BEHRE DOLBEAR
BEHRE DOLBEAR ASIA, INC.
founded 1911 MINERALS INDUSTRY ADVISORS
999 Eighteenth Street — Suite 1500, Denver, CO 80202 USA
Telephone +1.303.620.0020 Fax +1.303.620.0024
BEIJING DENVER GUADALAJARA HONG KONG LONDON NEW YORK SANTIAGO SYDNEY TORONTO VANCOUVER
www.dolbear.com

September [●], 2009

The Directors
China Vanadium Titano-Magnetite Mining Company Limited

and

[●]

Gentlemen,

Behre Dolbear Asia, Inc. (“BDASIA”), a wholly owned subsidiary of Behre Dolbear & Company, Inc. (“Behre Dolbear”), herewith submits a report on the Independent Technical Review of Iron Mining Properties of China Vanadium Titano-Magnetite Mining Company Limited (the “Company”) in Huili County, Sichuan Province, the People’s Republic of China. The address for BDASIA is noted above. This letter of transmittal is part of the report.

The review covers two operating open-pit iron mines, the Baicao iron mine and Xiushuihe iron mine, which are currently 90.5%-owned and 86.0%-owned by the Company indirectly through its subsidiaries, respectively, and one 90.5%-owned operating pellet plant. These mining properties constitute the primary mining assets of the Company. BDASIA’s project team visited these mining properties in late April to early May 2008 and in June 2009.

The purpose of this report is to provide an independent technical assessment of the Company’s iron mining properties to be included in [●]. This technical report has been prepared in accordance with the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the “Listing Rules”). The reporting standard adopted by this report is the VALMIN Code and Guidelines for Technical Assessment and Valuation of Mineral Assets and Mineral Securities for Independent Expert Reports as adopted by the Australasian Institute of Mining and Metallurgy in 1995 and updated in 2005. Mineral resources and ore reserves defined at each property have been reviewed for conformity with the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves (the “JORC Code”) prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia in 1999 and revised in 2004.

The evidence upon which the estimated mineral resources and ore reserves are based includes the deposit geology, drilling and sampling information, project economics, and past production data. The basis upon which BDASIA forms its view on the mineral resource and ore reserve estimates includes the site visits of BDASIA’s professionals to the subject mining properties, interviews with the Company’s management, site personnel and consultants, analysis of the drilling and sampling database, procedures and parameters used for the estimates, and comparison with past production.

The BDASIA project team consisted of senior-level mining professionals from Behre Dolbear’s Denver office in the United States, Sydney office in Australia, Toronto office in Canada, and London office in the United Kingdom. The scope of work conducted by BDASIA included site visits to the reviewed mining properties, technical analysis of the project geology, mineral resource and ore reserve estimates, and review of mining, processing, production, environmental management, occupational health and safety, operating costs, and capital costs.

BDASIA has not undertaken an audit of the Company’s data, re-estimated the mineral resources, or reviewed the tenement status with respect to any legal or statutory issues.

BDASIA’s report comprises an Introduction, followed by reviews of the technical aspects of Geology, Mineral Resources and Ore Reserves, Mining, Processing, Production, Pellet Plant, Operating and Capital Costs, Environmental Management, and Occupational Health and Safety issues, as well as a Risk Analysis of the mining properties. We trust that the report adequately and appropriately describes the technical aspects of the projects and addresses issues of significance and risk.

BDASIA is independent of the Company and all of its mining properties. Neither BDASIA nor any of its employees or associates involved in this project holds any share or has any direct or indirect pecuniary or contingent interests of any kind in the Company or its mining properties. BDASIA is to receive a fee for its services (the work product of which includes this report) at its normal commercial rate and customary payment schedules. The payment of our professional fee is not contingent on the outcome of this report.

This report documents the findings of BDASIA’s review of the Company’s iron mining properties completed to the date of this transmittal letter. The sole purpose of this report is for the use of the Directors of the Company and [●] and advisors in connection with [●] and should not be used or relied upon for any other purpose. Neither the whole nor any part of this report nor any reference thereto may be included in or with or attached to any document or used for any other purpose, without BDASIA’s written consent to the form and context in which it appears. BDASIA consents to the inclusion of this report in [●].

Yours faithfully,

BEHRE DOLBEAR ASIA, INC.
Qingping Deng, Ph.D., CPG
President

Behre Dolbear Project 08-008

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

China Vanadium Titano-Magnetite Mining Company Limited (the “Company”) is a company registered in the Cayman Islands. Through its subsidiaries, the Company has one 90.5%-owned iron mine, one 86.0%-owned iron mine, and one 90.5%-owned pellet plant in Huili County, Sichuan Province of the People’s Republic of China (“PRC” or “China”) as shown in Figure 1.1.

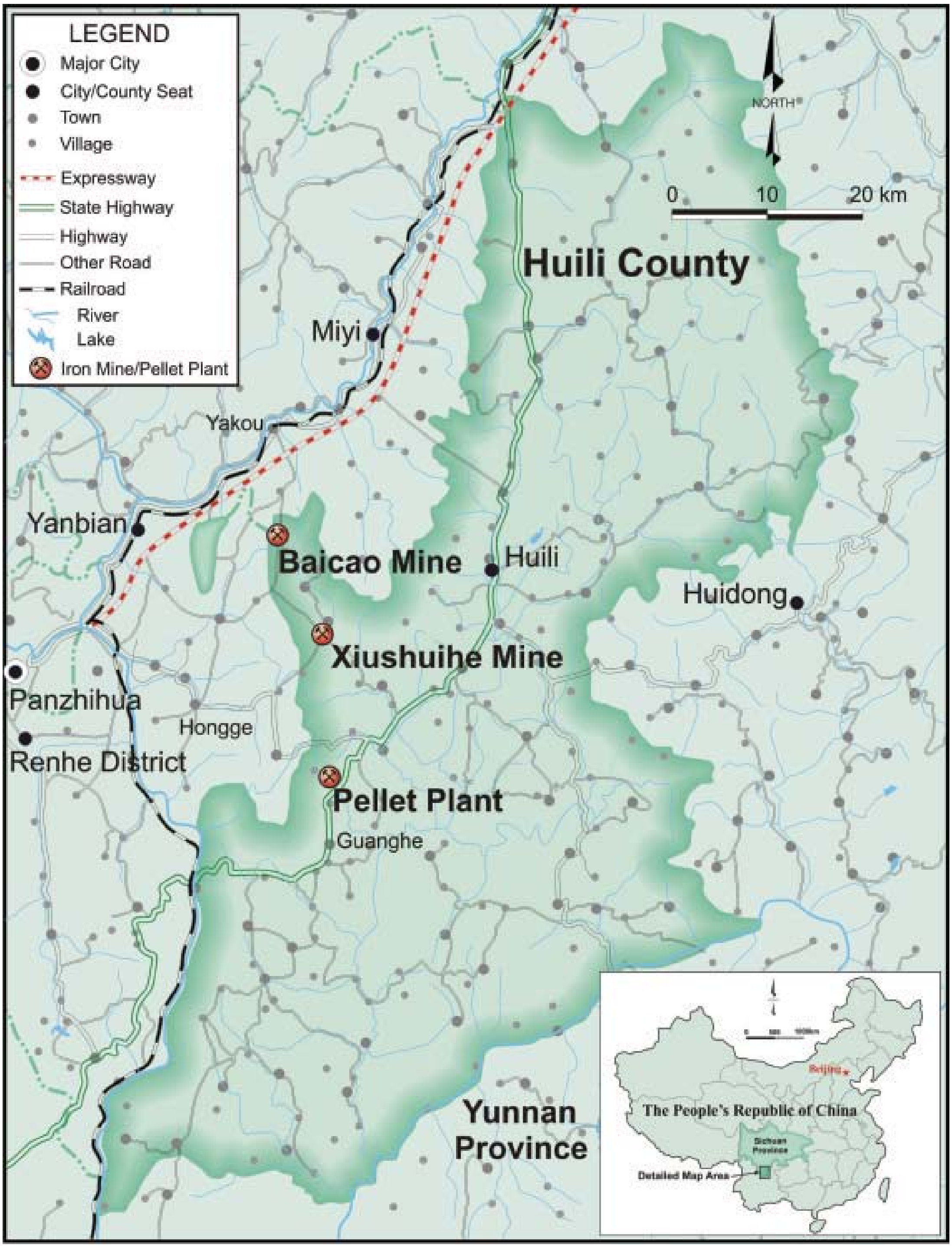

Figure 1.1 Location Map of the Company’s Two Iron Mines and the Pellet Plant

The following properties constitute the primary mining assets of the Company.

- the Baicao iron mine (the "Baicao Mine"): The Baicao Mine is 90.5%-owned by the Company. It is an open-pit operation mining vanadium-bearing titanomagnetite ore and using magnetic separation method to produce iron concentrates and titanium concentrates. The mine (including the subcontractor's production) processed approximately 3.26 million tonnes ("Mt") of vanadium-bearing titanomagnetite ore and produced approximately 804,000 tonnes ("t") of iron concentrates with an average total iron grade of 55.24% and 151,000 t of medium-grade titanium concentrates with an average TiO_2 grade of 30.52% in 2008. The Baicao Mine is currently under expansion and upgrading; the medium-grade titanium concentrates with an average TiO_2 grade of from 27% to 40% produced previously will be upgraded to titanium concentrates with a TiO_2 grade of 46% by adding a flotation circuit following the magnetic separation circuit. The mine is expected to reach a mining capacity of approximately 4.3 million tonnes per annum ("Mtpa") of ore producing approximately 1.15 Mtpa of iron concentrates and 170,000 tonnes per annum ("tpa") of titanium concentrates in 2010. In addition, the Baicao Mine plans to purchase 470,000 t of iron ore from the Xiushuihe iron mine (the "Xiushuihe Mine") and produce 135,000 t of iron concentrates using another subcontractor's processing facilities in 2010. The purchased iron ore will increase to 627,000 tpa from 2011 to 2013, producing 180,000 tpa of iron concentrates;

- the Xiushuihe Mine: The Xiushuihe Mine is 86.0%-owned by the Company. It is an open-pit operation mining vanadium-bearing titanomagnetite ore and using magnetic and gravity separation methods to produce iron concentrates and titanium concentrates. The mine processed approximately 1.38 Mt of vanadium-bearing titanomagnetite ore and produced approximately 360,000 t of iron concentrates with an average total iron grade of 54.50% and 17,000 t of medium-grade titanium concentrates with an average TiO_2 grade of 38.75% in 2008. The Xiushuihe Mine is currently under expansion and upgrading. The ilmenite recovery circuit will be upgraded to a flotation system and titanium concentrates with a TiO_2 grade of 46% instead of medium-grade titanium concentrates with a TiO_2 grade of 37% to 42% will be produced from the mine. The mine is expected to reach a processing capacity of 2.6 Mtpa of ore producing 750,000 tpa of iron concentrates and 150,000 tpa of titanium concentrates in 2011; and

- the Pellet Plant: The plant is 90.5%-owned by the Company. It uses iron concentrates mostly produced by the Xiushuihe Mine to produce pellets. The plant has a designed production capacity of 400,000 tpa of pellets and it produced approximately 313,000 t of pellets with an average total iron grade of 52.98% in 2008. Starting in 2010, it is planned to have an annual pellet production of 358,000 t. In addition, the Company has contracts with two local pellet plants to produce pellets for the Company using the Company's iron concentrates starting in late 2008. Pellet production from these two subcontractors will increase from 13,000 t in 2008, to 448,000 t in 2011.

The Company proposes to raise capital for exploration, project expansion and acquisition, and for construction of downstream processing facilities for titanium concentrates.

The Board of Directors of the Company engaged Behre Dolbear Asia, Inc. ("BDASIA"), a wholly owned subsidiary of Behre Dolbear & Company, Inc. ("Behre Dolbear"), as their independent technical advisor to undertake an independent technical review of the Company's two operating mines and the pellet plant and to prepare an independent technical report in connection with [●]. This BDASIA report is intended to be included in the Company's [●].

