in each of the target seams. Most if not all boreholes were logged using geophysical logging tools to accurately measure the seam thickness which allows the coal tonnage to be accurately calculated.

The coal resources for Longdong mine are shown in Table 4-30 and were current as at 30 June 2006.

Table 4-30: Coal Resources — Longdong

Seam	Resources (Mt) Measured	Indicated	Inferred	Total Resources (Mt)	Mineable Resources (Mt)
#7	21	9	12	42	30
#17	0	1	4	5	0(1)
Total	21	10	16	47	30

(1) #17 seam excluded from Mineable Resources due to low seam thickness and high sulphur content

4.9.3 Coal Reserves

SRK has applied a 75% mining recovery factor to the coal resources to allow for those resources which will not be accessible in a practical mine design. This has been assumed to allow for areas which will not be mineable or fully extractable, such as faults and intrusions, gateroads, main and development entries.

Mining loss and mining dilution factors have also been applied to calculate recoverable reserves. A saleable recovery percentage was then applied to calculate marketable reserves. The resulting coal reserves are shown in Table 4-31.

Table 4-31: Coal Reserves — Longdong

Mining Recovery (%)	Proved Reserve (Mt)	Probable Reserve (Mt)	Proved + Probable Reserve (Mt)	Mining Loss (%)	Mining Dilution (%)	Recoverable Reserves (Mt)	Saleable Recovery (%)	Marketable Reserves (Mt)
75	16	7	23	6	10	23	91	21

4.9.4 Mining and Operations

The #7 coal seam mined at Longdong is approximately 5.5 m thick and dips at between 3 degrees and 8 degrees. The coal seam is extracted with the slicing method by taking 2.6 m at the top of the seam and laying down mesh behind the shields as the longwall retreats. When the panel is completed at the top level the longwall returns to remove the bottom 2.6 m of the coal seam. This method has been successfully operated in previous longwall panels. Although it could be restrictive in productive rates when mining the bottom part of the seam, it ensures complete extraction of the reserves in the panel. Longwall panels were previously restricted to a length of 1 km, as the Design Institute responsible for the mining design orientated panels along the dip at a maximum length of 1 km. This design criterion has subsequently changed and panels up to 2 km are being mined. Future longwall panels have been planned to undermine Zhaoyang Lake and also a dam wall that has been established on the surface.

All equipment used at the mine is supplied by Chinese manufacturers with the shearer a MGTY250/600 model and the shields ZY3600-16/36 models. A total of 124 shields are installed along the width of the current face and have a capacity of 360 t each. Five development panels are deployed of which four utilise conventional blasting methods and one panel utilises an S-100 roadheader. Handbolting practices are used in the development panels with on average development figures of 3 m/day for blasting panels and 15 m/day for the roadheader panel achieved. Development for the forming of longwall panels is done in coal with the roadheader panel supplemented by blasting panels, while development of roadways for future mine life is driven in rock by the blasting panels.

The historical production figures achieved at Longdong mine are shown in Table 4-32.

Table 4-32: Mine Production History, 2003 to 30 June 2006 — Longdong

	2003	2004	2005	30 June 2006
Longwall (Mtpa)	1.10	1.20	1.16	0.65
Development (m)	7,818	7,318	9,458	0

Current mining conditions in the #7 seam are acceptable and manageable. Development of main entry roadways are driven in rock to ensure stability for the mine life. The mining in rock is also done to an arched profile at a width of 4 m with further support and shotcreting with wire mesh applied afterwards. Mining in coal to develop panels for longwall mining is done at a width of 4.2 m and a height of 2.4 m.

Stonedusting is not applied at the mine. Sidewalls and roof are washed down periodically with water and water barriers are in use.

Ventilation quantities are generally lower than internationally accepted standards. The airflow quantity reported for the longwall panel is 30 m^3/sec and for the development panels 1.8 m^3/sec. A total of 115 m^3/sec is circulated through the mine. Low methane levels are reported and detected underground. In-time methane monitoring is available on the surface in a centralised control room and equipment underground is interlocked to trip power when methane levels exceed 1.5% concentration. Although low levels of methane have occurred, it was noted that boreholes in future western mining reserves indicated higher levels of methane up to in-situ values of 11 m^3/tonne. These high methane levels will require a different approach to managing methane content in these areas, e.g. pre-drainage, higher ventilation velocities etc. Temperature levels underground and in the mining panels are acceptable.

Only low levels of dust are evident underground and measurements are taken every 10 days in identified areas in compliance with legislation. A chemical (identified as NCZ-1) is applied to the floors of the main intake roadways to prevent excessive dust generation and carriage into the rest of the mine.

Longdong mine utilises conventional methods of transportation underground. Coal is transported from the longwall panel to the surface by rubber belt conveyor systems and in development panels initially by a scraper chain conveyor and subsequently by the rubber belt conveyor system. Electric trains are utilised to transport personnel closer to the mining panels. Material and waste are transported by conventional winch and skip systems to the main shaft system where it is transported by an elevator system with a capacity of 1.2 Mtpa.

4.9.5 Infrastructure

Three vertical shafts have been established at Longdong mine. One shaft serves as a ventilation extraction shaft, one shaft as the main shaft to transport coal and waste to the surface and one shaft as an auxiliary shaft to transport men and material to and from the surface. The depth of the auxiliary shaft is 328 m.

Electricity for the mine is supplied from a power plant owned by Datun Coal. Power is supplied at 35 kV and three independent feeds have been established. The supply has historically been very reliable with no failures or interruptions occurring. Supply capacity to the mine is 5,237 kWh and the usage is stated at 3,200 kWh.

Water is supplied to the mine from closely situated boreholes at 4,000 cubic metres per day (m^3/day) and stored in reservoirs on surface. A total of 3,000 m^3/day of water is consumed, of which 1,000 m^3/day is for industrial purposes and 2,000 m^3/day for domestic use. Three pumps of 80 cubic metres per hour (m^3/hr) capacity each have been installed on the surface to pump water for underground use with only one pump

required for the underground water supply. Underground water is pumped to the surface and utilised for sewerage handling and coal washing in the CPP. No water is recycled for underground use.

4.9.6 Capital and Operating Costs

Historical capital investment and planned investment for Longdong mine until 2008 is indicated in Table 4-33. Unit cost at Longdong mine increased from 2003 to 2004 due to a change in accounting practice and reporting similar to Xuzhuang mine, with a decrease in operating cost achieved from 2004 to 2005 (refer Table 4-34 below).

Table 4-33: Capital Expenditure — Longdong

Operating Company and Mine	Mining Method	Capital Expenditure (RMB Million)					
		2003	2004	2005	2006	2007	2008
Shanghai Datun Energy Resources Co., Ltd.							
Longdong	UG	19	10	8	14	14	40

Table 4-34: Average Annual Mine Cash Costs — Longdong

Operating Company and Mine	Mining Method	Cash Operating Cost (RMB/tonne)		
		2003	2004	2005
Shanghai Datun Energy Resources Co., Ltd.				
Longdong	UG	149.96	212.36	198.99

4.10 Yaoqiao Underground Mine

4.10.1 Introduction

Yaoqiao is the best performing mine in Datun Coal. The mine started in 1976 and had a design capacity of 1.2 Mtpa. A new shaft was implemented in 2000 to increase production by a further 1.8 Mtpa to reach a total of 3 Mtpa.

Two seams are extracted at Yaoqiao mine, the #7 and #8 seams, of which the #7 is the main mining seam. The seams are located at a depth of approximately 400 m. The mine has already undermined 17.2 km^2 of Zhaoyang Lake, however no inflow of water from the lake has been evident.

Three longwall systems and nine development panels were in operation at the mine in 2005. The top coal caving method is used in the longwall mining process to extract the complete seam at 5.5 m. The mine produced 3.5 Mt in 2003 and 3.4 Mt in 2004 and 2005 respectively.

4.10.2 Geology and Mineral Resources

The stratigraphic sequence of Yaoqiao coal mine is outlined in Table 4-35.

Table 4-35: Stratigraphic Sequence — Yaoqiao

Stratigraphic Unit	Thickness Range (m)	Average Thickness (m)
Quaternary	81 to 227	163
Jurassic and Cretaceous	0 to 449	0(1)
Upper Permian (Shang Shi Hi Zi Group)	180 to 212	200
Lower Permian (Xia Shi Hi Zi Group)	201 to 297	242
Lower Permian (Shanxi Group)	64 to 131	105
Middle and Upper Carboniferous (Benxi and Taiyuan Group)	180 to 200	190

(1) Zero indicates unit does not exist in mining area but range reflects regional geology beyond mining area

Topography at Yaoqiao is flat, similar to that of Longdong. Yaoqiao mine lies adjacent to the south of Longdong mine and covers an area of some 57 km^2, 13.5 km in length along the strike (EW direction) and about 4.2 km in width. The Permian strata dips to the north and varies from 8 degrees to 20 degrees, averaging around 12 degrees. The stratigraphy of Yaoqiao is outlined in Table 4-36. The Quaternary material is similar to that at Kongzhuang.

The #7 seam is the main seam mined at Yaoqiao. The seam averages 5.5 m in thickness and is extracted using top level caving in longwall panels. The roof conditions are very favourable for this method of mining and the recovery of the total seam is good, with minimal dilution involved.

The #8 seam is not present in the western part of the area, but in the east it is mined in selective areas of Yaoqiao. When the interburden between the #7 and the #8 seams is less than 1 m, the seams are mined together using top level caving as their combined thickness reaches a maximum of 11 m. Otherwise, they are mined separately.

Table 4-36: Seam Statistics — Yaoqiao

Seam	Thickness Range (m)	Average Thickness (m)	Average Interburden (m)
#7	1.4 to 9.9	5.5	600 (to surface)
#8	0 to 9.9	3.3	9
#17	0.1 to 2.6	1.1	95

The #17 seam has yet to be mined.

Structure

The geology at Yaoqiao is considerably more complex than that of Longdong mine. It is disrupted with frequent faults of less than 1 m throw. The major structural features trend NE-SW and are generally normal faults. The average normal fault has between 3 and 8 m throw which causes minor disruptions to the mining operation.

The #7 seam is intruded by a number of igneous sills within the Yaoqiao area. A large sill is located in the south, a smaller one in the west (intersected by two boreholes) and another is found on the eastern boundary. As well as sills, the coal seams in Yaoqiao are dissected by large Dioritic dykes up to 150 m wide, some 1 km in length and trending E-W. These dykes generally consist of fresh material and therefore are hard to penetrate for the longwall shearer.

Coal Quality

Coal mined at Yaoqiao produces thermal coal products.

All the ROM coal is washed through a dense medium cyclone wash plant at the mine site (see Coal Processing section for more details). The typical quality parameters of each seam are summarised in Table 4-37.

Table 4-37: Typical Coal Quality — Yaoqiao Seams

Seam	Inherent Moisture %(ad)	Raw Ash %(ad)	Washed Ash %(ad)	Raw Sulphur %(ad)	Washed Sulphur %(ad)	Washed Phosphorus %(ad)
#7	1.3-1.67	14.3	7.2	0.74	0.41	0.013
#8	1.3-1.67	11.6	5.1	0.93	0.81	0.004
#17	1.3-1.67	15.9	7.0	2.08	1.54	0.004

Gas

Twenty-eight gas samples were taken from the bore cores during the Yaoqiao exploration program. Seventeen samples of the #7 seam recorded methane levels between 0 and 0.1m^3/t. Six samples of the #17 seam recorded methane levels between zero and 4.0m^3/t. To date, these areas of higher gas have been well managed by the company.

Resource Estimation

The majority of exploration boreholes were drilled in the 1970s, while a few were drilled more recently in the 1990s. In general, the core recovery of the seams averaged around 75% of the coal in each of the target seams. Most if not all boreholes were logged using geophysical logging tools to accurately measure the seam thickness which allows the coal tonnage to be accurately calculated.

The coal resources for Yaoqiao mine are shown in Table 4-38 and were current as at 30 June 2006.