BDASIA's project team for this technical review consists of senior-level professionals from Behre Dolbear's offices in Denver, Colorado in the United States, Sydney, Australia, and London in the United Kingdom. Behre Dolbear personnel contributing to the study and to this technical report include:

- **Dr. Qingping Deng (B.S., M.S. and Ph.D.) ,** president of BDASIA and global director of ore reserves and mine planning for Behre Dolbear, was BDASIA's **Project Manager** and **Project Geologist** for this technical review. Dr. Deng is a geologist with more than 25 years of professional experience in the areas of exploration, deposit modeling and mine planning, estimation of mineral resources and ore reserves, geostatistics, cash-flow analysis, project evaluation/valuation, and feasibility studies in North, Central and South America, Asia, Australia, Europe and Africa. Dr. Deng is a Certified Professional Geologist with the American Institute of Professional Geologists, a Qualified Professional Member of Mining and Metallurgical Society of America and a Registered Member of The Society of Mining, Metallurgy, Exploration, Inc. ("SME") and meets all the requirements for "Competent Person" as defined in the 2004 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("the JORC Code") and all the requirements for "Qualified Person" as defined in Canadian National Instrument 43-101. In recent years, he has managed a number of independent technical report studies for filling with SEHK and other securities exchanges. Dr. Deng is fluent in both English and Chinese.
- **Mr. Michael Martin (B.S. and M.A.),** a senior associate of Behre Dolbear's Denver, Colorado office, was BDASIA's **Project Mining Engineer** for this review. Mr. Martin has over 30 years of experience in the areas of engineering, operations, management, exploration, acquisitions, and development in the mineral industry, principally in the open pit mining of gold, copper, molybdenum and iron. He has had responsibility for capital and operating costs, infrastructure, and organization. He has been involved in many feasibility and due diligence studies, property evaluations, operational audits and optimizations, and mine equipment selection and costing. In addition, Mr. Martin has been responsible for all mining related items, including mine schedules, ore control, mine equipment, cash flow forecast reviews, and site management assessment. His consulting activities have included work in the United States and more than 17 foreign countries. Mr. Martin is a Qualified Professional Member of Mining and Metallurgical Society of America and a Member of SME.
- **Mr. Vuko Lepetic (B.S. and M.S.),** a senior associate of Behre Dolbear's London office, was BDASIA's **Project Metallurgist**. Mr. Lepetic has over 30 years of worldwide experience in mineral processing and metallurgy. He has worked with and has extensive knowledge of processes employed and products produced by the Company. Mr. Lepetic holds patents for stibnite and cassiterite flotation (both industrially employed) as well as records of invention for the processing of iron, lead and zinc oxide minerals, rare earths and phosphates.
- **Mr. Derek Rance (B.S. and MBA),** a senior associate of Behre Dolbear's Toronto office, was BDASIA's **Pelletizing Specialist**. Mr. Rance has over 30 years of worldwide

experience in the engineering, executive and senior management of mining operations. In particular he was the General Manager of the Carol Lake project of the Iron Ore Company of Canada, which annually produced 10 Mt of pellets and 8 Mt of sinter feed. He later became president and COO of that company. While consulting for Behre Dolbear, he has completed numerous iron ore assignments throughout the world, conducting due diligence assessments, valuations of iron ore properties, optimizations, rehabilitation of closed properties, product marketing and iron ore price forecasting. Mr. Rance is a Professional Engineer registered in Ontario, Canada and a Fellow of Canadian Institute of Mining, Metallurgy and Petroleum.

- **Ms. Janet Epps (B.S. and M.S.),** a senior associate of Behre Dolbear's Sydney, Australia office, was BDASIA's **Project Environmental and Occupational Health and Safety Specialist**. She has over 30 years experience in environmental and community issues management, sustainability, policy development and regulatory consultancy services. Ms. Epps has worked extensively with the private sector, government and the United Nations, the World Bank, the IFC and the Multilateral Investment Guarantee Agency ("MIGA"), as well as with the mining industry. She has provided policy advice to governments of developing countries on designated projects and contributed toward sustainable development and environmental management strategies. She has completed assignments in Australasia, the Pacific, Asia, the Middle East, the CIS countries, Africa, Eastern Europe, South America and the Caribbean. Ms. Epps is a Fellow of the Australasian Institute of Mining and Metallurgy.
- **Mr. Bernard J. Guarnera (B.S. and M.S.),** president and chairman of the Behre Dolbear Group Inc., the parent company of Behre Dolbear & Company, Inc., was BDASIA's **Project Advisor**. He is a Certified Mineral Appraiser, with extensive experience in the valuation of mineral properties and mining companies. He is a registered Professional Engineer, a Registered Professional Geologist and a Chartered Professional (Geology) of the Australasian Institute of Mining and Metallurgy. Mr. Guarnera has over 30 years of professional experience, and his career has included senior-level positions in exploration and development at a number of major U. S. natural resource companies. Mr. Guarnera meets all the requirements for "Competent Person" in Australia and "Qualified Person" in Canada.

BDASIA's project team, with the exception of Mr. Guarnera, traveled to China and visited the Company's iron mining properties in Huili, Sichuan that are reviewed in this report. Dr. Deng, Messrs Martin and Vuko, and Ms. Epps visited the two iron mines from April 27 to May 4, 2008. Dr. Deng and Mr. Rance visited the pellet plant and the two iron mines from June 10 to June 15, 2009. During BDASIA's visit, discussions were held with technical and managerial staff at the mine and plant sites and with technical and management personnel in the Company's local office in Huili County. Operating performance from 2006 to 2008 and production schedules, budgets and forecasts from 2009 to 2011 were reviewed, together with longer-term development plans.

This BDASIA report contains forecasts and projections prepared by BDASIA, based on information provided by the Company. BDASIA's assessment of the projected production schedules and capital and operating costs is based on technical reviews of project data and project site visits.

The metric system is used throughout this report. The currency used is the Chinese Yuan ("RMB") and/or the United States dollar ("US$"). The exchange rate used in the report is RMB6.83 for US$1.00, the rate of the People's Bank of China prevailing on June 30, 2009.

2.0 QUALIFICATIONS OF BEHRE DOLBEAR

Behre Dolbear & Company, Inc. is an international minerals industry advisory group which has operated continuously in North America and worldwide since 1911. Behre Dolbear and its parent, Behre Dolbear Group Inc., currently have offices in Beijing, Denver, Guadalajara, London, New York, Santiago, Sydney, Toronto, Vancouver, and Hong Kong.

The firm specializes in performing mineral industry studies for mining companies, financial institutions, and natural resource firms, including mineral resource/ore reserve compilations and audits, mineral property evaluations and valuations, due diligence studies and independent expert reviews for acquisition and financing purposes, project feasibility studies, assistance in negotiating mineral agreements, and market analyses. The firm has worked with a broad spectrum of commodities, including base and precious metals, coal, ferrous metals, and industrial minerals on a worldwide basis. Behre Dolbear has acted on behalf of numerous international banks, financial institutions and mining clients and is well regarded worldwide as an independent expert engineering consultant in the minerals industry. Behre Dolbear has prepared numerous independent technical reports for mining projects worldwide to support securities exchange filings of mining companies in Hong Kong, China, the United States, Canada, Australia, the United Kingdom, and other countries.

Most of Behre Dolbear's associates and consultants have occupied senior corporate management and operational roles and are thus well-experienced from an operational view point as well as being independent expert consultants.

BDASIA is a wholly owned subsidiary of Behre Dolbear established in 2004 to manage Behre Dolbear's projects in China and other Asian countries. Project teams of BDASIA commonly consist of senior-level professionals from Behre Dolbear's offices in Denver, Colorado of the United States, Sydney of Australia, London of the United Kingdom and other worldwide offices. Since its establishment, BDASIA has conducted over 40 technical studies for mining projects in China or mining projects located outside of China to be acquired by SEHK-listed Chinese companies, including preparing independent technical reports for the SEHK IPO prospectuses of Hunan Nonferrous Metals Corporation Limited, Zhaojin Mining Industry Company Limited, and Hidili Industry International Development Limited and for the Shanghai Stock Exchange ("SSE") IPO listing of Western Mining Company Limited. These four companies were successfully listed on the SEHK/SSE in 2006 and 2007.

3.0 DISCLAIMER

BDASIA has conducted an independent technical review of the Company's mining properties and holdings. A site visit was made to the project sites by BDASIA professionals involved in this study. BDASIA has exercised all due care in reviewing the supplied information and believes that the basic assumptions are factual and correct and the interpretations are reasonable. BDASIA has independently analyzed the Company's data, but the accuracy of the conclusions of the review largely relies on the accuracy of the supplied data.

4.0 PROPERTY DESCRIPTION

4.1 Location, Access and Infrastructure

The Company's two iron mines and the pellet plant are all located in Huili County (Figure 1.1), at the southern portion of the Sichuan Province in China. The county has a total area of 4,522 square kilometers ("km^2") and a population of approximately 420,000.

Both the Baicao Mine and the Xiushuihe Mine are located in the mid-western portion of Huili County. The Baicao Mine is located on an azimuth of 277° from the Huili county seat with a linear distance of 23 kilometers ("km") between the mine and the county seat. The road distance from the mine to the county seat, however, is approximately 109 km because of the mountainous terrain in the area. There is a 25-km unpaved road from the mine to the town of Yakao in Miyi County in the north, which connects the mine with the parallel Panzhihua-Miyi Highway and the Chengdu-Kunming Railroad in the west. The Company paved a section of the road of approximately 4 km with cement in 2008 and further improvement is also planned. The newly-constructed Panzhihua-Xichang Expressway parallel to the Chengdu-Kunming Railroad was completed at the end of 2008. The road distance is approximately 57 km from the Baicao Mine to the city of Panzhihua in the southwest.

The Xiushuihe Mine is located on an azimuth of 250° direction from the Huili county seat with a linear distance of 20 km between the mine and the county seat. The road distance from the mine to the county seat, however, is approximately 59 km. There is a 13-km unpaved road from the mine to the provincial 310 Highway in the south, which connects the mine to the Huili county seat in the northeast and the city of Panzhihua 58 km to the west. The linear distance between the two mines is only 10 km, but the road distance is approximately 23 km.

The Company's pellet plant is located approximately 35 km southwest of the Huili county seat. The plant is next to the 108 State Highway and has a designed production capacity of 400,000 tpa of pellets. Iron concentrates produced from the Xiushuihe Mine are mostly used by the Company's pellet plant for pellet production. Road distance from the Xiushuihe Mine to the pellet plant is approximately 36 km. Iron concentrates produced from the Baicao Mine and pellets produced by the pellet plant are sold to direct customers who are steel producers and/or distributors in the southwestern region of China. Iron concentrates transportation is by contracted trucks from the Xiushuihe Mine to the pellet plant, and by contracted trucks then by rail from the Baicao Mine to the direct customers. Pellets produced by the pellet plant are transported by contracted trucks then by rail to the customers.

Electricity supply in the Panzhihua-Huili area is generally in surplus at present. Electricity for the Baicao Mine is currently supplied by both the 35-kilovolts ("kV") Miyi County power grid and the 35-kV Huili County power grid; electricity for the Xiushuihe Mine and the pellet plant is supplied by the 35-kV Huili County power grid. A new 220-kV substation near the Xiushuihe Mine is being constructed and is expected to be completed in August 2009 by the Huili County power grid. Electricity for both mines can be supplied by this new substation late this year. Power supply is generally sufficient for current production as well as planned expansions for the two iron mines and the pellet plant.

Fresh water supply for the Baicao Mine is from Baicaogou, a semi-permanent creek located on the western side of the property. Water supply for the Xiushuihe Mine is from the Ailang River located 1.8 km southeast of the mine. These streams generally can provide sufficient water for the current production and planned expansion. However, during the last one or two months of the dry season in April and early May, they may run out of water causing production problems. To overcome the water shortage at the end of dry seasons, the Baicao Mine has recently constructed a reservoir with a capacity of approximately 1.0 million cubic meters ("Mm^3") near the Baicao Mine. Water from the tailings ponds in both mines is recycled for production. Water supply for the pellet plant comes from a nearby small river.

Given that the Company's two iron mines and the pellet plant are located in the same province of the major earthquake in Wenchuan on May 12, 2008, BDASIA confirms that the mines, plant, infrastructure and access remain undamaged. Huili County is at least 500 km south of the epicenter of the earthquake and remains unaffected.