Table 4-38: Coal Resources — Yaoqiao

Seam	Resources (Mt) Measured	Indicated	Inferred	Total Resources (Mt)	Mineable Resources (Mt)
#7	141	18	102	261	159
#8	22	26	14	62	48
#17	0	0	58	58	0
Total	163	44	174	381	207

4.10.3 Coal Reserves

SRK has applied a 75% mining recovery factor to the coal resources to allow for those resources which will not be accessible in a practical mine design. This has been assumed to allow for areas which will not be mineable or fully extractable, such as faults and intrusions, gateroads, main development entries etc. Mining loss and mining dilution factors have also been applied to calculate recoverable reserves. A saleable recovery percentage was then applied to calculate marketable reserves. The resulting coal reserves are shown in Table 4-39.

Table 4-39: Coal Reserves — Yaoqiao

Mining Recovery (%)	Proved Reserve (Mt)	Probable Reserve (Mt)	Proved + Probable Reserve (Mt)	Mining Loss (%)	Mining Dilution (%)	Recoverable Reserves (Mt)	Saleable Recovery (%)	Marketable Reserves (Mt)
75	122	33	155	6	10	161	80.8	130

4.10.4 Mining and Operations

The main seam mined at Yaoqiao mine is the #7 seam, however the #8 seam occasionally moves towards the #7 seam with a very small interburden of a few millimetres. In this case the #8 seam is extracted together with the #7 seam, with a cut-off interburden of 1 m. This coalescing of the #7 and #8 seams is more prevalent in the eastern part of the mining reserve, making the extraction of the #8 seam economical in this area.

The mine is equipped with three longwall panels utilising the top coal caving method. One longwall panel visited by SRK (panel 7001), was 170 m wide and 1.4 km long. Equipment is Chinese-supplied with the shearers a MGTY250/600 model and the shields 139 x ZFSB4400, 100 x ZFSB3800 and 133 x ZF2800 for the three panels respectively. Development is undertaken with nine panels, including six conventional blasting panels for rock development and three roadheader panels equipped with S-100 roadheader machines for coal roadway development. The blasting panels produce at an average of 100 m per month and the roadheader panels at 400 m per month. The record development production in coal with a roadheader achieved in the past was 700 m per month. The historical production figures for Yaoqiao mine during the last three years are shown in Table 4-40.

Table 4-40: Mine Production History, 2003 to 30 June 2006 — Yaoqiao

	2003	2004	2005	30 June 2006
Longwall (Mtpa)	3.51	3.41	3.40	1.93
Development (m)	17,018	16,008	16,038	0

The average dip in the coal seam at Yaoqiao mine is 18 degrees. Fair to difficult mining conditions are present requiring relatively intensive support to ensure stability in the long term. Additional secondary support is required in localised areas where faulting and intrusions intersect the mining seam. Coal roadways are developed at 4.2 m width by 2.6 m height and are supported as a standard with steel point and cable anchors.

Development for future expansion of the mine is done through rock with blasting panels. This method of development is conducted to ensure longevity of main access roadways over the life of the mine. The roadway is driven at a base width of 4.8 m and a height of 3.8 m and profiled in an arch to further enhance stability. Shotcrete and mesh are also applied after support has been installed, and a water canal is formed at the side of the roadway to assist in water management.

Ventilation quantities are generally less than international standards. The airflow quantity reported for the longwall panel is 11 m^3/sec and for the development panels 8 m^3/sec. Low methane levels are reported and detected underground. In-time methane monitoring was not available on the surface in 2005, however it was being implemented. Equipment underground is interlocked with local monitors in the panel to trip power when methane levels exceed 1.5% concentration. Temperature levels underground are acceptable.

No stonedusting practices are employed at the mine. Water barriers are in use.

Excessive dust levels are not evident in the underground workings and measurements are taken every week in identified areas in compliance with legislation.

The mine utilises conventional methods of transportation underground. Coal is transported from the longwall panel to the surface by rubber belt conveyor systems and in development panels initially by a scraper chain conveyor and subsequently by the rubber belt conveyor system. Electric trains are utilised to transport personnel closer to the mining panels. Travelling distances of up to 5 km exist between the shaft system and the working panels. Material and waste are transported by conventional winch and skip systems.

4.10.5 Infrastructure

In 2000, Yaoqiao mine implemented an additional shaft system to cater for the increased production capacity of 3 Mtpa. By 2005, a total of seven vertical shafts had been established at Yaoqiao mine. Two auxiliary shafts are utilised to transport men and material to and from surface and two main shaft systems with a combined design capacity of 3.9 Mtpa are utilised to transport coal and waste material to the surface. Three ventilation shafts provide ventilation capacity to the mine.

Electricity is supplied to the mine by the Datun Coal-owned power station via 35k V overhead powerlines. There is a total of 51,150 kVA installed capacity, with the reported required installed capacity underground at a maximum of 15,000 kW and an average of 8,000 kW. The system is reported to be reliable, and other than a few thunderstorms in the past resulting in interruptions, no major delays or interruptions have been experienced.

Water supply to the mine is from four boreholes (spaced at 500 m) with the furthest hole situated approximately 2 km from the mine. The water is stored in a 400 m^3 reservoir on the surface before being piped underground through the three ventilation shafts. These boreholes supply Yaoqiao mine only, but are also used to supply requirements for domestic use. Water is recycled from underground through a water treatment plant to be used as sewerage water.

Mine personnel are aware of and have reported that the water supply capacity from the boreholes is decreasing. To counter this, water restrictions have been implemented for domestic use and domestic supply is cut off every day from 12:00 pm to 5:00 am. A current supply capacity of 7,000 m^3/day is available and 2,700 m^3/day is used, leaving a surplus capacity of 4,300 m^3/day. A further 3,600 m^3/day capacity is available through the water treatment plant.

4.10.6 Capital and Operating Costs

The historical and planned capital investment at Yaoqiao mine is indicated in Table 4-41 below.

Operating cash cost at Yaoqiao mine in 2004 increased compared to 2003 due to a change in accounting practice, with a further cost increase experienced in 2005 (refer to Table 4-42 below).

Table 4-41: Capital Expenditure — Yaoqiao

Operating Company and Mine	Mining Method	Capital Expenditure (RMB Million) 2003	2004	2005	2006	2007	2008
Shanghai Datun Energy Resources Co., Ltd.							
Yaoqiao	UG	22	29	15	22	22	30

Table 4-42: Average Annual Mine Cash Costs — Yaoqiao

Operating Company and Mine	Mining Method	Cash Operating Cost (RMB/tonne) 2003	2004	2005
Shanghai Datun Energy Resources Co., Ltd.				
Yaoqiao	UG	93.60	135.95	151.44

5 HUAJIN COAL MINING COMPANY

5.1 Introduction

Huajin Coking Coal Co., Ltd. (Huajin Coal) was formed by a joint venture between China Coal (50%) and the Sanshi Coking Group (50%). The company operates the Shaqu underground mine and is

developing the Wangjialing underground mine. The Shaqu mine is situated adjacent to the town of Liulin, 230 km south of Taiyuan in the Liliu Coal Field which is within the Hedong Coal Field which is a 7.6 Bt resource. The Wangjialing exploration site situated south-west of the Xiangning mining area in Shanxi province has been approved for mining by the provincial and state governments. The project plan is to start development of the mine during 2007.

Shaqu mine's current design production capacity is 3 Mtpa and coal is washed at a company-owned wash plant with a capacity of 1.5 Mtpa. In 2005 a second plant with a capacity of 3 Mtpa was under construction. Shaqu mine produced 1.63 Mt in 2004 and 1.87 Mt in 2005. The capacity of the Wangjialing mine at full production is planned at 6 Mtpa for 2010.

Shaqu mine produces coking coal of which approximately one-third is exported to South Korea and Japan, one-third sold to local clients and one-third used by Huajin Coal to produce coke for steel work clients. The export coal is shipped through three ports which are all situated approximately 800 km from the mine.

5.2 Corporate Management Structure

The corporate management structure is shown in Appendix 2. Workforce numbers for Huajin Coal are shown in Table 5-1.

Table 5-1: Workforce Numbers — Huajin Coal

Category	Employees
Production[1]	
Shaqu UG	1,755
Management[2]	10
Other[3]	419
Total	2,184

(1) Permanent and contractor employees involved in mining activities

(2) Senior management — excludes functional departments

(3) Only personnel involved with the mines — excludes CHPP, rail etc

Salaries for skilled non-technical workers start at RMB600 per month while skilled underground mine workers earn RMB1,800 per month. Technical personnel are remunerated at RMB1,900 per month and high level personnel at RMB2,400 per month.

5.3 Occupational Health and Safety

Shaqu mine utilises a safety management system that appoints safety monitors from head office and site personnel to conduct inspections and improve safety conditions. A total of 78 safety monitors are appointed at Shaqu mine. Investigations are conducted after an incident occurs in an attempt to determine the root cause. This information is communicated to all employees and contractors at special workforce meetings and at the start of shift safety meetings. Safety procedures are developed through accident investigations to prevent recurrence of similar incidents.

Employees undergo safety training through a government training centre every year and position-specific training every three years. Workers are also trained and encouraged to identify and report hazards, for which the company offers a financial reward.

The safety statistics for Shaqu mine since 2003 are listed in Table 5-2.

Table 5-2: Accident Statistics, 2003 to 2005 — Huajin Coal

Category	2003	2004	2005
Fatal(1)	0	0	0
Serious(2)	1	0	0
Minor(3)	1	3	0

(1) Accident causing death (number indicates lives claimed)

(2) Accident requiring hospitalisation and do not return to work for more than 24 hours (includes fatal incidents)

(3) Accident which does not require hospitalisation and employee returns to work within 24 hours

Contractors are included in the above figures, which reflect very low levels of injury frequency. Only one serious injury, namely a broken leg, has occurred at the mine since 1999. No minor or serious injuries are planned for, however a maximum limit for a fatality rate of 0.5 persons per Mt of coal mined is set every year.

Mine representatives consistently demonstrate that safety is a priority and that it remains a significant consideration in all aspects of planning and operation. Similarly, the safety statistics reflect good performance.

Shaqu mine is reported to be one of the highest methane level mines in China. Very high levels of methane in the coal seam are apparent and the mine utilises in-seam drilling practices prior to longwall mining to de-gas the seam to mineable levels.

5.4 Environmental Assessment

5.4.1 Introduction, Scope and Background

An environmental assessment of Huajin Coal was completed by SRK to assess Huajin Coal's environmental management across its operations. The primary reason for assessing Huajin Coal's environmental management was to identify any potential financial liabilities arising from its operations, which include:

- Shaqu underground coal mine and Wangjialing Exploration Zone (for the proposed Wangjialing underground coal mine)
- Two coking plants operated under contract to Huajin Coal by the China Coal Coking Group Ltd (Coking Plant No. 1) and the Longquan Cokechem Company Ltd (Coking Plant No. 2)

In addition to visiting the above major sites, the SRK environmental assessment included interviews with key environmental staff members of Huajin Coal, inspection of relevant environmental documentation and interpretation of responses to an environmental questionnaire provided by SRK.

As for environmental assessments of previous China Coal subsidiary companies, this environmental assessment is reported entirely at corporate level. This approach was adopted as Huajin Coal has an office adjacent to its Shaqu mine at Liulin from which the environmental management of both Shaqu underground mine and the proposed Wangjialing underground mine is resourced.

5.4.2 Corporate Environmental Awareness

Huajin Coal has only been operating the Shaqu mine since 2004. ISO9001 and ISO14001 accreditation require a qualifying operational period prior to a mine being permitted to apply for International Standard Organisation (ISO) status. Huajin Coal plans to apply for environmental, quality and safety accreditation for both the Shaqu and Wangjialing mines when they have been operational for several years.

This is also the situation for Coking Plant No. 1, while Coking Plant No. 2 is internally evaluating the ability to meet the requirements for application.

5.4.3 Mining Title and Royalty Payments

Huajin Coal is licenced to mine underground at both its Shaqu and Wangjialing mines. Mining licence details are provided in Table 5-3. Huajin Coal holds both the surface and mineral rights at its Shaqu mine and at the proposed Wangjialing mine, with the mining licences valid until September 2031.

Table 5-3: Mining Licence Details — Huajin Coal

Mine	Mining Licence No.	Mining Area (km^2)	Issue Date	Licence Tenure
Shaqu	1000000420071	138.4	December 2004	27 years
Wangjialing	1000000420072	176.7	December 2004	27 years

Should Huajin Coal still have mineable coal reserves following expiration of its mining licences, it can apply for a new or extended licence. The mining licences were issued by MOLAR in December 1999. Huajin Coal pays mining royalties and taxes at its Shaqu mine according to Chinese Mineral Resources Law (1996 as amended).

There are no options held over the mining land other than by the government and it is not permitted to divest mining licences to other commercial operations.

5.4.4 Environmental Licencing, Compliance and Reporting

As previously noted, it is a statutory requirement that environmental considerations are detailed in the project feasibility study for all new projects in China, which is subsequently presented to the Environmental Protection Bureau of the respective province in which the operation is located, which in this instance is Shanxi province. This environmental component is essentially akin to an environmental impact assessment report and is passed to the state agency if required, commensurate with the scale of the proposed operation. The various operational environmental licences are then granted to the mining company based on the sustainability of the operation according to this environmental feasibility study, in addition to its ability to manage its environmental obligations under the National Environment Protection Law (1989). For the Shaqu operation, environmental licences were granted at provincial level for boundary noise, gaseous emissions and water discharge. Further to these environmental licences, Huajin Coal maintains a licence at Shaqu from the local Liulin County Water Resource Management Commission for groundwater extraction.

Shaqu mine is required to prepare an individual annual environment report to the Shanxi provincial Environmental Protection Bureau that incorporates data on waste volumes generated, noise, wastewater and gaseous emissions. After approval, the report is passed from the provincial regulators to the local county environmental regulators who conduct random inspections approximately every four months. Huajin Coal also maintains its own on-site environmental laboratory to monitor water quality on site. A similar reporting system is in operation at both the coal coking facilities, though Coking Plant No. 1 is still under construction and is only operating at approximately 25% of capacity at this stage.

The plant was expected to be fully operational in early 2006. Coking Plant No. 2 has approval from the local government to expand its coal washing plant capacity by an additional 600,000 tonnes per annum.

The environmental approvals pathway prior to commissioning the Wangjialing mine is approaching completion. The Xian Coal Design Institute designed the mine and submitted the final feasibility study to State Development and Reform Committee in March 2003.

The environmental plan for the mine was approved by the State Environmental Protection Bureau at the end of 2003, while the water plan was approved by the State Ministry of Water Resources also in late 2003. The State Ministry policy changed in August 2004 however, to one that required a series of different

approvals. In this regard, the 'location' report was approved by the Shanxi government in 2004, with the 'land use' report being approved by both the local and provincial governments in late 2004. These were also approved by MOLAR in March 2005, with the only remaining approval required being from the State Development and Reform Committee, which is pending.

SRK inspected the Annual Environment Report for the Shaqu coal wash plant and found all environmental data to be in compliance with relevant criteria.

5.4.5 Environmental Staff

Huajin Coal maintains the following environmental staff at its head office that oversees both the Shaqu and Wangjialing sites. There are two professional environmental managers that are included in the operational staff, with an additional four technical staff in the coal wash plant located at Shaqu dedicated to environmental management. In addition, Huajin Coal maintains an 'environmental protection team' that consists of 13 staff from various departments to oversee environmental compliance. The two coking plants both have two environmental staff members who report on and maintain environmental compliance.

5.4.6 Environmental Planning and Budgets

Huajin Coal produces 10 year long term environment plans for their Shaqu operations, while the environmental planning for Wangjialing is still at the feasibility stage. As noted above however, the environmental and water plans for the proposed Wangjialing mine have been approved by the relevant authorities. No environmental plans were sighted by SRK at either coal coking plant, however, plant No. 1 was still being built with environmental plans approved by the regulators, while plant No. 2 also had expansion plans approved by the regulators. It should be noted that the gas power technology, emissions scrubbing equipment and water recycling equipment being installed at plant No. 1 suggest it will be a leader in environmental or 'clean production' technology in China.

SRK inspected Huajin Coal's 2005 environmental budgets and noted that it planned to spend upwards of RMB500,000 on site rehabilitation. Furthermore, as the plant has been operational for less than one year, all environmental infrastructure is relatively new, and large budgets for upgrading and/or maintaining environmental equipment are not required at this early stage of operation.

5.4.7 Water Management

Huajin Coal has a company-wide policy on water conservation, and is aware that it operates in a semi-arid environment. This awareness is demonstrated by on-site water treatment and recycling. Water is sourced for Shaqu mine by five groundwater wells approved by local authorities. Groundwater also supplies the water for both coking plants with Coking Plant No. 1 having six wells as supply and Coking Plant No. 2 having three wells to supply its water needs. There is no off-site water discharge at either of the coking plants, with all industrial water recycled into either the coal wash plant, the quenching operations and/or used as on-site dust suppression. There is a WWTP under construction at Coking Plant No. 1 (expected to be operational in October 2005), while Coking Plant No. 2 does not have an on-site waste water treatment plant.

Shaqu mine has an on-site WWTP that treats coal wash water prior to it being recycled for on-site industrial use. Limited seasonal discharge of wastewater is undertaken at one discharge point from treated residential wastewater by Huajin Coal. SRK inspected discharge water quality data and found it to be in compliance with relevant Chinese environmental standards. Overall, it is the opinion of SRK that Huajin Coal takes its water management responsibilities seriously and manages its water use accordingly.

5.4.8 Waste Rock, Tailings and Rehabilitation Management

Due to the underground nature of the Shaqu mine, waste rock generation is significantly less than for an open-pit mine. This fact considered, Huajin Coal still produces sufficient waste rock to require a management plan. In this regard, the waste rock from Shaqu mine is disposed of in waste rock dumps on the side of the hillside immediately behind Shaqu Mine. Due to the geotechnical challenges imposed by the method of waste rock disposal at Shaqu, the work is subcontracted out to the Shanxi Rehabilitation Company. Rehabilitation is undertaken in a progressive fashion with a 2 m thick soil cap covering the shale and sandstone waste rock. The soil cap is then covered with a geo-membrane and revegetated. The rehabilitated areas at Shaqu blend in with local geomorphology very well. Sediment traps and channels are also constructed on the rehabilitated areas to manage surface water run-off.

The anticipated life of the waste rock dump at Shaqu is 12 years, after which waste rock will be transported to a new site with an anticipated life of approximately 10 years. The mine life at Shaqu is expected to exceed this timeframe and an alternative waste rock disposal area will be required following expiration of the current and proposed sites. Coal wash tailings at Shaqu mine are beneficially re-used by being dried and sold to local brick makers as a cheap fuel source. This tailings management plan has been approved by local government. Boiler ash at Shaqu mine is disposed of in the waste rock dump and rehabilitated. The presence of boiler ash in the waste rock dump will have a small neutralising effect on any oxidising sulphide minerals potentially present in the waste rock, although none were sighted during SRK's visit.

In 2005, no waste was generated at the Wangjialing site, though SRK was not supplied with the mine plan and can therefore not comment on any proposed waste rock or tailings management plans. The coal wash plant at Coking Plant No. 1 was not yet operational at the time of SRK's visit; therefore, no waste was being generated. When the plant is completed, it is planned to use the coal wash rejects as a fuel in a yet-to-be established power plant. Coal wash plant rejects at Coking Plant No. 2 are sold as briquettes for power generation to the local power plant.

Overall, it is the opinion of SRK that Huajin Coal's plans for waste rock and tailing management are suitable for the operations. Furthermore, considering the remote nature of the operation, it is unlikely Huajin Coal will experience any major problems locating alternate waste rock disposal areas following expiration of the current and proposed sites.

5.4.9 Dust Management

Dust at the proposed Wangjialing site was not an issue in 2005 as the land was being cropped and there were no mining operations on site. Dust is managed at the Shaqu mine in both underground and above ground operations. Water sprays are in place on the longwall cutting equipment to suppress underground dust, while water is sprayed over temporary coal stockpiles above ground. Dust is routinely monitored and data reported for the coal storage area and also in the coal wash facility. In this regard, Huajin Coal attempts to keep the coal damp throughout the coal handling and treatment process in order to suppress dust.

As noted the WWTP at Coking Plant No. 1 is still under construction, however it is planned to use the recycled water from the plant once completed for on-site dust suppression, including in the coal washing facility still under construction. While there is no waste water treatment facility on site at Coking Plant No. 2, waste water is also recycled and used in on-site dust suppression. Both coking plants are required to report on dust emissions as part of their environmental licensing requirements.

5.4.10 Social and Regulatory Relations

Following discussions with Huajin Coal staff it appears that relations with both local residents and regulatory bodies are sound. The good relationship with the local community of Liulin is primarily due to employment opportunities. Direct mine employment also has positive downstream effects on the local and regional economy in service industries.

Residents directly affected by mine site operations are compensated by Huajin Coal and relocated from the area. Relocations are also likely to occur at the proposed Wangjialing operation prior to commencement of mining activities. The remote location of Coking Plant No. 1 minimises impact on residents while also providing good employment opportunities. There is minimal impact on residents from operations at Coking Plant No. 2, due to it being located in a specifically designed 'heavy industry' park.

Huajin Coal's relations with statutory bodies are sound, as evidenced by the fact that Huajin Coal has not been fined for breaching environmental standards at either its Shaqu mine or the operating coking plants. Furthermore, the proposed Wangjialing mine has been approved for operation and such approvals are not granted if the mining company has previously logged a large number of environmental incidents or proved to be environmentally irresponsible. It is the opinion of SRK that Huajin Coal's proactive approach to its environmental responsibilities, in particular its water management requirements, has helped to maintain these positive relationships with relevant regulatory staff.

5.4.11 Environmental Assessment Conclusions

Following interviews with key Huajin Coal environmental and managerial staff, and inspection of environmental documentation and operations, SRK found that Huajin Coal has a sound and proactive approach to its environmental responsibilities and is managing its operations in compliance with its environmental obligations. This opinion is supported by the fact that Huajin Coal has not been fined for any environmental breaches across its operations to date. Specific focus is on water management and conservation, along with cleaner production technology. These areas of focus are evident in investment in plant and equipment at operating sites, as well as of sites under construction.

5.5 Coal Processing and Transport

During 2005, 30% of coal from Huajin was destined for export and 70% for the local market. The export coal is shipped through three ports, each of which is approximately 800 km from the mine site. The three ports are Qingdao, Rizhao and Tianjin. The local product is sold to steel manufacturers and is railed to customers through the public railway network.

The coal is initially transported by train from the mine for 1.5 km on a company-owned rail line to the Muchun railway station. From this railway station the company utilises the public rail network to supply the coal to customers. Trucks are used to deliver coal to local customers within a radius of 100 km and consideration is being given to increase the supply to these customers to minimise congestion on the public railway system.

Huajin Coal is also preparing to expend funds to improve its ability to transport coal by upgrading the current system or by consideration of a new line with electric trains. Finances to initiate these improvements were provided in the 2005 budget.

Furthermore, the government is planning the construction of an additional railway line with a capacity of 16 Mtpa, with construction to commence at the end of 2005.

5.5.1 Shaqu CPP

This site has been equipped with two processing plants, namely a traditional Chinese jig plant with a capacity of 1.5 Mtpa and a new dense medium plant with a capacity of 3 Mtpa. The latter plant commenced trial production in August 2005. It is also planned for the current ROM section to be upgraded to match the increased capacity which will increase efficiency and allow for different quality feeds. Subsequent to the ROM upgrade, the old jig plant will be stripped out and rebuilt as another new dense medium plant.

Jig Plant

The Shaqu jig plant was first operated in 1996 and is still in excellent order. A picking belt system feeds the 200 mm x 50 mm raw feed from the ROM stockpiles with the material then crushed to −50 mm. It then passes through four bins of 360 t capacity each to reach the plant. The full size range is then washed in a 2 m, three-product jig. The jig rejects are discarded and the middlings are either bunkered for the on-site boiler that generates steam for heating, sent to a truck bin for local sales or conveyed to the 3,300 t train loading bin.