4.2 Climate and Physiography

The Baicao Mine and the Xiushuihe Mine are located in a mountainous region. Local elevations in the Baicao mining right area range from 2,310 meter ("m") to 2,560 m, with an elevation difference of 250 m. The central portion of the area consists of a northeast-striking hill, with a relatively steeper western slope and a gentler eastern slope. There are two small creeks next to the mining right area, Baicaogou to the west and Daqinggou to the east. The Baicaogou flows from northeast to southwest into the Anning River and is the fresh water source for the Baicao Mine operation.

Local elevations in the Xiushuihe mining right area range from 2,280 m to 2,620 m, with an elevation difference of 340 m. The area is a monoclinic south-facing slope. Surface slope ranges from 8° to 12° in the north and 15° to 30° in the south. The Ailang River is located approximately 1.8 km southeast of the Xiushuihe Mine, and it is the fresh water source for the operation.

The climate in the western Huili county area is semi-arid subtropical with distinguishing dry and wet seasons. Annual precipitation generally ranges from 700 millimeters ("mm") to 1,200 mm, which mostly occurs as rains in the wet season from late May to early October. The average annual temperature is generally around 18°C, with a summer high of 39°C and winter low of -4°C.

The area is a rural agricultural district, and primary crops include corn and rice. Population in the area consists of Li minority and Han Chinese and the local economy is relatively underdeveloped.

4.3 Property Ownership

Under the "Mineral Resource Law of the PRC", all mineral resources in China are owned by the state. A mining or exploration enterprise may obtain a permit for the mining or exploration right for conducting mining or exploration activities in a specific area during a specified period of validity. The permits are generally extendable at the expiration of their period of validity. The renewal application should be submitted to the relevant state or provincial authorities at least 30 days before the expiration of a permit. To renew an exploration permit, all exploration permit fees must be paid and the minimum exploration expenditure should have been made for the area designated under the exploration permit. To renew a mining permit, all mining permit fees and resource compensation fees must be paid to the state for the area designated under the mining permit. A mining permit has both horizontal limits and elevation limits, but an exploration permit has only horizontal limits.

Details of the effective dates and geographic areas of the permits for mining rights relating to the Company's two iron mining properties reviewed in this technical report have been provided to BDASIA by the Company, as listed in Table 4.1. BDASIA has not undertaken a legal due diligence review of these permits as such work is outside the scope of BDASIA's technical review. BDASIA has relied upon the Company's advice as to the validity of these mining and exploration rights. BDASIA understands that the legal due diligence review of these mining and exploration rights has been undertaken by the Company's PRC legal advisers.

Table 4.1
Permits for Mining Right for the Company

Mine	Permit Name	Permit Type	Number	Area (km^2)	Elevation Range (m)	Term
Baicao	Baicao Iron Mine	Mining	C5100002009092120035281	1.8818	2,100 – 2,525	Sep 2009 – Dec 2027
Xiushuihe	Xiushuihe Iron Mine	Mining	5100000820241	0.5208	2,230 – 2,580	May 2008 – Dec 2027
	Xiushuihe Exploration	Exploration	T51520090702031514	1.73	–	Jul 2009 – Jul 2011

As shown in Table 4.1, the Baicao Mine holds a permit for a mining right of 1.8818 km^2 in area; the elevation range for the mining right is from 2,100 m to the current topographic surface. The Xiushuihe Mine has a permit for a mining right of 0.5208 km^2 in area, with an elevation range of 2,230 m to the current topographic surface. Both mining rights are valid until December 2027 and were issued by the Department of Land and Resources of Sichuan Province. All ore reserves reviewed by this report are entirely contained within the limits of the two mining rights.

In addition to the two mining rights, the Company has recently acquired a permit for an exploration right of 1.73 km^2 for area surrounding the Xiushuihe Mine mining right. The exploration permit is valid until July 2011 and is extendable. The Company is planning to conduct detailed exploration for the area west of the current Xiushuihe Mine mining right, and the mineral resources and ore reserves for the Xiushuihe Mine are expected to be increased significantly after the exploration work as well as related mining planning work.

4.4 The Baicao Mine

The Baicao Mine is currently 100%-owned and operated by Huili County Caitong Iron and Titanium Limited Liability Company ("Huili Caitong"). The Company currently holds an indirect 90.5% interest in Huili Caitong, which was acquired in 2006.

Vanadium-bearing titanomagnetite mineralization hosted by layered mafic-ultramafic intrusives at Baicao was discovered by state regional geological reconnaissance in 1958. Systematic exploration for the mineralization was conducted from 1980 to 1986 by the 106 Geological Team of the Sichuan Provincial Geology and Mineral Resource Bureau (the "106 Team"), and mineralization was delineated by surface trenches at a 100 meter ("m") spacing and diamond core drill holes at a spacing of 200 m by 100 m to 200 m. A geological report with mineral resource estimates was approved by Sichuan Provincial Geology and Mineral Resource Bureau in 1990. Further detailed production exploration for the current mining right area was conducted by the 106 Team in 2007 with infill drilling at a spacing of 100 m by 80 m to 100 m at the central portion of the deposit and infill surface trenching at a spacing of 50 m.

Initial construction for the Baicao Mine with a designed production capacity of 300,000 tpa of ore using the open-pit mining and magnetic separation processing methods started in 1999 and production in the mine started in 1998. With the strong demand of iron ores in China in recent years, production from the Baicao Mine has also increased. The mine processed approximately 3.26 Mt of vanadium-bearing titanomagnetite ore and produced approximately 804,000 t of iron concentrates with an average total iron grade of 55.24% and 151,000 t of medium-grade titanium concentrates with an average TiO_2 grade of 30.52% in 2008. The mine has an older operating concentrator with a production capacity of 200,000 tpa of iron concentrates. A new concentrator with a production capacity of 300,000 tpa of iron concentrates was constructed in June 2008. Trial production of the new concentrator initialized in July 2008 and full production capacity was reached in October 2008. Construction for an expansion of the new concentrator to a total production capacity of 500,000 tpa of iron concentrates started in October 2008 and the expansion was completed in early April 2009 with full production capacity reached at the end of June 2009. The Company also has a contract with a subcontractor's concentrator located approximately 12 km from the mine to process the ore produced from the mine to produce approximately 500,000 tpa of iron concentrates. The planned production for the Baicao Mine in 2010 is approximately 4.3 Mt of ore and 1.15 Mt of iron concentrates and 170,000 t of titanium concentrates. In addition, the Baicao Mine plans to purchase 470,000 t of iron ore from the Xiushuihe Mine and produce 135,000 t of iron concentrates using another subcontractor's processing facilities in 2010. The purchased iron ore will increase to 627,000 tpa from 2011 to 2013, producing 180,000 tpa of iron concentrates. The Baicao Mine currently has approximately 295 employees, and there are an additional 200 to 300 people working for the mining contractor on site.

4.5 The Xiushuihe Mine

The Xiushuihe Mine is currently 100%-owned and operated by Xiushuihe Mining Company Limited ("Xiushuihe Mining"). Huili Caitong currently holds a 95% interest in Xiushuihe Mining. Therefore, the Company's indirect interest in Xiushuihe is 86.0% as it holds an indirect 90.5% interest in Huili Caitong.

Vanadium-bearing titanomagnetite mineralization hosted by layered mafic-ultramafic intrusives at Xiushuihe was discovered by state geological reconnaissance following up on an airborne-magnetic anomaly first observed in 1966. Initial exploration for the mineralization was conducted from 1978 to 1981 by the 601 Geological Team and 603 Geological Team of the Sichuan Provincial Metallurgical Geology Exploration Corporation, and mineralization was delineated by surface trenches and diamond core drill holes at a 200 m by 200 m to 400 m spacing. A geological report with mineral resource estimates was approved by Sichuan Provincial Metallurgical Geology Exploration Corporation in 1981. Further detailed production exploration for the current mining right area was conducted by the 106 Team in 2006 and 2007 with an infill surface trench spacing of 100 m and an infill drill hole spacing of 100 m by 100 m to 200 m for the deposit.

Construction for the Xiushuihe Mine with a designed production capacity of 100,000 tpa of ore using the open-pit mining and magnetic separation processing methods started in 1999 and production in the mine started in 1999. With the strong demand for iron ores in China in recent years, production from the Xiushuihe Mine has increased. In 2008, the mine processed approximately 1.39 Mt of vanadium-bearing titanomagnetite ore and 360,000 t of iron concentrates with an average total iron grade of 54.50% and 17,000 t of medium-grade titanium concentrates with an average TiO_2 grade of 38.75%. The mine upgraded its two existing concentrators to a total production capacity of 500,000 tpa of iron concentrates at the end of 2007, and these two concentrators are currently in full production. The Xiushuihe Mine also has plans to construct a new 300,000 tpa concentrator in 2009. The planned production for 2011, when all upgrading is completed, for the mine is 2.6 Mt of ore and 750,000 t of iron concentrates and 150,000 t of titanium concentrates. In addition, the Xiushuihe Mine plans to sell 470,000 t of iron ore to the Baicao Mine for iron concentrate production in 2010, and to sell 627,000 tpa from 2011 to 2013. The Xiushuihe Mine currently has 242 employees and there are an additional 80 to 150 people working for the mining contractor on site.

Construction of mine upgrading and expansion work since 2007 for the Xiushuihe Mine was conducted by Sichuan Nanjiang Mining Group Company Limited ("Nanjiang"). Nanjiang also provides management and technical services to the operation of the upgraded and newly-constructed production systems for the Xiushuihe Mine and receives a management and technical service fee beginning in 2008.

4.6 The Pellet Plant

The pellet plant is currently 100%-owned and operated by Huili Caitong. Therefore, the Company's interest in the pellet plant is 90.5% as it owns 90.5% of Huili Caitong.

Construction of the pellet plant was completed in September 2005 on the original site of a bankrupt nickel smelter. The designed production capacity for the plant is 400,000 tpa of pellets. Actual production was increased gradually from 181,000 t in 2006 to 249,000 t in 2007 and 313,000 t in 2008. The planned long-term production rate is 358,000 tpa of pellets. The average total iron grade for the pellets produced is approximately 53.0%. The pellet plant currently has 312 employees.

5.0 GEOLOGY AND DATABASE

The Panzhihua-Xichang area is famous for vanadium-bearing titanomagnetite mineral resources hosted by layered mafic or mafic-ultramafic intrusive rocks in China. This type of mineral resources is the primary ore for the state-run Panzhihua Steel Group ("Pan Steel") in Panzhihua, the largest modern steel manufacturer in southwestern China. There are numerous other mining operations mining the vanadium-bearing titanomagnetite ore and producing iron concentrates and titanium concentrates in the area.

5.1 Geology

5.1.1 Geology of the Baicao Iron Deposit

Vanadium-bearing titanomagnetite mineralization at the Baicao deposit area is hosted by Early Hercynian (early Late Paleozoic) layered mafic-ultramafic intrusive rocks.

Stratigraphy outcropping in the area includes Pre-Cambrian-age Huili Group metamorphic rocks and Quaternary-age alluviums and colluviums. The Huili Group was intruded by Early Hercynian layered mafic-ultramafic intrusive rocks, which in turn was intruded by Permian Emeishan basalts. There are also some Late Permian and Mesozoic mafic and felsic dikes filling structures in the older rocks. Because of the late volcanic and igneous activities as well as structural movements in the area, the layered mafic-ultramafic intrusives only occur as isolated remnants within the basalts. The outcropping layered mafic-ultramafic body in the Baicao deposit area overall is approximately 3.1 km long in the north-northeast to north-south direction and 90 m to 780 m wide in the east-west direction with a total area of approximately 1.18 km^2. The intrusive body has a northwestern dip in the northern portion of the deposit area and a western dip to the south. The dip angle generally ranges from 35° to 45°.

The intrusive body was offset by some north-south faults and east-west faults in the deposit area. The north-south faults generally dip to the east with a dip angle of 40° to 65°; they are reverse faults generally with significant movement. The east-west faults dip to the south with a dip angle of 25° to 50°; they are lateral-reverse faults with less movement than the north-south faults. Both sets of faults have commonly been filled with late mafic or felsic dikes and they have intersected the mafic-ultramafic intrusive body.

The Early Hercynian mafic-ultramafic intrusives were well-differentiated with well-developed layered structure. From top to bottom, the intrusive rock type varies gradually from mafic to ultramafic; the mineral grain size varies from fine to coarse; the total iron content varies from low to high; and the concentration of other useful elements, such as titanium and vanadium, also increases gradually. The intrusive is divided into two facieses in general, an upper gabbro facies and a lower pyroxenite facies. The gabbro facies consists of mostly gabbro, but the pyroxenite facies consists of, in a descending order, feldspar-bearing pyroxenite, pyroxenite, olivine pyroxenite and peridotite. The rock-forming minerals for the gabbro facies include mafic feldspar (primary mineral), titanium-bearing augite (secondary mineral), titanium-bearing hornblende (minor mineral), apatite (trace) and olivine (trace), whereas the rock-forming minerals for the pyroxenite facies include titanium-bearing augite (primary mineral), titanium-bearing hornblende (secondary mineral) mafic feldspar (minor), and olivine (trace).

The vanadium-bearing titanomagnetite mineralization is hosted by the layered intrusive. The lower pyroxenite facies is referred to as the No.I mineralized layer, and the upper gabbro facies is referred to as the No.II mineralized layer. Metallic minerals disseminated in the layered intrusive rocks include vanadium-bearing titanomagnetite, ilmenite, spinel, magnetite and minor amounts of sulfide minerals, such as pyrrhotite, pyrite, chalcopyrite, pentlandite, siegenite, linnaeite, and cobaltite. These metallic minerals are disseminated throughout the intrusive rock. The dissemination is less dense in the No.II mineralized layer and denser in the No.I mineralized layer.

Based on the total iron (“TFe”) content, the mineralization has been separated into higher-grade (TFe $\geq$ 20%) and lower-grade (TFe = 15% to 20%) zones. The higher-grade and, the lower-grade zones as well as the waste are gradational with no clear contact within the host rock.

The No.I mineralized layer is approximately 1,500 m long along strike, and 30 m to 90 m wide on the surface; it extends for 230 m to 660 m along the dip direction. The upper and middle portions of the No.I mineralized layer contain the highest grade mineralization. The mineralized bodies are generally stratiform and conform to the bandings in the intrusive rocks. Thickness of individual higher-grade zones generally ranges from 4 m to 18 m, with a minimum of 2 m and a maximum of 50 m; thickness of individual lower-grade zones generally ranges from 3 m to 8 m, with a maximum of 17 m; thickness of the waste zones (TFe < 15%) ranges from 2 m to 28 m. The accumulation thickness of all the higher-grade zones ranges from 2 m to 50 m with an average of 23.6 m; its average metal grades are 28.8% for TFe and 12.0% for TiO_2. The total thickness of the entire lower-grade zone ranges from 4 m to 28 m with an average of 11 m; its average metal grades are 16.5% for TFe and 6.7% for TiO_2. Within the No.I mineralized layer, approximately 54% of the volume is in the higher-grade zone, 18% is in the lower-grade zone, 20% is waste and 8% is post mineral dikes.

The No.II mineralized layer is approximately 1,940 m long along strike, and 65 m to 200 m wide on the surface; it extends for 50 m to 660 m along the dip direction. Mineralization in the No.II mineralized layer is lower-grade in nature. The mineralized bodies are generally lenticular or stratiform; they mostly occur in the middle and lower portions of the layer. The higher-grade, lower-grade and waste zones occur as interbeds. There are generally two to four higher-grade zones with a zone thickness of 2 m to 32 m and a total thickness of 3 m to 36 m, averaging 18.2 m. There are generally two to five lower-grade zones with a zone thickness of 2 m to 35 m and a total thickness of 4 m to 60 m.

Grades for selected components of selective samples from the lower-grade and higher-grade zones within the No.I and No.II mineralized layers are presented in Table 5.1.

Table 5.1
Grades for Selective Components of Mineralized Zones in Baicao Deposit

Sample Number	Sample Type	TFe (%)	Fe_2O_3 (%)	FeO (%)	TiO_2 (%)	V_2O_5 (%)	Cr_2O_5 (%)	Ga (%)	MnO (%)	Co (%)	Ni (%)	Cu (%)
The No.II Mineralized Layer												
Bai-E1	higher-grade	22.27	12.88	17.06	9.40	0.22	0.008	0.0024	0.284	0.009	0.001	0.050
Bai-E2	lower-grade	18.02	10.31	13.97	7.87	0.13	0.006	0.0026	0.220	0.011	0.001	0.004
The No.I Mineralized Layer												
Bai-E3	higher-grade	47.20	28.89	26.39	15.19	0.42	0.188	0.0026	0.297	0.023	0.084	0.056
Bai-E4	lower-grade	17.95	9.39	14.64	5.17	0.12	0.475	0.0006	0.252	0.014	0.090	0.052

Total iron in the mineralization at Baicao consists of magnetic iron ("mFe", generally including iron in magnetite, titanomagnetite, and maghematite), silicate iron ("siFe") and other iron (mostly in ilmenite). Based on mineral phase analysis of 32 higher-grade samples and 11 lower-grade samples collected during production exploration, the proportion of mFe within TFe ranges from 45.6% to 95.0% with an average of 64.2% for the higher-grade mineralization; the proportion of siFe ranges from 3.2% to 13.3% with an average of 8.4%; and the proportion of other iron ranges from 1.8% to 41.9% with an average of 27.4%. For the lower-grade mineralization, the proportion of mFe within TFe ranges from 34.3% to 59.6% with an average of 41.4%; the proportion of siFe ranges from 10.5% to 23.0% with an average of 14.6%; and the proportion of other iron ranges from 28.6% to 53.6% with an average of 44.0%. Titanium is present in the deposit mostly as ilmenite and titanomagnetite, and vanadium occurs mostly in titanomagnetite.

The near surface portion of the mineralized zone is generally oxidized for the Baicao deposit. The strongly-oxidized zone generally extends to a depth of around 30 m and the weakly-oxidized zone extends from below the strongly-oxidized zone to a depth of 80 m to 100 m. The oxidized zones are generally deeper along structures. In the strongly-oxidized zone, silicate minerals have generally been weathered and altered to clays, whereas iron-titanium oxide minerals (such as titanomagnetite) have been oxidized to titano-maghematite, hematite and limonite. Only a portion of the minerals have been oxidized or partially oxidized in the weakly-oxidized zone. The iron-titanium oxide minerals are generally more stable than the silicate minerals in the oxidation process, and they could have been relatively enriched when silicate minerals are weathered and sometimes leached out. The oxidation could reduce the magnetism of iron-titanium oxide minerals, resulting in a lower iron processing recovery. Concentrating practice at the mine, however, indicates that ore from the strongly-oxidized zone can still be processed by magnetic separation methods with only a slightly reduced concentrating recovery, indicating that most of the iron oxides in the strongly-oxidized zone are titano-maghematite. Oxidation also reduces the hardness of the ore, resulting in a reduced crushing and grinding costs. After a number of years of production, a significant portion of the strongly-oxidized zone has been mined, and current and future production will be mostly in the weakly-oxidized and primary zones.

Figure 5.1 is a geological plan map of the Baicao iron deposit showing the spatial distribution of the vanadium-bearing titanomagnetite mineralization, and Figure 5.2 is a cross section for Exploration Section Line P57 of the deposit showing the sectional view of the mineralized zones of the deposit.