The jig product is screened at 10 mm and the oversize is stored in 3 x 2,300 t train loading bins. The fine jig product is separated at 0.5 mm using an elevator separator and screen, and the 10 mm x 0.5 mm product is dewatered in four centrifuges and sent to train loading. The 0.5 mm x 0 mm product is thickened with the thickener underflow cleaned in a flotation plant. The product is dried on two disc filters and the flotation tailings are dried in plate press filters and sold for home fires.

The Shaqu jig plant was due to be taken out of service in late 2005. Workforce numbers in 2005 were 170 plus additional maintenance staff.

New Dense Media Plant

In 2005 a new dense media plant was constructed by an Australian company using equipment sourced from Australia. It was built according to typical Australian design with steel structure and cladding, but typical of Chinese design, is large and very spacious.

The 50 mm x 0.5 mm feed is processed in two stages of dense medium cyclones. The high grade and middlings product are dried by horizontal centrifuges while the fines are floated in conventional cells. The cell product is dried in Chinese manufactured hyperbaric filters and the tailings are thickened in a thickener and dried in a press. The new plant mass balance is shown in Table 5-4.

Table 5-4: New Plant Mass Balance — Shaqu CPP

New Plant	Tonnes/hour	Ash (%)
Feed	650	23
High Grade Product	480	10
Middlings	52	38
Reject	100	71
Tailings	18	42

Forecast availability figures are not considered to be an issue as the plant is only required to run for 10 hours/day. The new plant will however be budgeted to run 16 hours/day.

A workforce of 339 is planned for the new dense media plant.

Quality

Typically ROM float/sink tests show 80% yield at 9% ash for a 1.70 SG cut. The new plant is planned to be run with the primary cyclone at 1.62 SG for 9% to 10% ash and the secondary cyclone at 1.80 SG for 45% ash.

The ROM coal supplied from Shaqu mine is reported to have an ash range of between 21% and 29% and volatiles ranging between 17.5% and 19.0%. The calorific value (CV) of the product is 7,700 kcal/kg with a crucible swelling number (CSN) between 6.5 and 8.0. Sulphur values range between 0.4% and 1.0%.

The quality parameters for the plant are indicated in Table 5-5.

Table 5-5: Quality Parameters — Shaqu CPP

		Ash (%)	CV (kcal/kg)	Sulphur (%)	TM (%)
Feed	#7 Seam	24.0	—	0.5	—
Product	High Grade	10.0	7,700	0.5	11

5.5.2 Coal Production History

The historical production for the Huajin Coal processing plant is shown in Table 5-6.

Table 5-6: Coal Processing Plants Production History, 2003 to 30 June 2006 — Shaqu

		2003	2004	2005	30 June 2006
Washed Coal	Mt	0.64	0.92	0.95	0.65
Middlings	Mt	0.10	0.21	0.24	0.11
Raw Coal and Waste	Mt	0.13	0.24	0.24	0.14
Total	Mt	0.87	1.37	1.43	0.9

5.6 Long Term Plans

Huajin Coal produced 1.63 Mt from Shaqu mine in 2004 and 1.87 Mt during 2005. The production plan indicates an increase to 2.4 Mt for 2006. The five year plan for Shaqu mine includes the increase of production to 8 Mtpa but no formal plan has yet been finalised. An application for approval has been lodged with the local government and pending the outcome, three additional longwalls will be purchased and deployed in the western and eastern sides of the current mine. Planned production figures indicate Shaqu mine to double current production by 2008 as shown in Table 5-7.

Table 5-7: ROM Production Forecast — Shaqu

Year	Production (Mt)
2006	2.40
2007	3.00
2008	5.00

Construction at Wangjialing exploration site was approved by the state government and is planned to commence during 2007. This timeframe implies that longwall production will commence in 2009 with full production capacity of the mine planned at 6 Mtpa. A wash plant with a capacity of 6 Mtpa will also be constructed to wash Wangjialing coal. The total investment for this project is reported at RMB2,311M.

5.7 Shaqu Underground Mine

5.7.1 Introduction

Construction of the mine commenced in 1992 but ceased in 1998 due to a lack of sufficient funds. In February 2002 construction recommenced under a new joint venture between China Coal (50%) and the Sanshi Coking Group (50%). The #4 seam has been mined since 1999, however full-scale operations only commenced again in 2004.

The #4 seam is being mined at a depth of 400 m below the surface. Two longwall systems are in operation at Shaqu mine, one in the north and one in the south. The longwall in the south cuts at the seam height of 2.4 m and the longwall in the north cuts at 4 m in a 4.2 m seam height. The longwall panels are supported by four development panels.

The mine produced 1.63 Mt in 2004 and 1.87 Mtpa during 2005.

5.7.2 Geology and Mineral Resources

General topography over the Shaqu mine consists of a wide river flat and therefore has no relief. Beyond the river flat there are high mountainous areas. The stratigraphic sequence of Shaqu coal mine is outlined in Table 5-8.

Table 5-8: Stratigraphic Sequence — Shaqu

Stratigraphic Unit	Thickness Range (m)	Average Thickness (m)
Quaternary	20 to 130	100
Triassic	0 to 59	0
Upper Permian	0 to 148	25
Upper Lower Permian	0 to 97	49
Lower Lower Permian (Shanxi Group)	11 to 98	60
Upper Carboniferous (Taiyuan Group)	57 to 105	79

The Quaternary material is usually unconsolidated and weathered soil, clays, sands and gravel deposited by recent river systems. Gravel is often found at the base of the Quaternary. The Triassic, which consists of greywacke sandstones with minor siltstones and gravel beds in places, is generally not present in the Shaqu mine area.

Seams #2 to #5 belong to the Shanxi Group. Generally the #2 and #3 seams are either too thin or not present due to being eroded away by the overlying Quaternary sediments. Seam #6 through to #10 seam are of the Taiyuan Group. The #6 and #7 seams are too thin or absent and are not recovered in the mining operations. Only the #4, #5, #8, #9 and #10 seams are mined. The #4 seam is thickest in the north area at 4.2 m and gradually thins towards the south to 2.4 m. The #4 seam can include up to six partings, but generally has only one or two stone bands. The partings are usually less than 0.2 m thick. Roof conditions are good, the roof primarily being a competent mudstone. The #5 seam has little or no partings and has a competent limestone roof.

The #8, #9 and #10 seams often coalesce to form a large working section up to 8 m thick. This combined unit has up to seven partings (each generally less than 0.2 m thick) and has a strong and competent limestone roof.

The average dip of the Permian strata is 7 degrees, but can steepen in some areas to more than 15 degrees.

Table 5-9: Seam Statistics — Shaqu

Seam	Thickness Range (m)	Average Thickness (m)	Average Interburden (m)
#4	0.8 to 6	3	115 to 750 (base plate deeply embedded)
#5	0.1 to 5	2.7	5.5
#8/9/10	1.0 to 9.5	7	44.6

Structure

The Shaqu area has little or no structural features. There are very few faults within the Shaqu area and the few that are found are small scale (less than 1 m throw), with little or no affect on the mining recovery of the seams. Minor folding of the strata was found in places, while the general strike of the seams is NE dipping to the NW at dips ranging from 3 to 7 degrees.

A 3D seismic survey was trialled in the area, but found to be unsuccessful due to the gravel layers at the base of the Quaternary. There is no evidence of igneous activity in Shaqu coalfield.

Coal Quality

All the coal mined at Shaqu produces coking coal products. Approximately 30% of the total product is sold on the export market.

All the ROM coal is washed through a dense medium cyclone wash plant at the mine site (see Coal Processing section for more details). The typical quality parameters of each seam are summarised in Table 5-10.

Table 5-10: Typical Coal Quality — Shaqu Seams

Seam	Inherent Moisture % (ad)	Raw Ash % (ad)	Washed Ash % (ad)	Raw Sulphur % (ad)	Washed Sulphur % (ad)	Washed Phosphorus % (ad)
#4	0.5	20.0	7.0	0.45	—	0.050
#5	0.6	22.0	9.0	1.00	0.70	0.050
#8/9/10	0.6	15.0	6.0	2.50	2.00	0.006

Gas

Many gas samples were taken from the bore cores of the three target seams during the Shaqu exploration program. The Shaqu mine is regarded as one of the highest methane gas mines in China.

Bore core gas samples ranged from 7 to 30 m^3/t. The #4 and #5 seams averaged around 10 m^3/t at 92% methane, while the #8, #9 and #10 seams averaged 15 m^3/t at 96% methane. To date, the areas of higher gas have been well managed by the company using gas drainage systems and adequate ventilation.

More lead time will be required to desorb the gas in the lower seams before the panels are safe to mine. Desorption from surface drilling is being investigated by Huajin Coal.

Resource Estimation

There have been two phases of drilling at Shaqu, each having different levels of reliability in terms of seam tonnage and coal quality.

In the 1970s drilling was performed by the Chinese central government using NQ-size core drilling equipment. These boreholes were found to have a low core recovery rate (usually less than 80%) and are considered to be reasonably reliable in terms of coal thickness (due to the use of geophysical logs).

The second drilling program was conducted in the 1990s using good drilling equipment. This program proved to be successful in attaining a coal seam recovery rate of greater than 95% on average. Therefore, in terms of reliable data, the boreholes of the 1990s (to current) are regarded as very reliable data points for use in the estimation of coal resources. The earlier boreholes are regarded as unreliable due to lower than acceptable core recovery and therefore resulted in a downgrading of the resource categorisation.

Reserves have been estimated in areas where the #8, #9 and #10 seams coalesce to form one thick working section.

The parameters used to estimate the Coal Reserve are as follows:

- Minimum coal seam thickness of 0.6 m
- Maximum seam dip of 15 degrees
- Small mining blocks based on coal rank
- Coal excluded beneath surface infrastructure

The coal resources for Shaqu mine are shown in Table 5-11 and were current as at 30 June 2006.

Table 5-11: Coal Resources — Shaqu

	Resources (Mt)			Total Resources	Mineable Resources
Seam	Measured	Indicated	Inferred	(Mt)	(Mt)
#4	117	161	184	462	278
#5	104	163	106	373	267
#8	131	218	316	665	0(1)
#9	0	0	72	72	0(1)
#10	0	42	210	252	0(1)
Total	352	584	888	1,824	545

(1) #8, #9 and #10 seams excluded from Mineable Resources due to excessive gas levels

5.7.3 Coal Reserves

SRK has applied a 75% mining recovery factor to the coal resources to allow for those resources which will not be accessible in a practical mine design. This has been assumed to allow for areas which will not be mineable or fully extractable, such as faults and intrusions, gateroads, main and development entries. Mining loss and mining dilution factors have also been applied to calculate recoverable reserves. A saleable recovery percentage was then applied to calculate marketable reserves. The resulting coal reserves are shown in Table 5-12.

Table 5-12: Coal Reserves — Shaqu

Mining Recovery (%)	Proved Reserve (Mt)	Probable Reserve (Mt)	Proved + Probable Reserve (Mt)	Mining Loss (%)	Mining Dilution (%)	Recoverable Reserves (Mt)	Saleable Recovery (%)	Marketable Reserves (Mt)
75	166	243	409	6	10	423	89.7	379

5.7.4 Mining and Operations

Eight seams are present in the resource block of which three are too thin to be economically mined. The #4 seam is being mined, with the #5 seam planned for 2006. The #8, #9 and #10 seams are also deemed to be mineable in future. The #4 seam dips at an average of 7 degrees and is 400 m below the surface.