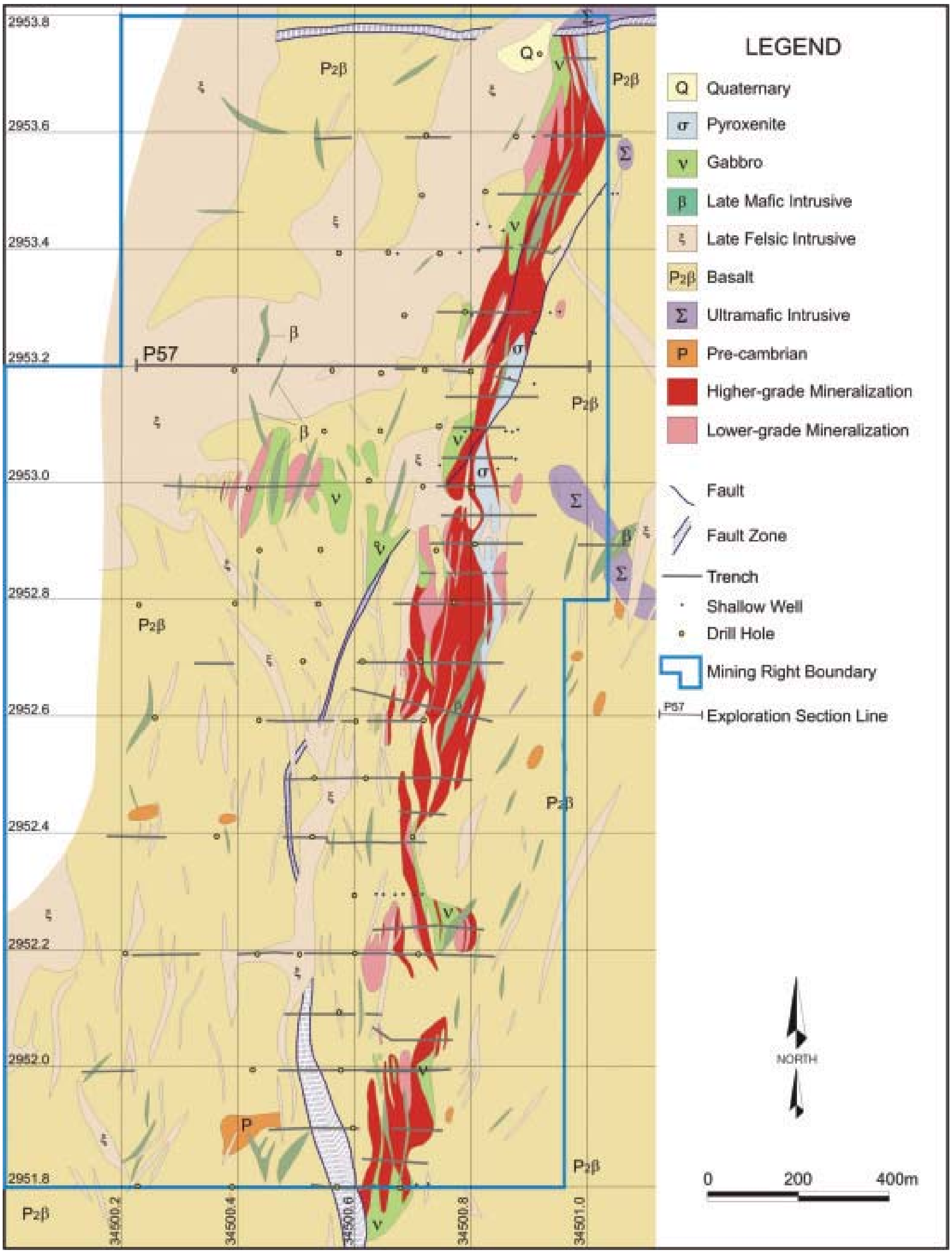

Figure 5.1 Geology Plan Map of the Baicao Iron Deposit

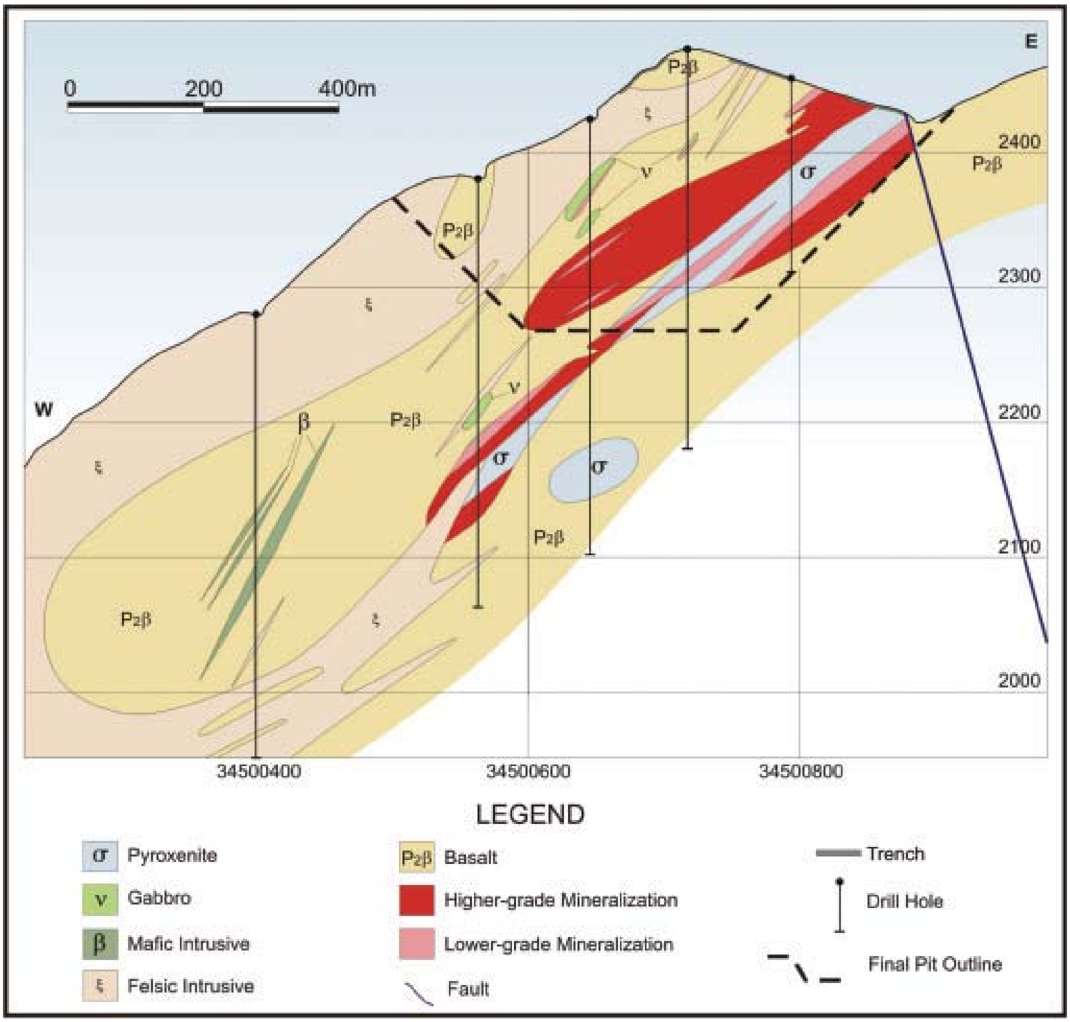

Figure 5.2 A Typical Cross Section of the Baicao Iron Deposit
(Location of the section is shown in Figure 5.1.)

5.1.2 Geology of the Xiushuihe Iron Deposit

Vanadium-bearing titanomagnetite mineralization at the Xiushuihe deposit area is also hosted by Early Hercynian layered mafic-ultramafic intrusive rocks.

Rocks outcropping in the Xiushuihe deposit area are all intrusives, including Early Hercynian layered mafic-ultramafic intrusive rocks, Late Hercynian (late Late Paleozoic) fine-grained gabbros and Indo-Chinese (Early Mesozoic) granites.

The layered mafic-ultramafic intrusive occurs as an irregular basin-shaped body; it is approximately 1.4 km long in the east-west direction and 250 m to 1,000 m wide in the north-south direction with an outcropping area of approximately 1 km^2. The intrusive body strikes east-west; its northern portion dips to the south at a dip angle of 10° to 45°, and its southern portion dips to the north at a dip angle of 20° to 55°. The intrusive body exposes at the surface generally with no cover by any other rocks. The Company's mining right covers only the east portion of the intrusive body. The footwall of the layered mafic-ultramafic intrusive body is occupied by a Late Hercynian fine-grained gabbro intrusive body, and this gabbro body also locally intruded into the layered mafic-ultramafic intrusives probably along structural zones. The Hercynian mafic-ultramafic intrusives were followed by the Indo-Chinese Ailanghe granite intrusion. This granite forms a batholith surrounding the Hercynian mafic-ultramafic intrusives and is also locally intruded into the earlier intrusives.

The Early Hercynian mafic-ultramafic intrusives are well-differentiated with well-developed layered structures. From top to bottom, the intrusive rock type varies gradually from a hornblende gabbro facies (mafic), a hornblende pyroxenite facies (ultramafic), to a peridotite facies (ultramafic).

The upper hornblende gabbro facies has been mostly eroded away by weathering, and its remaining portion is located in the north of the intrusive body with an outcropping length of 244 m along the east-west direction, a maximum width of 108 m and a maximum vertical thickness of 15 m. This facies contains 20% to 35% of titanomagnetite and ilmenite with a TFe grade of 15% to 30%.

The hornblende pyroxenite facies below the hornblende gabbro facies is located in the north and central portions of the intrusive body. Its outcrop is 1,190 m long along the east-west direction and 350 m to 795 m wide with a maximum vertical thickness of 95 m. The titanomagnetite/ilmenite contents range from 25% to 50% with a TFe grade of 20% to 44%.

The peridotite facies occurring at the bottom of the intrusive is located in the south of the intrusive body. Its outcropping length is 1,170 m in the east-west direction and its outcropping width ranges from 0 to 200 m with a maximum vertical thickness of 170 m. It contains 20% to 40% titanomagnetite and ilmenite with a TFe content of 11% to 30%.

Based on the grade range definitions for the higher-grade (TFe > 20%) and lower-grade (TFe = 15% to 20%) mineralization, most of the Xiushuihe intrusive is mineralized.

The upper gabbro facies is also referred to as the No.I mineralized body; it contains mostly higher grade mineralization (77.4% of the surface area) with some interbedded lower-grade material (18.4% of the surface area) and waste. The mineralized body is 230 m long along the east-west strike direction and 60 m to 110 m wide within the Company's Xiushuihe mining right; its elevation range is from 2,520 m to 2,570 m. The No.I mineralized body is the target for initial mining at Xiushuihe.

The central hornblende pyroxenite facies is referred to as the No.II mineralized body; it consists of interbedded higher-grade mineralization (58.5% of the surface area), low-grade material (23.3% of the surface area) and waste. This mineralized body is 200 m to 410 m long along the east-west strike direction and 200 m to 626 m wide inside the Xiushuihe mining right; its elevation range is from 2,300 m to 2,570 m.

The lower peridotite facies is referred to as the No.III mineralized body. Its TFe grade is lower than the two mineralized bodies above, and only the upper portion of the mineralized body contains significant interbedded higher-grade (23.6% of the surface area) and lower-grade (44.5% of the surface area) mineralization. The mineralized body is 225 m to 540 m long along the east-west strike direction and 40 m to 118 m wide within the mining right; its elevation range is from 2,220 m to 2,480 m.

Metallic minerals in the deposits are mostly vanadium-bearing titanomagnetite and ilmenite, with small amounts of pyrrhotite, pyrite, chalcopyrite, pentlandite, and spinel. These minerals are disseminated in the host rock with variable density. TFe grade of the mineralized material in the deposit ranges from 15% to 44% with an average of 26%; TiO_2 grade ranges from 4.1% to 18.4% with an average of 10.3%; V_2O_5 grade averages 0.22%. Table 5.2 lists analytic results of some selective composite samples in the deposit.

Table 5.2
Grades for Selective Components of Mineralized Zones in Xiushuihe Deposit

Sample Type	No of Analyses	TFe (%)	TiO_2 (%)	Cu (%)	Co (%)	Ni (%)	Cr_2O_5 (%)	S (%)	P_2O_5 (%)
lower-grade	3	17.40	5.60	0.026	0.009	0.056	0.27	0.16	0.21
higher-grade	4	26.87	10.33	0.032	0.011	0.061	0.09	0.13	0.18

As at the Baicao iron deposit, total iron in the mineralization at Xiushuihe consists of magnetic iron, silicate iron and other iron (mostly in ilmenite). Based on mineral phase analysis of 18 higher-grade samples and six lower-grade samples collected during production exploration, the proportion of mFe iron within TFe ranges from 49.3% to 77.4% with an average of 62.1% for the higher-grade mineralization; the proportion of siFe ranges from 5.4% to 9.9% with an average of 7.2%; the proportion of other iron ranges from 17.2% to 43.8% with an average of 30.6%. For the lower-grade mineralization, the proportion of mFe iron within TFe ranges from 17.7% to 56.0% with an average of 44.1%; the proportion of siFe ranges from 6.9% to 14.7% with an average of 10.4%; the proportion of other iron ranges from 33.6% to 71.0% with an average of 45.9%. Titanium is present in the deposit mostly as ilmenite and titanomagnetite, and vanadium occurs mostly in titanomagnetite.

Similar to the Baicao deposit, the near surface portion of the mineralized zone at Xiushuihe is also oxidized. The depths of the strongly-oxidized and weakly-oxidized zones as well as the mineralogy in the oxidized zones are also similar in the two deposits. Historical mining has removed a significant portion of the strongly-oxidized zone and current and future production will be mostly in the weakly-oxidized or primary zones for the Xiushuihe deposit.

Figure 5.3 is a geological plan map of the Xiushuihe iron deposit showing the spatial distribution of the vanadium-bearing titanomagnetite mineralization, and Figure 5.4 is a cross section for Exploration Section Line P4 of the deposit showing the section view of the mineralized zones of the deposit.

THE WEB PROOF INFORMATION PACK IS IN DRAFT FORM. The information contained herein is incomplete and is subject to change. This Web Proof Information Pack must be read in conjunction with the section headed “Warning” on the cover of this Web Proof Information Pack.