Two longwall systems are deployed in two separate areas of the mine. The longwall panel visited by SRK during the site visit (panel 14201) is 200 m wide and 1.2 km long. This longwall extracts the whole seam at 2.4 m, however the other longwall extracts 4 m in a seam height of 4.2 m in the northern part of the mine. Equipment is supplied by Chinese manufacturers with the shearer a MGTY300/730-1.1D-model in the north and a MG-200 in the south. The shields are ZZ5200/25/47-models in the north and ZZ4600/16/32 in the south. Three development panels mine in coal and rock, with two roadheader panels equipped with S-120 roadheaders deployed in the north and one blasting panel operating in the south during the time of the visit. The longwall system in the south has a production capacity of 1 Mtpa and the system in the north 2 Mtpa. The historical ROM production figures for Shaqu mine are shown in Table 5-13.

Table 5-13: Mine Production History, 2003 to 30 June 2006 — Shaqu

	2003	2004	2005	30 June 2006
Longwall (Mtpa)	0.98	1.63	1.87	1.25
Development (m)[(1)]	0	190	1,954	1,417

(1) Development meters reported are low due to development activities completed as part of the establishment period of mine

Development in coal is done at a width of 4 m and a height of 4 m in the north and at a height of 2.6 m in the south. To achieve this height in the south requires cutting into the floor by 200 mm. Mining conditions can become fairly difficult, especially in the tailgate where the roadway is pinching and intensive support in the roof and sidewalls, with additional standing support, is required to keep the roadway open. The high level of stresses on the tailgate side could have been brought about by the widely accepted practice in China of mining a longwall panel with previously mined longwall panels on both sides.

Long term development for mine expansion is done in rock in an arched profile with a base width of 5 m and a height of 4.5 m. A concrete floor of 350 mm is constructed along the roadway and shotcrete applied at a thickness of between 100 mm and 150 mm on the sidewalls and the roof.

Stonedust is not used at the mine. Sidewalls and roof are washed down periodically with water and water barriers are in use as prescribed by legislation.

Ventilation quantities are generally lower than internationally acceptable standards. The airflow quantity reported for the longwall panel is 32.5 m^3/sec and for the development panel measurements indicate 17 m^3/sec in the intake and 8.3 m^3/sec in the mining face. Levels of methane are consistently detected underground. Some of the values detected during the site visit ranged from 0.65 to 1.2%.

Shaqu mine uses in-seam drilling techniques into the longwall block before mining to drain methane to a mineable level. The gas holes are drilled every 10 m to a depth of 150 m and plumbed with hoses to a common pipeline to pipe the methane to the surface for flaring. Surface-to-seam drilling techniques were not used in 2005, however this technique is under investigation to be implemented at a later stage. High concentrations of methane liberates from the #4 seam floor, indicating that the lower seams also contain high levels of methane.

In-time methane monitoring is available on the surface in a centralised control room and equipment underground is interlocked to trip power when methane levels exceed 1.5% concentration in intakes and working faces, and 2% in the longwall return roadway. Monitors are placed in underground workings in

positions prescribed by legislation. A 5% methane peak the day before the site visit was observed on a historical graph in the control room. This peak reading was caused by a power failure and it was reported that all personnel in the ventilation district were evacuated to the main intake until the problem was rectified.

Heat levels experienced underground were acceptable and temperatures are measured in the panels and relayed to surface with the methane and carbon-dioxide readings. Maintenance on underground equipment is scheduled and conducted every day from 4:00pm to 12:00am.

Dust levels were evident during the site visit and measurements are taken every 10 days in identified areas in compliance with legislation and experience of high dust areas. The following methods to prevent dust generation are applied.

- Water injection to coal seam prior to mining
- Sprays on production machines
- Water fog in development panels
- Drilling with water
- Washing of sidewalls and roof on a frequent basis

Shaqu mine utilises conventional methods of transportation underground. Coal is transported from the longwall panel to the surface by rubber belt conveyor systems and in development panels initially by a scraper chain conveyor and subsequently by the rubber belt conveyor system. Personnel travel on foot to their working places and material and waste are transported by conventional winch and skip systems.

5.7.5 Infrastructure

Six shafts in total have been established at Shaqu mine. Four shafts are utilised as intake shafts and two as return shafts. The services installed in each shaft are:

- Intake:
  - Vertical ventilation shaft
  - Vertical auxiliary shaft
  - Incline coal conveyor shaft
  - Incline escape shaft
- Return:
  - Vertical ventilation shaft
  - Incline ventilation shaft

The auxiliary shaft is 378 m deep and is equipped to convey men and material to and from the surface.

The mine is supplied by the local public electricity grid from the Liulin power station (200 Megawatts (MW)) at 110 kV. A surface substation steps the supply down to 10 kV to separately distribute it to the northern side of the mine. This side of the mine is supplied by one supply line over a distance of 2.72 km. For the southern side of the mine, a duplex line of 3.13 km feeds a substation where the supply is transformed to 35 kV to be supplied to a further substation equipped with 2 x 16,000 kVA transformers. Electricity supply is then stepped down to 10 kV and supplied to various substations on the surface and mobile substations underground. Power is supplied to production equipment at 1,140 V and 660 V.

Longwall production is forced to cease during peak times between five and 10 days per month for three to four months of the year because of insufficient supply of power to the mine. The reduced power supply particularly occurs during the seasons of spring and winter.

During this time only development operations and maintenance with other general work can continue. Research and investigative work has commenced to build a company-owned gas-fired power station to utilise the methane drained from underground and alleviate dependency on the local grid.

Water is supplied to the mine from five surface boreholes situated at Kangjiagou, 3.4 km from the mine. The wells have a combined supply capacity of 10,000 m^3/day and in 2005 the total consumption at the mine was 6,397 m^3/day. Only two or three boreholes are required at any given time to sufficiently supply the mine. A total surface storage capacity of 3,200 m^3 is available for mine usage and 600 m^3 for residential use.

5.7.6 Capital and Operating Costs

Historical and planned capital cost figures for Shaqu mine are presented in Table 5-14. A significant increase in capital expenditure is planned for 2007 and 2008 to increase the capacity of the mine.

Table 5-14: Capital Expenditure — Shaqu

Operating company and Mine	Mining Method	Capital Expenditure (RMB Million) 2003	2004	2005	2006	2007	2008
Huajin Coking Coal Co., Ltd.							
Shaqu	UG	678	247	182	48	902	776

Reported actual operating costs at Shaqu mine increased significantly from 2003 to 2004 due to a change in accounting practices. The unit cost showed a further slight increase during 2005 as indicated in Table 5-15.

Table 5-15: Average Annual Mine Cash Costs — Shaqu

Operating Company and Mine	Mining Method	Cash Operating Cost (RMB/tonne) 2003	2004	2005
Huajin Coking Coal Co., Ltd.				
Shaqu	UG	73.00	102.00	118.00

5.8 Wangjialing Underground Mine

5.8.1 Introduction

The Wangjialing resource is situated south-west of the Xiangning mining area in the Shanxi province. Construction of an underground mine is planned to commence during 2007. At full production capacity, the mine will produce 6 Mtpa and a power plant will also be constructed at a capacity of 2 x 50 MW to supply power to the mine and the processing plant. The power plant will be situated 8.66 km from the mine.

The total investment for the project is reported at RMB2,311.24 M of which RMB13.79 M has already been spent.

5.8.2 Geology and Mineral Resources

The topography consists of steep hills with an elevation range from 400 to 1,420 m above sea level. The variation is primarily due to the large river systems and large erosional valleys that have been cut into the thick soft Quaternary cover across the region. The steep hills are aligned with terraced farming.

The stratigraphic sequence of the Wangjialing area is outlined in Table 5-16.

Table 5-16: Stratigraphic Sequence — Wangjialing

Stratigraphic Unit	Thickness Range (m)	Average Thickness (m)
Upper Permian (Shi Qian Feng Group)	0 to 17	0(1)
Upper Permian (Shang Shi Hi Zi Group)	452 to 556	495
Lower Permian (Xia Shi Hi Zi Group)	71 to 119	90
Lower Permian (Shanxi Group)	20 to 36	25
Upper Carboniferous (Taiyuan Group)	43 to 91	60
Middle Carboniferous (Benxi Group)	—	11

(1) Zero indicates unit does not exist in mining area but range reflects regional geology beyond mining area

The Quaternary material is usually unconsolidated and weathered soil and clays, with gravel at the base of the unit. The Neocene sediments are essentially clay material. The Quaternary and Neocene sediments constitute the bulk of the overburden material and unconformably overlie the Permian sediments.

The #2 and #3 seams belong to the Shanxi Group. The #2 seam averages 6 m in thickness (see Table 5-17) and contains between two and five partings which are generally less than 0.2 m thick. The immediate roof consists of mudstone and siltstone, while the immediate floor generally comprises mudstone, siltstone or fine sandstone. Generally the #3 seam is too thin (average 0.8 m) for consideration of underground extraction.

The #7 to #10 seams are of the Taiyuan Group. The #7 seam is generally too thin (averaging 0.5 m) or absent and is unlikely to be recoverable in underground mining operations. The #10 seam averages 2.4 m in thickness and contains between one and two partings which are generally less than 0.2 m thick. The immediate roof consists of sandstone, while the immediate floor generally comprises mudstone or fine sandstone. The #12 seam belongs to the Benxi Group and is generally too thin (average 1.2 m) at the depth it occurs for consideration of underground extraction.

Table 5-17: Seam Statistics — Wangjialing

Seam	Thickness Range (m)	Average Thickness (m)	Average Interburden (m)
#2	3.1 to 8.1	6.2	45 to 638(1)
#3	0.1 to 1.4	0.8	2.2
#7	0 to 1.6	0.5	26.5
#10	0.8 to 6.7	2.4	11.2
#12	0 to 2.7	1.2	26.6

(1) Base plate deeply embedded

Structure

The Wangjialing area has two zones of steep dipping strata. In the east, a small area of the coalfield has strata dipping at 40 degrees over a 250 m wide zone. In the south-east corner of the area, a 500 m wide zone has dips ranging from 15 to 25 degrees.

There have been five significant faults delineated from the borehole exploration.

The major faults generally strike east-west, the largest having a displacement of up to 50 m while the remainder of the faults have between 20 and 30 m displacement.

Coal Quality

The #2 seam produces a mid-ash (average 7% after washing), low sulphur coking coal. The typical quality parameters of each seam are summarised in Table 5.18.

Table 5-18: Typical Coal Quality — Wangjialing Seams

Seam	Inherent Moisture % (ad)	Raw Ash % (ad)	Washed Ash % (ad)	Raw Sulphur % (ad)	Washed Sulphur % (ad)	Raw Phosphorus % (ad)
#2	0.9	19.3	6.9	0.49	0.45	0.032
#3	0.8	24.9	7.5	2.72	1.30	0.010
#7	0.7	24.6	6.5	5.27	3.71	0.015
#10	0.7	19.5	6.5	5.43	4.36	0.004
#12	0.1	28.9	8.0	6.80	2.72	0.021

Resource Estimation

The exploration boreholes at Wangjialing were drilled in the 1970s. In general, the core recovery of the seams averaged around 75% of the coal in each of the target seams. Most if not all boreholes were logged using geophysical logging tools to accurately measure the seam thickness which allows the coal tonnage to be accurately calculated. The coal resources for Wangjialing mine are shown in Table 5-19 and were current as at 30 June 2006

Table 5-19: Coal Resources — Wangjialing

Seam	Resources (Mt) Measured	Indicated	Inferred	Total Resources (Mt)	Mineable Resources (Mt)
#2	229	179	816	1,224	408
#3	0	17	147	164	17
#7	0	0	43	43	0(1)
#10	115	96	475	686	0(2)
#12	0	0	106	106	0(1)
Total	**344**	**292**	**1,587**	**2,223**	**425**

(1) #7 and #12 seams excluded due to low seam thickness and high sulphur content

(2) #10 seam excluded due to high sulphur content

5.8.3 Coal Reserves

SRK has applied a 75% mining recovery factor to the coal resources to allow for those resources which will not be accessible in a practical mine design. This has been assumed to allow for areas which will not be mineable or fully extractable, such as faults and intrusions, gateroads, main development entries etc. Mining loss and mining dilution factors have also been applied to calculate recoverable reserves. A saleable recovery percentage was then applied to calculate marketable reserves. The resulting coal reserves are shown in Table 5-20.