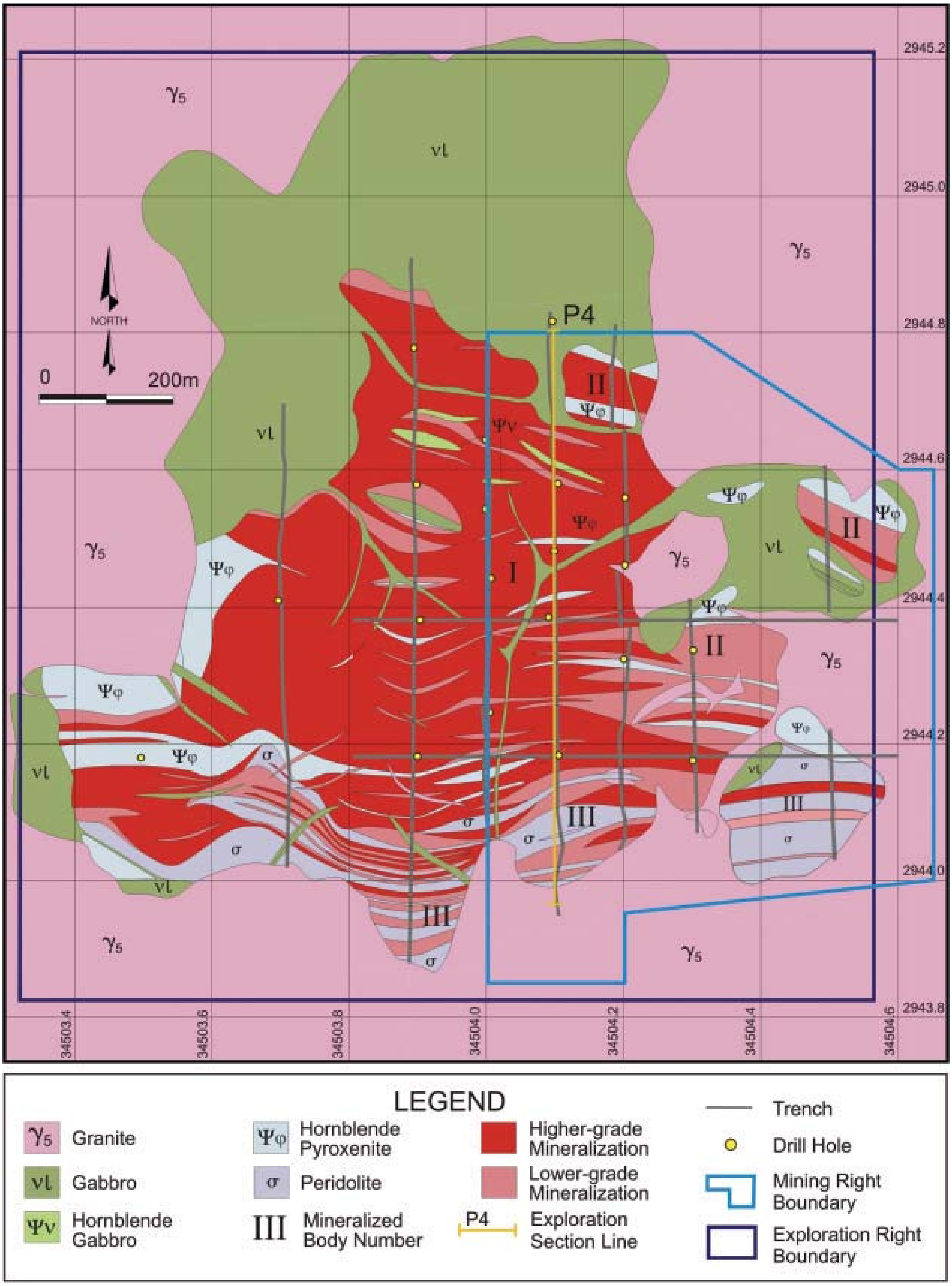

Figure 5.3 Geology Plan Map of the Xiushuihe Iron Deposit

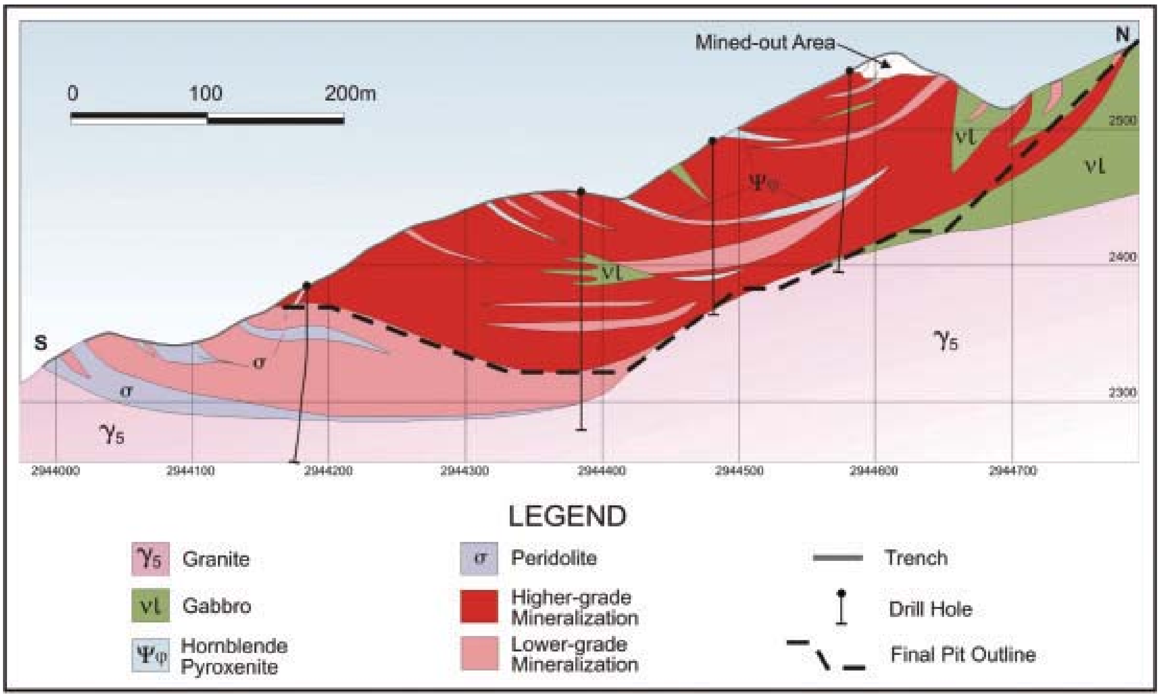

Figure 5.4 A Typical Cross Section of the Xiushuihe Iron Deposit
(Location of the section is shown in Figure 5.3.)

5.2 Geological Database

5.2.1 Database Used for Mineral Resource Estimates

Databases used for mineral resource estimation are generated by licensed exploration entities and/or by the mining companies themselves in China. Guidelines specifying the appropriate sampling, sample preparation and assaying techniques and procedures for different types of mineral deposits are issued by the relevant government authorities. The databases used for mineral resource estimation are generally produced following these set guidelines.

The principal sample types included in the assay database for the mining properties reviewed in this report comprise cores of drilling from the surface and surface trench channel sampling.

Table 5.3 summarizes the database used for the mineral resource estimation for the Company's two iron deposits reviewed in this report.

Table 5.3
Mineral Resource Database Statistics for the Company's Two Mining Properties

Sample Type	Baicao Mine	Xiushuihe Mine
Core Drilling		
Holes	59	14
Meters	13,632	1,807
Surface Trenching		
Cubic Meters	2,284	2,107
Assays		
Core Samples	1,745	331
Channel Samples	452	561
Density Measurements		
Core/Rock	250	107

5.2.2 Drilling, Logging and Survey

For the Company's two mining properties reviewed in this report, surface diamond core drilling is the principal exploration and sampling method. The Baicao iron deposit was drilled out on 100-m spaced east-west exploration lines; there are a total of 20 exploration lines for the deposit and drill hole spacing on each exploration line mostly ranges from 80 m to 150 m. The Xiushuihe iron deposit was drilled out on 100-m spaced north-south exploration lines; there are five exploration lines for the deposit inside the Xiushuihe mining right boundary and drill hole spacing on each exploration line ranges typically from 100 m to 200 m.

Drilling was conducted using Chinese-made drill rigs. Drill hole size was generally 108 mm at the top, reducing to 89 mm then 75 mm until the bottom of the hole. Core recovery was generally good, averaging around 90% for the mineralized intervals.

Drill hole collar locations were surveyed and down-hole deviation was generally measured using down hole survey techniques. Drill cores were logged in detail by a project geologist before sampling.

5.2.3 Sampling, Sample Preparation and Assaying

Generally, drill core was split by a diamond core saw along the central line of the core; half of the core was sent for assay, and the other half was retained for record and for metallurgical tests. Typically the core was sampled in 4-m lengths, although variation in intervals may occur to coincide with geological contacts. Generally, the entire layered mafic/ultramafic interval was sampled and assayed.

In addition to drilling, surface trenches have also been excavated on each exploration line to sample the layered mafic/ultramafic intrusives. For the Baicao deposit, there was an additional surface trench between two exploration lines, resulting in a surface trench spacing of 50 m. Trench channel samples were generally taken at the trench bottom and were cut 7 centimeters ("cm") wide and 3 cm deep. The sample length for surface trenches was generally 4 m to 5 m, but variable lengths may be used based on geological characteristics. Surface trench and sample locations were surveyed.

Sample preparation and analysis were mostly conducted by the assay laboratory of Xichang Geology and Mineral Analytic Center located in Xichang City of Sichuan Province.

Analytic methods adopted included wet chemical analyses, colorimetric analyses and atomic absorption spectrometry. TFe, TiO_2, and V_2O_5 grades were determined for each sample. In addition, Cu, Co, Ni, S, Cr_2O_5 or P_2O_5 grades were also determined for some composite samples to understand the distribution of these components in the two deposits. These analytical methods are widely used in the mining industry in China and generally produce reliable results if conducted correctly.

5.2.4 Quality Control and Quality Assurance

Assay quality control and quality assurance programs include internal check assays, external check assays, and analysis of assay standards. For samples analyzed in the two deposits, approximately 40% were subject to an internal check assay, and approximately 5% were sent for external check assays. The internal check assays were conducted by a different operator at the same laboratory and the external check assays were conducted by Chengdu Rock and Mineral Analytic Center, an unpaired assay laboratory, located in Chengdu City of Sichuan province. To determine the assay quality, check assay results were compared with the original assay results, and the variance was compared to permitted random error limits specified by government regulation for various grade ranges. It was reported that the internal and external checks assay results for the Company’s two mining properties were all within the permitted range.

From analysis of sampling, sample preparation and analysis procedures and check assay results as well as the Company’s production data, BDASIA concludes that the analytical methods used for the Company’s two mining properties produce acceptable results with no material bias.

5.2.5 Bulk Density Measurements

Bulk density data was collected using core/rock samples. The bulk density of core or rock samples was generally measured using a wax-coated water immersion method. The number of bulk density measurements is 250 for the Baicao Mine and 107 for the Xiushuihe Mine.

The bulk density determined based on these measurements generally ranges from 3.2 to 4.0 tonnes per cubic meter (“t/m^3”) for the Baicao iron deposit. As bulk density and the TFe grade have a strongly positive correlation in the Baicao deposit, regression formulas (Table 5.4) between the TFe grade and bulk density were developed for the higher-grade mineral resource and lower-grade resource, respectively, and bulk density used for mineral resource estimates were calculated from the average TFe grade using the formulas for each resource block.

Table 5.4
Regression Formulas for Bulk Density Calculation in Baicao Mine

Resource Type	Regress Formula
higher-grade	Bulk Density = 2.57731 + 0.03996 × TFe
lower-grade	Bulk Density = 2.73512 + 0.0335 × TFe

The bulk density determined for the Xiushuihe Mine averages 3.61 t/m^3 for the higher-grade resources and 3.26 t/m^3 for the lower-grade resources. These average bulk density values were used in mineral resource estimation for the deposit.

BDASIA considers that the ranges of bulk densities adopted are reasonable and appropriate, based on the mineral composition of the ore deposits.

6.0 MINERAL RESOURCES AND ORE RESERVES

6.1 Mineral Resource/Ore Reserve Classification System

The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia in September 1999 and revised in December 2004 (“the JORC Code”) is a mineral resource/ore reserve classification system that has been widely used and is internationally recognized. It has also been used previously in independent technical reports for mineral resource and ore reserve statements for other Chinese companies reporting to SEHK. The JORC Code is used by BDASIA to report the mineral resources and ore reserves of the Company’s two iron mining properties in this report.

A Mineral Resource is defined in the JORC Code as an identified in-situ mineral occurrence from which valuable or useful minerals may be recovered. Mineral Resources are classified as Measured, Indicated or Inferred according to the degree of confidence in the estimate:

- a Measured Resource is one which has been intersected and tested by drill holes or other sampling procedures at locations which are close enough to confirm continuity and where geoscientific data are reliably known;
- an Indicated Resource is one which has been sampled by drill holes or other sampling procedures at locations too widely spaced to ensure continuity, but close enough to give a reasonable indication of continuity and where geoscientific data are known with a reasonable level of reliability; and
- an Inferred Resource is one where geoscientific evidence from drill holes or other sampling procedures is such that continuity cannot be predicted with confidence and where geoscientific data may not be known with a reasonable level of reliability.

An Ore Reserve is defined in the JORC Code as that part of a Measured or Indicated Resource which could be mined and from which valuable or useful minerals could be recovered economically under conditions reasonably assumed at the time of reporting. Ore reserve figures incorporate mining dilution and allow for mining losses and are based on an appropriate level of mine planning, mine design and scheduling. Proved and Probable Ore Reserves are based on Measured and Indicated Mineral Resources, respectively. Under the JORC Code, Inferred Mineral Resources are deemed to be too poorly delineated to be transferred into an ore reserve category, and therefore no equivalent Possible Ore Reserve category is recognized or used.

The general relationships between exploration results, mineral resources and ore reserves under the JORC Code are summarized in Figure 6.1.

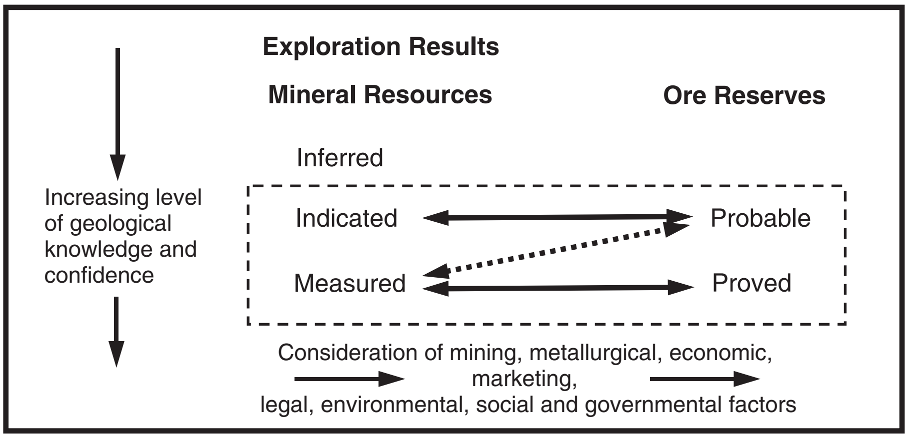

Figure 6.1 Schematic Mineral Resources and Their Conversion to Ore Reserves

Generally, ore reserves are quoted as comprising part of the total mineral resource rather than the mineral resources being additional to the ore reserves quoted. The JORC Code allows for either procedure, provided the system adopted is clearly specified. In this BDASIA report, all of the ore reserves are included within the mineral resource statements.

6.2 General Procedure and Parameters for the Company’s Mineral Resource Estimation

The methods used to estimate mineral resources and the parameters used to categorize the mineral resources for a particular type of mineral deposit are generally prescribed by the relevant PRC government authorities. The mineral resource estimates are based on strictly defined parameters, which include minimum grades and minimum thicknesses. The mineral resources for a deposit are generally estimated by an independent engineering entity with a government-issued license.

In order to provide a consistent mineral resource base for [●], the Company retained the Northwestern Sichuan Geological Team (the “Northwestern Sichuan Team”) of Sichuan Provincial Geology and Mineral Exploration and Development Bureau, an independent, licensed, government-owned exploration entity in China, to conduct independent mineral resource estimation in 2008 for the Company’s two mining properties. The Northwestern Sichuan Team’s address is 88 West Section of Jianmen Road, Peicheng District, Mianyang City of Sichuan Province, China. The mineral resource estimates generated by the Northwestern Sichuan Team for the Company’s two mining properties were dated December 31, 2007.

The drill hole or channel sampling density required to define a certain class of mineral resource depends on the type of deposit. Based on the orebody size and complexity, a deposit is classified into certain exploration types before mineral resource estimation. The primary mineralization at the Company’s two mining properties generally comprises large stratiform and lenticular mineralized bodies of hundreds to thousands of meters in dimension, with good continuity in both grade and thickness; however, these deposits have locally been offset by post-mineral structures and post-mineral dikes and volcanic rocks, resulting in a more complicated resource distribution. Therefore, these deposits were categorized as exploration types II to III.

For the purpose of mineral resource estimation, all drilling and sampling data, along with other relevant geological information, were digitized into the MAPGIS system by the Northwestern Sichuan Team. MAPGIS is a computer software system widely used in China for preparation of plans and sections for mineral resource estimation. Sections and plans used for the December 2007 mineral resource estimation were produced by MAPGIS.

The parallel section method, a polygonal method based on projected cross sections, was used for the mineral resource estimation of the Company’s two operating iron mines by the Northwestern Sichuan Team. Based on information provided by the Northwestern Sichuan Team and discussions with the Northwestern Sichuan Team’ technical personnel, the general procedures and parameters used in the mineral resource estimation are described as follows.

6.2.1 Determination of “Deposit Industrial Parameters”

The economic parameters for mineral resource estimation are referred to as “deposit industrial parameters” (“DIP”) in Chinese literature or technical reports and are normally approved by government authorities for each deposit or based on the government’s industry specification. These parameters generally include the cutoff grades (separated into boundary cutoff grade and block cutoff grade), minimum mining width, and minimum waste exclusion width. The DIP used for the mineral resource estimates of the Company’s two mining properties reviewed in this report are exactly the same and are summarized in Table 6.1. The portion of the mineral resources with TFe grade at least 20% is considered as higher-grade mineral resource and the portion of the resources with TFe grade from 15% to 20% is considered as lower-grade mineral resources.

Table 6.1
Deposit Industrial Parameters for Mineral Resource Estimation

Resource Type	Metal	Boundary Cutoff Grade		Minimum Width	Minimum Waste Exclusion Width
		Low	High		
higher-grade	TFe	20%	—	2 m	2 m
lower-grade	TFe	15%	20%	2 m	2 m

BDASIA has reviewed the parameters under prevailing economic conditions and determined that only the higher-grade portion of the mineral resources shall be considered economic at this time. Therefore, only the higher-grade mineral resources are used to define ore reserves for the Company’s two operating mines and the lower-grade mineral resources are treated as waste in mine planning and mining operations in this report.

6.2.2 Determination of Block Boundaries and Confidence Level

In the parallel section mineral resource estimation, the mineralized body on a cross section is separated into a number of blocks, with each block assigned a mineral resource confidence level based on the type, density and quality of available geological data. For the Baicao and Xiushuihe deposits, a Measured block is defined by surface drilling and surface trench channel sampling, with a data spacing of at least 100 m × 100 m. An Indicated block is defined by a drill hole/channel spacing of at least 100 m × 200 m. No extrapolation is allowed from a data point for the Measured and Indicated blocks. An Inferred block is generally defined by a wider drill holes spacing or extrapolated 50 m from the Measured/Indicated blocks. Figure 6.2 shows the resource classification for the No. I mineralized layer in the Baicao iron deposit.

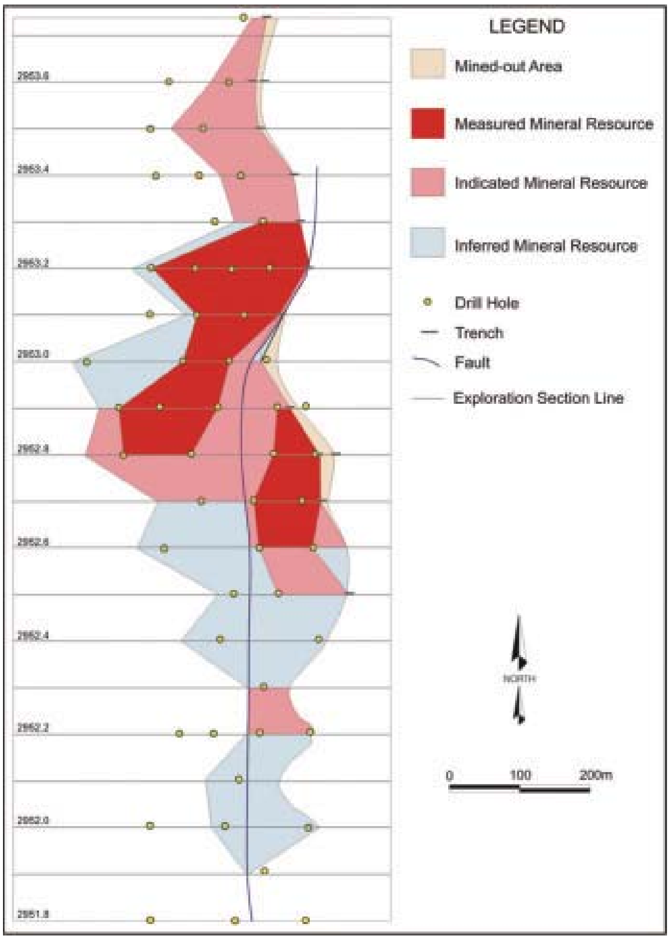

Figure 6.2 Block Mineral Resource Classification for the No.I Mineralized Layer at Baicao

6.2.3 Mineral Resource Estimation

In the mineral resource estimation process, the corresponding two-dimensional blocks on two neighboring parallel cross sections were used to define a three-dimensional block. The area of the three-dimensional block (S) is calculated from the areas of the two-dimensional blocks on cross sections (S_1 and S_2). When the area difference for the two blocks on cross sections is less than 40%, the following trapezoid formula is used for the three-dimensional block area calculation:

$$S = \frac{S_1 + S_2}{2}$$

When the area difference for the two blocks on cross sections is more than 40%, the following frustum formula is used for the three-dimensional block area calculation:

$$S = \frac{S_1 + S_2 + \sqrt{S_1 \times S_2}}{3}$$

When a block on a cross section pinches out, the three-dimensional block area is half the two-dimensional block area if the block pinches out to a line or one third of the two-dimensional block area if the block pinches out to a point.

The volume of the three-dimensional block is determined by multiplying the area (S) with the sectional distance (L). The block mineral resource tonnage is determined by multiplying the volume by the average bulk density of the type of the mineral resources in block, which is based on the bulk density measurements or calculated from TFe grade using the defined regression formulas. The orebody and deposit tonnages are based on the sum of the block tonnages.

Average drill hole or channel sample metal grades are calculated using the length-weighted average of all the drill hole or channel samples within the block boundary. The block average grade is calculated using the length-weighted average of all drill hole or channel intersections inside the block. The mineralized body grade is calculated using the tonnage-weighted average of all blocks inside the mineralized body. The deposit grade is calculated using the tonnage weighted average of all the mineralized bodies in the deposit.

6.2.4 Discussion

Based on our review, BDASIA considers the mineral resource estimation procedures and parameters applied by the Northwestern Sichuan Team to the Company's two iron mining properties to be generally reasonable and appropriate. The deposits are large mafic-ultramafic intrusive hosted stratiform or lenticular iron deposits generally with good spatial and grade continuity. The Measured blocks for the two deposits were defined by drill holes and surface trench channel samples at a data spacing of no more than 100 m × 100 m and have a high level of geological control. The Indicated category blocks were also reasonably defined based on drill holes and surface trench channel samples at a data spacing of no more than 100 m × 200 m. There was no extrapolation from data points for the Measured and Indicated category mineral resource blocks. The Inferred category blocks were defined by wider-spaced sampling or by limited extrapolation from Measured and Indicated resource blocks.

Historically, neither the Baicao Mine nor the Xiushuihe Mine has kept records of the detailed amounts of mineral resources consumed by mine production. Therefore, detailed production reconciliation for the mined areas cannot be conducted to validate the resource estimation. However, data has been maintained for historical concentrator feed grades and they are generally in line with the overall resource estimation after considering the mining dilution and mining losses. At BDASIA's recommendation, the Company has planned to implement a system for determining and recording consumed mineral resources at the mined areas from the two iron mines to allow future production reconciliation. Periodic comparison of the actual mine production and the consumed mineral resources can increase the confidence level of the resource estimation and also provide support for mining dilution and mining loss factors to be used in ore reserve estimation and mine planning.

Based on reviewing the deposit geology, drilling and sampling data, and procedures and parameters used for the estimation of mineral resources, BDASIA is of the opinion that the Measured, Indicated and Inferred mineral resources estimated under the 1999 Chinese mineral resource system for the Company's two mining properties by the Northwestern Sichuan Team also conform to the equivalent JORC mineral resource categories. The economic portion of the Measured and Indicated resources can accordingly be used to estimate Proved and Probable ore reserves, respectively.

6.3 Mineral Resource Statement

The mineral resource estimates under the JORC Code as of June 30, 2009 for the Company's two iron mining properties, as reviewed by BDASIA, are summarized in Table 6.2. The mineral resources estimated by the Northwestern Sichuan Team for the two mining properties were dated December 31, 2007. Mineral Resources consumed by production from January 1 to June 30, 2009 from the two mining properties have been subtracted from the mineral resource statement in the table. The mineral resource estimates are inclusive of mineralization comprising the ore reserves.

Table 6.2
The Company's Mineral Resource Summary — June 30, 2009

(The Company's attributable share of the following mineral resource is 90.5% for Baicao and 86.0% for Xiushuihe.)