Table 5-20: Coal Reserves — Wangjialing

Mining Recovery (%)	Proved Reserve (Mt)	Probable Reserve (Mt)	Proved + Probable Reserve (Mt)	Mining Loss (%)	Mining Dilution (%)	Recoverable Reserves (Mt)	Saleable Recovery (%)	Marketable Reserves (Mt)
75	172	147	319	6	10	330	92.6	305

5.8.4 Mining and Operations

Longwall production is planned to commence in 2009. According to planning documentation, a total of 45,007 m would have been developed at that stage, comprising 11,899 m in rock, 14,700 m in rock and coal together and 18,408 m in coal. Development operations will commence 26 months after the start date of the project and are planned to be completed within 17 months. Allowing three months for the longwall installation and preparation, this results in a total of 46 months implementation and commissioning from the start of the project.

The feasibility study was completed in March 2003 and the environmental management report at the end of 2003. All approvals have been received except for final approval from the state government. Huajin Coal has been granted finance for the project by the China Development Bank. In 2005, temporary water and power supply was installed to the site.

5.8.5 Coal Processing and Transport

A processing plant at a capacity of 6 Mtpa is planned to wash coal mined at Wangjialing mine. An established rail network has been identified to rail coal to Rizhao port which is located 1,050 km from the mine. The Hou-Xi rail line, situated on the south-west corner of the mining resource, will be utilised to transport the coal over a distance of 8.8 km to the train loading station. The Hou-Xi line has a capacity of 16 Mtpa and was utilised at 8 Mtpa in 2005.

From there the coal will be transported on the Hou-Yue railway line, which has a design capacity of 70 Mtpa and was utilised at 30 Mtpa during 2005. A range of railway connection lines (Xin-Jiao, Yan-Xin and Yan-Shi rail lines) will lead to the Rizhao port situated 1,050 km from the mine.

5.8.6 Infrastructure

Temporary water and power supply were being installed to service the site.

5.8.7 Capital Costs

Huajin Coal plans to commence construction of the new Wangjialing underground mine during 2007. Capital expenditures to cover the costs of mine development, equipment acquisition and infrastructure establishment until 2008 are indicated in Table 5-21.

Table 5-21: Capital Expenditure — Wangjialing

Operating Company and Mine	Mining Method	Capital Expenditure (RMB Million) 2003	2004	2005	2006	2007	2008
Huajin Coking Coal Co., Ltd.							
Wangjialing	UG	—	—	—	182	1,070	1,023

6 NANLIANG MINERAL COMPANY

6.1 Introduction

Shanxi Nanliang Coal Co., Ltd. (Nanliang Coal) is a joint venture between six shareholders of which three are major shareholders. The major shareholders are Huaguang Resources Ltd Australia (32%), which is 100% owned by China Coal, Yulin Coal Import and Export (26%) and China Coal (23%). Nanliang Coal operates the Nanliang underground mine in the Shenmu County, Shaanxi province, approximately 40 minutes drive by car from the town of Datong.

The project was approved in 1998 and the capital registered for the project was reported as RMB68.75M. Prior to 1995 the mine was owned by the local government and between 1995 and 1998 it was under the ownership of Yulin Coal Import and Export. The mine initially started as a bord and pillar operation with a total of 200,000 t extracted with this mining method. Two seams were extracted, namely the #2 seam and the #3 seam and mining was simply from the outcrop on the side of a hill. In 1998 the joint venture was formed and the Xian Coal Mining Design Institute, which is a national organization, designed the mine. A unique mining method is used in that 220 m wide blocks are formed by development mining and then extracted with blasting methods along the width of the face. Coal is transported from the mining face by a scraper conveyor and the roof is supported behind the face with hydraulic props. A barrier pillar of 10 m thick is left across the panel at intervals of 50 m.

Future plans include the stabilizing of mine production at 1 Mtpa and the possible introduction of a longwall mining system. The subsequent addition of a second longwall system is also under consideration.

Nanliang mine produces steam coal which is sold to local customers only. Coal is loaded on trucks and transported 15 km to be loaded on trains, then transported 600 km by train to the Qinhuangdao port and distributed to customers from there.

6.2 Corporate Management Structure

Nanliang Coal's management structure is illustrated in Appendix 2. Workforce numbers for Nanliang Coal are shown in Table 6-1.

Table 6-1: Workforce Numbers — Nanliang Coal

Category	Employees
Production[1]	
Nanliang UG	566
Management[2]	3
Other[3]	38
Total	607

(1) Permanent and contractor employees involved in mining activities

(2) Senior management — excludes functional departments

(3) Only personnel involved with the mines — excludes CHPP, rail etc

As the Nanliang mine is situated in an isolated area in the countryside, only 15 staff members are employed by the mine on a full-time basis. These staff members are accommodated on site and train-in and train-out over weekends on a scheduled basis. All other mine workers are local to the area and are employed by a contracting company.

Cost figures indicate that the staff members employed by the company are paid at an average of RMB9,833 per month, while contracting employees earn on average RMB1,466 per month.

6.3 Occupational Health and Safety

Nanliang mine employs 15 staff members with all other personnel at the mine employed by a contracting company. Contractor employees are all covered by Nanliang Coal's on-site safety management system. Twelve staff members and six contractors are appointed as safety monitors to inspect and improve safety conditions.

A system of fines has been implemented at Nanliang mine to encourage all parties to prevent any injuries. Staff members are required to pay a deposit at the start of the year (which may be up to 15% of their annual salary), which is forfeited if a fatality occurs. If no fatality occurs during the year, staff members will receive their deposit back and also receive a further bonus of twice the amount. Investigations are conducted after an incident occurs in an attempt to determine the root cause and the responsible party. Depending on the outcome of an incident investigation, the contracting company and workers of the contracting company (including the whole team) can be fined when found responsible for the occurrence of the incident or injury.

Safety procedures are developed through the accident investigations to prevent recurrence of a similar incident. The contracting company has the responsibility to communicate information following on from an investigation.

All employees undergo safety training through a government organization once every two years. Additional safety and procedural training is conducted twice per year per employee by the contracting company, and Nanliang mine permanent personnel are involved in the evaluation of employees after that training. The contracting company has the responsibility to encourage its employees to identify and report hazards.

The supplied historical safety statistics for Nanliang mine since 2003 are shown in Table 6-2.

Table 6-2: Accident Statistics, 2003 to 2005 — Nanliang Coal

Category	2003	2004	2005
Fatal(1)	0	0	0
Serious(2)	0	0	0
Minor(3)	0	4	3

(1) Accident causing death (number indicates lives claimed)

(2) Accident requiring hospitalisation and do not return to work for more than 24 hours (includes fatal incidents)

(3) Accident which does not require hospitalisation and employee returns to work within 24 hours

The accident statistics indicate very low levels of injury frequency, with only four minor injuries in 2004 and three in 2005. Health and safety is clearly given the highest priority at the mine, as reflected in the accident statistics.

6.4 Environmental Assessment

6.4.1 Introduction, Scope and Background

An environmental assessment was completed by SRK to assess Nanliang Coal's environmental management practices. In addition to visiting the Nanliang underground coal mine, the environmental assessment included interviews with key environmental staff members at Nanliang mine, inspection of relevant environmental documentation and interpretation of the responses to an environmental questionnaire provided by SRK.

As for the environmental assessments of the other China Coal subsidiary companies, this environmental assessment is reported entirely at corporate level. This approach was adopted as Nanliang Coal

has its corporate office adjacent to the Nanliang mine in Shaanxi province from which the environmental management of the mine is undertaken.

6.4.2 Corporate Environmental Awareness

While Nanliang mine has been operational since 1989, the joint venture which now operates the Nanliang mine was only established in May 2005. As noted earlier in this report, in order to apply for ISO9001 and/or ISO14001 status, a mine must be operating for a qualifying period of time. Nanliang Coal plans to apply for quality, environmental and safety accreditation when it has operated for a suitable period of time under the new joint venture. Following discussions with staff, site inspection and document review, it is SRK's opinion that Nanliang Coal is an environmentally aware company and should have few problems achieving the quality and environmental accreditations should it apply.

6.4.3 Mining Title and Royalty Payments

Nanliang Coal is licenced to mine underground at Nanliang mine. Mining licence details are provided in Table 6-3. Nanliang Coal holds both the surface and mineral rights at the Nanliang mine, with mining licences valid until 2019. Should Nanliang Coal still have mineable coal reserves following expiration of the mining licences, it has a priority right to apply for a new or extended licence. The mining licence was issued by MOLAR.

Table 6-3: Mining Licence Details — Nanliang

Mine	Mining Licence No.	Mining Area (km^2)	Issue Date	Licence Tenure
Nanliang	1000009920052	19.3	August 1999	20 years

Nanliang Coal pays mining royalties and taxes to the government in respect of it Nanliang mine according to the Mineral Resources Law (1996 as amended). There are no options held over the mining land other than by the government and Nanliang Coal is not permitted to divest mining licences to other commercial operators.

6.4.4 Environmental Licencing, Compliance and Reporting

Environmental licences have been granted to Nanliang Coal at provincial level for boundary noise, gaseous emissions and water discharge. Further to these licences, Nanliang Coal maintains a licence from the local Fugu County Water Resource Management Commission for groundwater extraction to supply the mine.

Nanliang mine is required to prepare an Annual Environment Report to the Shaanxi provincial Environmental Protection Bureau that incorporates data on waste volumes generated, noise, wastewater and gaseous emissions.

After approval, the report is passed from the provincial regulators to the local county environmental regulators who conduct random inspections approximately every six months. In reality, there are very few environmental issues to manage at the Nanliang site, as the mine is underground and there is no coal wash facility on site. There is however a very small capacity waste water treatment plant (maximum capacity 360 m^3/day) and a coal crushing plant on-site.

SRK inspected the final inspection report of the environmental facilities for the proposed mine expansion compiled by the Environmental Protection Station of Yulin City, Shaanxi Province, dated May 2004. SRK found that all environmental factors were in compliance with relevant national standards with the exception of dust at three locations around the site. Upon further investigation, it was revealed that the dust

breaches were due to topsoil removal from local farms by seasonal winds, rather than as a result of mining operations.

6.4.5 Environmental Staff

Due to the relatively simple nature of mining operations at Nanliang and the small amount of environmental infrastructure present at the mine, Nanliang Coal distributes the responsibilities for environmental management between a few senior safety and engineering staff members. In 2005 there were 15 permanent management staff at the mine site, with operational personnel being employed on a contract basis. After inspecting the mine site facilities, the rehabilitated areas, the environmental documentation and completing discussions with key Nanliang Coal staff members, it is the opinion of SRK that Nanliang Coal has suitably qualified and motivated staff to ensure and maintain environmental compliance.

6.4.6 Environmental Planning and Budgets

Nanliang Coal's current environmental plan was approved in 2004 by the local environmental regulators. Since its formation, Nanliang Coal has spent more than RMB7.3 M on landscaping, infrastructure and rehabilitation. This figure represents approximately 5.5% of the total mine budget. No budget for environmental monitoring is required at Nanliang mine as the local Environmental Protection Bureau monitors environmental issues. Nanliang Coal provides an annual report to the local Environmental Protection Bureau. Due to the recent plant expansion, all environmental infrastructure is relatively new, with only a small operating budget required for local waste rock dump management and rehabilitation and operation of the waste water treatment plant. In this regard, SRK concludes that Nanliang Coal has allocated sufficient funds for environmental considerations.

6.4.7 Water Management

Nanliang Coal is aware of its water conservation responsibilities as a result of its mine being located in a semi-arid area. Water is sourced at Nanliang mine by five groundwater wells approved by local authorities. Nanliang Coal draws water from three of these wells. All industrial wastewater at Nanliang mine is treated by the on-site waste water treatment plant and is subsequently recycled on the rehabilitated areas to assist with vegetation establishment.

SRK reviewed data on both industrial and sewage wastewater during a visit to Nanliang Coal and found that results for all treated water met with relevant government environmental standards. Overall, it is SRK's opinion that Nanliang Coal takes its water management responsibilities seriously and manages its water use accordingly.

6.4.8 Waste Rock, Tailings and Rehabilitation Management

Due to the Nanliang mine being underground, volumes of waste rock generated are significantly less than those for an open-pit mine. The total volume of waste rock and soil generated at Nanliang Coal amounts to only approximately 2000 to 3000 m^3 per annum in comparison to a total coal production of approximately 750,000 tpa. This low waste rock generation rate is largely due to the simplicity of the geology at Nanliang mine and the relatively simple accessibility to the mineable coal. Waste rock largely comprises soil and sandstone removed during mine development work, rather than during actual coal mining operations. As a result, SRK does not believe that excess waste rock will be an issue at the Nanliang mine.

The waste rock has been used in the local town to infill large gullies in the landscape. The sandstone is placed in the gullies, with up to 2 m of local topsoil placed over the sandstone. Finally, vegetation is established where required, or else the reclaimed land is used by locals as cultivation areas for food. In this

regard, there is demand from local farmers for rehabilitation on their land far in excess of the waste rock supply from the Nanliang mine.

As there is no coal washing facility at Nanliang mine, there are no coal wash rejects to be stored. A small boiler operates on-site during winter to generate heat for the residential building at the mine, with waste boiler ash disposed of into gullies, along with the waste rock, which are subsequently rehabilitated. SRK believes that Nanliang Coal is proactively and responsibly managing its solid wastes and has a large and low cost waste area in which to dispose of them.

6.4.9 Dust Management

Localised dust at the site is a seasonal issue from exposed cropping surfaces on adjacent farmland, with the source of this dust unlikely to be the Nanliang mine site itself. Dust suppression is undertaken on any stockpiled coal, in addition to Nanliang Coal's utilisation of dust suppression techniques in the boiler area when it is seasonally operating. An inspection of the site indicated that dust should not be a major issue due to the relatively simplistic nature of coal handling on site.

6.4.10 Social and Regulatory Relations

Nanliang Coal enjoys a good relationship with both the local residents as well as the regulatory authorities. The strong relationship with the local residents is based on both employment opportunities and concomitant downstream effects, in addition to the increased area of available arable land following the beneficial re-use of waste rock. This solid relationship with the local residents was reflected in a questionnaire issued by the mine that indicated in excess of 90% of respondents supported the mine, while over 95% said it would have a positive effect on the local economy.

Relations with the local and provincial Environment Protection Bureau staff appear sound, as evidenced by approval of Nanliang Coal's mine expansion plans. Feedback from regulatory staff indicates positive relationships with Nanliang Coal. These relationships are likely to continue given Nanliang Coal's attention to its environmental responsibilities and compliance requirements. To date, Nanliang Coal has not received a fine for breach of any environmental conditions.

6.4.11 Environmental Assessment Conclusions

Following interviews with key Nanliang Coal managerial staff and inspection of environmental documentation and the Nanliang mine site, SRK finds that Nanliang Coal has a sound and proactive approach to its environmental responsibilities and is managing its operations in compliance with its environmental obligations. This opinion is supported by the fact that Nanliang Coal has not been fined for any environmental breaches at its mine to date. SRK believes this sound environmental management is likely to continue into the foreseeable future.

6.5 Long Term Plans

Nanliang Coal plans to produce 1 Mt in 2006 and 2007 respectively and 1.2 Mt in 2008. It is envisaged that a longwall mining system will be introduced to produce at 1 Mtpa from one panel compared to 1 Mtpa from two panels under the current system. Other mines in the area have successfully introduced longwall equipment.

All services are deemed sufficient by Nanliang to support a rate of 1 Mtpa and research and investigative work is underway to specify a suitable longwall shield for the mining conditions. Development panels will also be converted to roadheader mining operations and an additional longwall panel is also envisaged in the future.

6.6 Nanliang Underground Mine

6.6.1 Introduction

Construction at Nanliang mine in its current lay-out commenced in 1998. An initial production level of 150,000 tpa increased to 980,000 t during 2005. The current design capacity of the mine is 750,000 tpa and is supported by services designed for 1 Mtpa. Prior to 1998, the mine started as a bord-and-pillar operation mining the #2 seam and #3 seam, extracting a total of 200,000 t. At that stage the mine belonged to the local government.

In 2005 Nanliang mine was mining the #2 seam. Access to the coal seam is from the side of a hill below the #2 seam to reach it at a depth of 70 m below the surface. In some areas of the mine the seam is as low as 30 m below the surface. Mining is done in a unique way in that 220 m wide blocks are formed by blasting development panels and then extracted with blasting methods along the width of the face. The whole coal seam is mined at a height of 2.4 m with coal transported from the mining face by a scraper conveyor. The roof is supported behind the face with hydraulic props.

The mine is situated in an isolated area of the countryside with the 15 staff members employed by the mine accommodated on site and trained-in and out over weekends on a scheduled basis. All production workers are local to the area and are employed by a contracting company. Approximately 550 workers are employed through the contracting company, however this number would reduce to about 200 if and when longwall equipment is introduced at the mine.

6.6.2 Geology and Mineral Resources

The topography over the Nanliang mine has reasonably high relief (in the order of 200 m) due to the river system cutting deep into the surface. In some places, the coal seams outcrop in the river valleys. The stratigraphic sequence of Nanliang coal mine is outlined in Table 6-4.

Table 6-4: Stratigraphic Sequence — Nanliang

Stratigraphic Unit	Thickness Range (m)	Average Thickness (m)
Quaternary	0 to 50	20
Neocene	0 to 80	50
Jurassic	50 to 250	170

The Quaternary material is usually unconsolidated and weathered sandy soil. The Neocene consists of competent fine sandstones and siltstones. In some parts of Nanliang, the Neocene sediments are absent. The coal seams in Nanliang are of Jurassic age. There are five main seams in Nanliang area, four of which are amenable to underground extraction.

The geology of the Nanliang area is such that in places where the Neocene is absent, the coal seams are close to the surface particularly where the Quaternary can be as little as 30 m thick. This is of concern to underground mining as the highly weathered nature of this thin depth of cover provides a very unstable roof. Consequently, underground mining of the coal seam must advance to a minimum depth of cover of 70 m.

In 2005, the #2 seam was being mined. The roof material was so competent that it did not readily collapse in the goaf area. The roof is drilled and subsequently blasted behind the mining face so as to reduce the potential for wind blasts.

The average dip of the Jurassic strata is 2 degrees. The stratigraphy at Nanliang mine is indicated in Table 6-5.

Table 6-5: Seam Statistics — Nanliang

Seam	Thickness Range (m)	Average Thickness (m)	Average Interburden (m)
#1[2]	0 to 2.4	1.6	70
#2[2]	1.2 to 2.7	2.1	30
#3[1]	1.5 to 2.9	2.1	40
#3[1] combined with 3[1L]	3.8 to 4.7	4.1	0
#3[1L]	0 to 1.6	1.1	3
#5	0.1 to 3.7	1.7	85

Structure

The Nanliang area has little or no structural features. Thirty-two boreholes have been drilled indicating no structural issues. The coal is too shallow for seismic surveys to be successful. No faults have been encountered in the mining operations to date.

There is no evidence of igneous activity in the Nanliang coalfield.

Coal Quality

All the coal mined at Nanliang produces thermal coal products. Although there is potential for a Pulverised Coal Injection (PCI) product, the coal has too high a volatile matter content (around 35%) for the PCI market but can be sold as a high quality energy coal.

The ROM coal does not require beneficiation. The typical quality parameters of each seam are summarised in Table 6-6.

Table 6-6: Typical Coal Quality — Nanliang Seams

Seam	Inherent Moisture % (ad)	Raw Ash[(1)] % (ad)	Raw Sulphur % (ad)	Raw Phosphorus % (ad)
#2[2]	8.37	8.0	0.25	0.005
#3[1]	7.97	7.0	0.25	0.020
#3[1] + 3[1L]	8.23	7.0	0.25	0.020
#3[1L]	—	7.0	0.27	0.010
#5	7.51	10.0	0.30	0.030

(1) Raw ash values exclude partings in the seams

Gas

Due to the shallow depth of cover, there is no gas of any significance in Nanliang mine.

Resource Estimation

The drilling program was conducted in recent years using good drilling equipment which proved to be successful in attaining a coal seam recovery rate of greater than 95% on average. Therefore, in terms of reliable data, the boreholes are regarded as very reliable data points for use in the estimation of coal resources.

The coal resources for Nanliang mine as shown in Table 6-7 were current as at 30 June 2006. Since 26 May 1998, when the reserves for Nanliang mine were certified by MOLAR, approximately 2 Mt has been extracted from the area, mainly in the #3[1] seam.

Table 6-7: Coal Resources — Nanliang

Seam	Resources (Mt) Measured	Indicated	Inferred	Total Resources (Mt)	Mineable Resources (Mt)
#2[2]	14	13	3	30	27
#3[1]	21	8	4	33	29
#3[1L]	0	5	2	7	5
#5	0	4	0	4	4
Total	35	30	9	74	65

6.6.3 Coal Reserves

SRK has applied a 75% mining recovery factor to the coal resources to allow for those resources which will not be accessible in a practical mine design. This has been assumed to allow for areas which will not be mineable or fully extractable, such as faults and intrusions, gateroads, main and development entries. Mining loss and mining dilution factors have also been applied to calculate recoverable reserves. A saleable recovery percentage was then applied to calculate marketable reserves. The resulting coal reserves are shown in Table 6-8.

Table 6-8: Coal Reserves — Nanliang

Mining Recovery (%)	Proved Reserve (Mt)	Probable Reserve (Mt)	Proved + Probable Reserve (Mt)	Mining Loss (%)	Mining Dilution (%)	Recoverable Reserves (Mt)	Saleable Recovery (%)	Marketable Reserves (Mt)
75	28	23	51	5	5	51	100	51

6.6.4 Mining and Operations

The #2 seam mined at Nanliang has a height of 2.4 m and dips at an average of 1.2 degrees. This seam will be mined for the foreseeable future, thereafter the #3[1] seam and the #3[2] seam will be targeted. These seams are situated closely together at 1.6 m thick coal each and a mudstone band of 0.4 m in between. The seams will be mined together at 3.6 m.

The mining method used at Nanliang mine is a combination of longwall mining and blasting methods. Panels at a width of 220 m in total and split by a roadway at 110 m width along the length of the panel are developed utilising blasting and hand-loading methods onto rubber-tyred tractors and trailers. The panels are then extracted by blasting along the width of the face, with the coal transported along the face with a scraper conveyor. The roof behind the mining face is supported with two rows of hydraulic props placed along the width of the face. A total of 9,244 props are owned by Nanliang mine to ensure sufficient support in the two mining faces. A barrier pillar of 10 m thick is formed and left every 50 m along the length of the panel to reduce stresses on the props and the mining face. After retreat of 20 m from the barrier pillar, the roof is drilled behind the props and blasted to fracture the roof strata and ensure collapse of the roof to form a goaf.

Two of these panels, which are supported by two development panels, are operated at the mine and produced 980,000 t in 2005 with the plan set at 1 Mt for 2006. The historical ROM production figures for Nanliang mine are shown in Table 6-9.

Table 6-9: Mine Production History, 2003 to 30 June 2006 — Nanliang

	2003	2004	2005	30 June 2006
Longwall (Mtpa)	0.37	0.78	0.98	0.50
Development (m)	5,479	0	0	877

Nanliang mine has very shallow mining and practically a flat seam with only a 2.4 m mining height, which results in very favourable mining conditions. The roof is undulating and irregular but very competent. No severe levels of stress were apparent in the underground workings.

Strategic roadways for mine life are driven in rock and lined with bricks and cement after development. The thickness of the lining is approximately 300 mm. Roadways are developed in an arch profile at a base width of 4.2 m and a height of 3.7 m. After installation of the brick lining support the net cross section of the roadways is 10 m^2.

No stonedusting is done in the mine. At the time of the SRK inspection, the airflow quantity reported for the longwall panel was 6.3 m^3/sec and for the development panel 3.3 m^3/sec. No methane is reported or detected underground. In-time methane monitoring is available on the surface in a centralised control room and equipment underground is interlocked to trip power when methane levels exceed 1.5% concentration. The alarm level has been set at 1% concentration. After blasting a reading of 32.5 parts per million (ppm) carbon monoxide was observed in the control room. It was reported that the cut-off value for power to be switched off was 240 ppm carbon monoxide.

No heat was experienced during the underground visit with hot air generated during winter months and pumped into the mine to curb the extremely cold conditions (as low as −27°C). Dust levels are not evident underground, and continuous monitoring is done with fixed units and measurements taken every two weeks at 12 points in the mine. Dust prevention methods utilised are water sprays and water curtains at strategic points.

Nanliang mine utilises diesel rubber-tyred transportation underground which allow for lower installation and maintenance cost with flexibility to adapt to production and operational requirements. Coal is transported from the panels to the surface by rubber belt conveyor systems and material is transported by diesel rubber-tyred tractors and trailers and forklifts. All diesel equipment utilised underground complies with statutory flameproof requirements and is certified by suppliers when delivered to the mine. Personnel reach their working places by walking as the production panels are relatively close to the mine entry.

6.6.5 Coal Processing and Transport

ROM coal is supplied from underground to the surface by a rubber belt conveyor. Human stone-pickers remove contamination from the coal stream, thereafter the coal is crushed to −50 mm top size. The coal is dropped in a surface silo and loaded on trucks to be transported to a train loading station 15 km from the mine. The coal is loaded on trains and transported 600 km to the Qinhuangdao Port and distributed to local power stations from there. No coal is sold in the export market.

The train loading station and railway is owned by the government and Nanliang mine is allowed to transport 540,000 tpa of its product on this system. The balance is trucked to local customers in closer vicinity to the mine.

6.6.6 Infrastructure

Three shafts have been established at Nanliang mine to provide for ventilation, men and material access and coal conveyancing respectively. Personnel access the mine and return to the surface in the horizontal auxiliary shaft on foot, with material transported via the auxiliary shaft by rubber-tyred tractors and

trailers and forklifts. Coal is transported by conveyor from underground and draws ROM coal from a coal bin that has been established between the #2 seam and #3 seam. The capacity of the coal bin is 1,500 t.

Electricity is supplied to the mine via the national grid known as the North-West grid. Dual supply lines feed a government-owned substation at 35 kV, one from the north and one from the west. The substation is equipped with 2 x 5,000 kVA transformers which transform the feed to 10 kV. This substation is situated approximately 500 m from the mine site. Dual supply lines feed the mine surface substation at 10 kV to supply power to the surface and underground operations. A 630 kVA transformer feeds surface production equipment and two 400 kVA transformers feed other surface equipment at 380 V. A dual supply line feeds the underground operations at 10 kV which is converted to 660 V at underground substations for underground equipment supply. The total capacity of the underground supply is 2,000 kVA.

Two borehole systems situated 1.3 km and 2.2 km respectively from the site, supply Nanliang mine with water. One borehole system comprises two boreholes with capacities of 300 m^3/day and 180 m^3/day respectively. These two boreholes are 200 m from each other with a 100 m^3 reservoir situated at one borehole to store water pumped from the boreholes. The other borehole has a capacity of 150 m^3/day resulting in a total capacity of 630 m^3/day. A 100 m^3 reservoir is located at this borehole, with a 400 m^3 reservoir on the surface at the mine to store water before it is required for use. Water usage is reported as 300 m^3/day and water from underground is also pumped back to the surface and used for sewerage handling.

6.6.7 Capital and Operating Costs

Capital expenditure figures from 2003 up to 2008 are provided in Table 6-10. Capital investment decreased during 2005 compared to historical annual expenditure, but is expected to increase during 2006 if a decision is made to implement a longwall mining system at the mine.

Table 6-10: Capital Expenditure — Nanliang

Operating Company and Mine	Mining Method	Capital Expenditure (RMB Million) 2003	2004	2005	2006	2007	2008
Shanxi Nanliang Coal Co., Ltd.							
Nanliang	UG	24	29	9	200	12	10

Operating cost figures from 2003 to 2005 are indicated in Table 6-11. Nanliang mine has proven to be a very cost efficient underground operation with the current mining methods and equipment employed at the mine.

Table 6-11: Average Annual Mine Cash Costs — Nanliang

Operating Company and Mine	Mining Method	Cash Operating Cost (RMB/tonne) 2003	2004	2005
Shanxi Nanliang Coal Co., Ltd.				
Nanliang	UG	60.88	36.00	49.00

7 INDEPENDENT CHINA COAL CPPs

7.1 Coal Processing

In addition, China Coal owns and operates three CPPs in Shanxi province (See Section 1.7 of this report for ownership structure). The three plants, Shuozhong CPP, Zhongxin CPP and Dazhong CPP are forecast to produce 1.85 Mt, 1.01 Mt and 1.60 Mt respectively for 2006. All three plants are relatively new and have been constructed by an Australian company.

The plants are each equipped with a dedicated boiler plant to provide heat for the operating areas and prevent freezing of plant equipment and coal during the harsh winter season.

The coal qualities delivered at each plant are indicated in Table 7-1.

Table 7-1: Coal Quality Parameters — Independent China Coal CPPs

Coal Processing Plant		Ash (%)	CV (kcal/kg)	Sulphur (%)	TM (%)
Shuozhong	ROM	33.68	—	1.10	—
	Product — High Grade	20.00	5,200	1.09	10.93
	Middlings	24.33	4,924	1.04	9.81
Zhongxin	ROM	15.83	—	1.70	—
	Product — High Grade	8.50	7,100	0.88	13.53
Dazhong	ROM	16.21	—	0.70	—
	Product — High Grade	8.74	5,800	0.60	14.46

7.1.1 Shuozhong CPP

The historical production throughput for the plant is indicated in Table 7-2:

Table 7-2: Coal Processing Plant Production History, 2003 to 30 June 2006 — Shuozhong

		2003	2004	2005	30 June 2006
Washed Coal	Mt	—	0.73	2.18	1.42
Middlings	Mt	—	0.06	0.33	0.43
Raw Coal and Waste	Mt	—	0.30	0.61	0.57
Total	Mt	—	1.09	3.12	2.42

Materials Handling

The ROM feed is delivered by truck and pushed up with dozers on a stockpile. The ROM stockpile capacity is 650,000 t and the plant is equipped with an underground reclaimer delivering ROM feed by conveyor.

The product coal is stockpiled by aerial conveyor. Total storage capacity for high and low ash products is approximately 100,000 t. The products are reclaimed with an underground feeder and conveyor system and the train loader is operated at 2.5 hours for an 8,400 t train. The system is rated for 5,000 tph and utilises a 'quantity-constant', i.e. an Aliquot loading system, with the local rail line stretching 5 km to the main line.

A bin is used to store the rejects for removal by truck with no tailings disposal required as all the slimes are dried and returned to product.

Processing Plant

The plant is rated at and runs at 850 tph and has been designed to bypass the coal feed and only crush to product, however this bypass facility was not in use at the plant due to product requirements. The plant is relatively new and construction was completed in 2004 by an Australian company. Production in 2005 was 2.51 Mt of product and forecast at 1.85 Mt in 2006.

The plant has been constructed as a single module with the 50 mm x 1.5 mm processed in a two-stage DMC plant. The DMC plant uses a 1.5 m cyclone at 1.5 to 1.6 SG to produce a low ash product and the underflow reports to the secondary cyclone. The secondary cyclone is a 1.15 m model running at 1.85 to 1.95 SG to produce a high ash product. The primary cyclone utilised in this plant is the largest in operation.

The 1.5 mm x 0.1 mm fraction is processed in spirals and the product reports to the low ash product. The 0.1 mm x 0 mm product is thickened and then dried on Plate and Frame filters and reports to either product as required. Quality control is achieved by on-line ash analysers which are calibrated by cross-belt samplers.

Total cost of operations for the Shuozhong plant in 2005 was RMB11.00 per ROM tonne with total workforce numbers of 126.

7.1.2 Zhongxin CPP

The feed coal for this CPP is purchased from various mines resulting in the feed ash fluctuating significantly. Negotiations were in progress in 2005 to purchase a mine to feed the plant on a dedicated basis which will stabilise the feed ash and optimise operations significantly.

This plant was constructed in 2002, followed by a substantial upgrade in 2005 by an Australian company. Table 7-3 indicates the production numbers for the plant since 2003.

Table 7-3: Coal Processing Plant Production History, 2003 to 30 June 2006 — Zhongxin

		2003	2004	2005	30 June 2006
Washed Coal	Mt	1.52	1.55	2.71	1.01
Middlings	Mt	0	0	0	0
Raw Coal and Waste	Mt	0.11	0.16	0.35	0.10
Total	Mt	1.63	1.71	3.06	1.11

Materials Handling

Materials handling conveyors are rated at 1,000 tph capacity to feed a 700 tph plant. The feed entering the plant is delivered by truck and stockpiled by dozer. The ROM capacity of the stockpile is 600,000 t. Feed to the plant is achieved by dozer push to underground feeders, however an older generation reclaimer with restricted rate is also available on site.

Product handling is by aerial conveyor and underground reclaiming feeders to the train loading bin with 6,000 t capacity. The train loader is rated at 3,000 tph and the reject bin is serviced by trucks. No slimes disposal is required, as these are dried and returned to product.

Process Plant

The plant is a single module, 700 tph capacity plant with a single 1.35 m DMC and spirals, with slimes dried in a Plate and Frame press and returned to product. The DMC is utilised to process the 50 mm x 1.5 mm fraction and spirals for the 1.5 mm x 0.1 mm fraction. Thickeners and a Plate and Frame press process the slimes. The product is composed of the qualities shown in Table 7-4.

Table 7-4: Plant Mass Balance — Zhongxin

	Mass (%)	Ash (%)
Feed	100	15
DMC Product	68	7
Spirals product	13	15
Slimes	4	19
Total	85	8-10
Rejects	15	60-65

Sulphur values for the current supply to the plant are typically 1.7% in the feed and 0.88% in the product. Quality control is achieved by on-line ash analysers which are calibrated by cross-belt samplers.

Total cost of operations for the plant in 2005 was RMB11.00 per ROM t with total workforce numbers to operate, maintain and manage the plant being 324.

7.1.3 Dazhong CPP

The production levels for the plant during the last three years are listed in Table 7-5.

Table 7-5: Coal Processing Plant Production History, 2003 to 30 June 2006 — Dazhong

		2003	2004	2005	30 June 2006
Washed Coal	Mt	3.41	3.41	3.31	1.60
Middlings	Mt	0	0	0	0
Raw Coal and Waste	Mt	0.28	0.37	0.32	0.22
Total	Mt	3.69	3.78	3.63	1.82

Materials Handling

The Dazhong plant is fed directly from a drift conveyor belt from an adjacent mine. The drift belt feeds a skyline or aerial conveyor on to a stockpile and the coal is reclaimed to the plant by dozers to underground feeders. Product is fed directly to three 12,000 t bunkers with no provision required for stockpile product on the ground, as the rail service has proven effective and sufficient in the past to prevent delays.

The train loader is rated for 5,000 tph and utilises a 'quantity-constant', i.e. an Aliquot loading system. Reject is removed from site by trucks from a bin.

Process Plant

This plant also incorporates a single module 700 tph, single 1.3 m DMC and spirals, with slimes dried in a Plate and Frame press and returned to product. Similar to the Zhongxin plant, the DMC is utilised to process the 50 mm x 1.5 mm fraction, spirals for the 1.5 mm x 0.1 mm product and thickeners and a Plate and Frame press for the slimes. The plant has been designed and constructed with a spirals bypass and a 13 mm x 0 mm ROM bypass if required, but this has not often been in use due to product requirements.

The scheduled operating time for the plant is set at 20 hours/day with four hours scheduled for maintenance on seven days of the week. Quality control is achieved by on-line ash analysers which are calibrated by cross-belt samplers.

Total cost of operations for the Dazhong plant in 2005 was RMB11.70 per ROM t.

Personnel employed at the plant total 134.