JORC Mineral Resource Category		Tonnage (Mt)	Grades			Contained Metals		
			TFe %	TiO_2 %	V_2O_5 %	TFe kt	TiO_2 kt	V_2O_5 kt
Baicao								
Measured	higher-grade	26.98	27.7	11.9	0.23	7,480	3,210	62.8
	lower-grade	9.04	17.5	7.3	0.13	1,580	660	11.8
	subtotal	36.02	25.1	10.7	0.21	9,060	3,870	74.6
Indicated	higher-grade	41.06	26.6	11.0	0.23	10,940	4,530	92.4
	lower-grade	13.68	16.8	7.1	0.13	2,300	970	18.1
	subtotal	54.74	24.2	10.0	0.20	13,240	5,490	110.6
Subtotal	**higher-grade**	**68.05**	**27.1**	**11.4**	**0.23**	**18,410**	**7,730**	**155.2**
	lower-grade	**22.71**	**17.1**	**7.2**	**0.13**	**3,880**	**1,630**	**29.9**
	subtotal	**90.76**	**24.6**	**10.3**	**0.20**	**22,290**	**9,360**	**185.1**
Inferred	higher-grade	24.26	29.2	11.9	0.25	7,090	2,880	61.1
	lower-grade	7.06	17.8	7.8	0.14	1,260	550	10.1
	subtotal	31.32	26.6	10.9	0.23	8,340	3,430	71.1
Total	**higher-grade**	**92.31**	**27.6**	**11.5**	**0.23**	**25,500**	**10,610**	**216.3**
	lower-grade	**29.77**	**17.2**	**7.3**	**0.13**	**5,130**	**2,180**	**40.0**
	total	**122.08**	**25.1**	**10.5**	**0.21**	**30,630**	**12,790**	**256.3**

JORC Mineral Resource Category		Tonnage (Mt)	Grades			Contained Metals		
			TFe %	TiO_2 %	V_2O_5 %	TFe kt	TiO_2 kt	V_2O_5 kt
Xiushuihe								
Measured	higher-grade	13.44	29.9	12.5	0.27	4,020	1,680	36.2
	lower-grade	1.61	17.7	7.1	0.15	280	120	2.4
	subtotal	15.05	28.6	11.9	0.26	4,300	1,800	38.6
Indicated	higher-grade	12.10	27.7	10.9	0.23	3,350	1,320	28.3
	lower-grade	5.60	17.2	5.1	0.13	960	280	7.5
	subtotal	17.70	24.4	9.0	0.20	4,310	1,600	35.7
Subtotal	**higher-grade**	**25.54**	**28.8**	**11.7**	**0.25**	**7,360**	**3,000**	**64.4**
	lower-grade	**7.21**	**17.3**	**5.5**	**0.14**	**1,250**	**400**	**9.9**
	subtotal	**32.75**	**26.3**	**10.4**	**0.23**	**8,610**	**3,400**	**74.3**
Inferred	higher-grade	2.85	30.5	11.5	0.26	870	330	7..
	lower-grade	4.49	17.3	4.8	0.12	780	220	5.5
	subtotal	7.34	22.4	7.4	0.18	1,640	540	12.9
Total	**higher-grade**	**28.39**	**29.0**	**11.7**	**0.25**	**8,240**	**3,330**	**71.8**
	lower-grade	**11.70**	**17.3**	**5.2**	**0.13**	**2,020**	**610**	**15.4**
	total	**40.09**	**25.6**	**9.8**	**0.22**	**10,260**	**3,940**	**87.2**
Total								
Measured	higher-grade	40.42	28.4	12.1	0.24	11,500	4,890	99.0
	lower-grade	10.65	17.5	7.3	0.13	1,860	770	14.2
	subtotal	51.07	26.2	11.1	0.22	13,360	5,660	113.1
Indicated	higher-grade	53.16	26.9	11.0	0.23	14,290	5,840	120.7
	lower-grade	19.28	16.9	6.5	0.13	3,260	1,250	25.6
	subtotal	72.44	24.2	9.8	0.20	17,550	7,090	146.3
Subtotal	**higher-grade**	**93.59**	**27.6**	**11.5**	**0.23**	**25,780**	**10,730**	**219.7**
	lower-grade	**29.93**	**17.1**	**6.8**	**0.13**	**5,130**	**2,020**	**39.8**
	subtotal	**123.52**	**25.0**	**10.3**	**0.21**	**30,910**	**12,750**	**259.4**
Inferred	higher-grade	27.11	29.3	11.8	0.25	7,950	3,200	68.4
	lower-grade	11.55	17.6	6.7	0.14	2,030	770	15.6
	subtotal	38.66	25.8	10.3	0.22	9,990	3,970	84.0
Total	**higher-grade**	**120.70**	**28.0**	**11.6**	**0.24**	**33,740**	**13,940**	**288.1**
	lower-grade	**41.48**	**17.3**	**6.7**	**0.13**	**7,150**	**2,790**	**55.3**
	total	**162.18**	**25.2**	**10.3**	**0.21**	**40,890**	**16,730**	**343.4**

6.4 Procedure and Parameters for the Company's Ore Reserve Estimation

Ore reserves comprise that portion of the Measured and Indicated mineral resources that are planned to be mined economically and delivered to the concentrator for processing. Open pit mining has been carried out at the Baicao Mine and Xiushuihe Mine for a number of years to date as the mineralization consists of large stratiform or lenticular mineralized bodies exposed at the surface. In order to define the ore reserves under the newly-defined mineral resources for the Baicao Mine and the Xiushuihe Mine, the Company engaged Sichuan Provincial Metallurgical Engineering and Research Institute (the "Sichuan Institute") to conduct an updated final open-pit design.

The updated final pit limits were designed from the sectional mineral resource models produced by the Northwestern Sichuan Team discussed in the previous section using a manual method. The technical parameters used by the Sichuan Institute for the final open pit design are listed in Table 6.3. The higher-grade portion (TFe >= 20%) of the Measured and Indicated mineral resources within the designed final pits for the Baicao Mine and the Xiushuihe Mine is used to define the Proved and

Probable ore reserves for the two deposits. The lower-grade mineralization (TFe from 15% to 20%) was considered sub-economic and was treated as waste during final pit design and long-term production scheduling.

BDASIA reviewed the Sichuan Institute's final pit design for the Baicao Mine and the Xiushuihe Mine and considers that they have generally been conducted correctly and can be used as a basis for long term mine planning. BSASIA understands that more advanced computerized pit optimization and pit design software that are widely used in the West are generally not available to the domestic Chinese mining companies at this stage. BDASIA believes that using an advanced computerized pit optimization and pit design software for the final pit design of the Company's two iron deposits should further improve the economics of the project.

Table 6.3
Technical Parameter Assumptions Used for Final Open Pit Design of the Two Mines

Parameter	Baicao Mine	Xiushuihe Mine
Maximum Economic Strip Ratio (waste m^3/ore m^3)(1)	6.0	N/A
Dilution Factor (%)(2)	6.4	6.4
Mining Recovery Factor (%)	91.0	94.0
Bench Height (m)	12	12
Crest Elevation of the Top Pit Bench (m)	2,524	2,534
Toe Elevation of the Bottom Pit Bench (m)	2,260	2,306
Number of Benches	22	19
Final Pit Surface Outline Length (m)	2,100 (north-south)	800 (north-south)
Final Pit Surface Outline Width (m)	440 (east-west)	400 (east-west)
Bench Face Slope Angle (degree)	70	67
Maximum Overall Pit Slope Angle (degree)	26 – 44	19 – 46
One-way/Two-way Minimum Haul Road Width (m)	4.5/8.0	4.5/8.0
Maximum Haul Road Slope (%)	7.5	7.5
Minimum Pit Working Face Width (m)	35	35

Notes:

(1) The Baicao open pit is designed based on a maximum economic strip ratio of 6 as the deposit dips to the west at a moderate angle; The Xiushuihe open pit was designed without using a maximum economic strip ratio as the deposit is basin-shaped with limited overburden.

(2) Western mining dilution definition is used in this table and the diluting waste is assumed to have zero metal grades.

For the purpose of converting the economic Measured and Indicated mineral resources within the designed final open pits to ore reserves, the overall mining dilution factor and mining recovery factor between the in-situ mineral resources and the ore delivered to the concentrator for processing have to be determined as converting factors. Unfortunately, neither the Baicao Mine nor the Xiushuihe Mine has kept detailed records of the mineral resources consumed by mine production, and the overall mining dilution factors and mining recovery factors cannot be determined from production reconciliation at the mined areas. The mining dilution factors and mining recovery factors used for ore reserve estimation in this report are based on mine design parameters listed in Table 6.3. It was assumed that the diluting waste has a zero metal grade when calculating the mining dilution factor and mining recovery factor.

It should be noted that the definition of the mining dilution factor in China is different from that in most Western countries. The mining dilution factor in China is defined as the ratio of the waste tonnage in the concentrator feed to the total concentrator feed tonnage, but the mining dilution factor in the West is defined as the ratio of the waste tonnage in the concentrator feed to the ore tonnage in the concentrator feed. Therefore, when using the same data for calculation, the Western mining dilution factor is always higher than the Chinese mining dilution factor, with the difference getting larger when the dilution factor is higher. For example, the Chinese mining dilution factor of 6.0% is equivalent to a Western mining dilution factor of 6.4%, and the Chinese mining dilution factor of 9.0% is equivalent to a Western mining dilution factor of 9.9%. As the JORC Code is used for mineral resource/ore reserve reporting for this BDASIA report, the Western definition of the mining dilution factor is used throughout this report.

It should also be noted that it is assumed that the diluting waste has zero metal grades in mining dilution factor calculation. However, the higher-grade mineralization at Baicao and Xiushuihe is generally surrounded by lower-grade mineralization; the actual TFe grade for the diluting waste is likely to be only slightly lower than the average TFe grade of approximately 17.5% for the lower-grade mineralization. Assuming the diluting waste has a 12% TFe grade, then in order to achieve the dilution effect from a 27.0% TFe in-situ grade to a 25.4% TFe concentrator feed grade for the Baicao deposit, the mining dilution factor would be approximately 14.5% and the mining recovery factor would be approximately 84.6%. BDASIA considers that a dilution factor of 14.5% and a mining recovery factor of 84.6% are reasonable estimates for a stratiform/lenticular deposit like Baicao. Furthermore, historical concentrator feed grades also indicate that forecast metal grades based on the assumed mining dilution factor and mining recovery factor for the Baicao Mine are achievable. Consequently, BDASIA considers that the mining dilution factor and mining recovery factor used by the Sichuan Institute are reasonable for the Baicao and Xiushuihe Mines. These factors can be used to define the Proved and Probable ore reserves for the Baicao and Xiushuihe Mines.

BDASIA has confirmed that the Company plans to implement a system for determining and recording consumed mineral resources from the two mines to allow future production reconciliation between the in-situ mineral resources and the produced concentrator feed in the mined areas. Such data obtained will be very useful for future production planning.

6.5 Ore Reserve Statement

Ore reserve statements as of June 30, 2009 generated by BDASIA for the Company's two mining properties are summarized in Table 6.4. The ore reserve estimates include both Proved and Probable ore reserves, and the Probable ore reserves were estimated for the long-term future of the Company's three mining properties. The Proved and Probable ore reserves have been estimated from the Measured and Indicated mineral resources, respectively. Mining dilution factors and mining recovery factors for the ore reserve estimates are as shown in Table 6.3.

Table 6.4
The Company's Ore Reserve Summary — June 30, 2009

(The Company's attributable share of the following ore reserves is 90.5% for Baicao and 86.0% for Xiushuihe.)

JORC Ore Reserve Category	Tonnage (Mt)	Grades			Contained Metals		
		TFe %	TiO_2 %	V_2O_5 %	TFe kt	TiO_2 kt	V_2O_5 kt
Baicao							
Proved	25.49	25.0	10.5	0.22	6,360	2,670	57.1
Probable	34.46	25.9	10.2	0.22	8,930	3,520	77.0
Total	**59.95**	**25.5**	**10.3**	**0.22**	**15,290**	**6,190**	**134.1**
Waste	188.23						
Strip Ratio (waste t/ore t)(1)		3.14					
Xiushuihe							
Proved	9.54	28.1	11.9	0.25	2,680	1,130	24.0
Probable	9.17	26.0	10.2	0.22	2,390	940	19.8
Total	**18.71**	**27.1**	**11.1**	**0.23**	**5,070**	**2,070**	**43.8**
Waste	17.90						
Strip Ratio (waste t/ore t)		0.96					
Total							
Proved	35.03	25.8	10.9	0.23	9,040	3,800	81.1
Probable	43.63	25.9	10.2	0.22	11,320	4,450	96.8
Total	**78.66**	**25.9**	**10.5**	**0.23**	**20,360**	**8,250**	**177.9**
Waste	206.14						
Strip Ratio (waste t/ore t)(1)		2.62					

Note:
(1) The waste has a 2.7 t/m^3 average bulk density for the two mines. Therefore, the strip ratio when expressed as waste cubic meters over ore tonnes will be 1.24 for the Baicao Mine and 0.34 for the Xiushuihe Mine.

6.6 Mine Life Analysis

BDASIA has conducted a mine life analysis for the Company's two mining properties reviewed in this study based on June 30, 2009 ore reserve estimates and the long-term production rate at the full designed capacity (Table 6.5). It can be seen that the ore reserves are sufficient to support production at the anticipated long-term production level for 14.0 years for the Baicao Mine and 5.8 years for the Xiushuihe Mine. These ore reserve mine lives may change significantly in the future due to the following reasons:

- additional exploration and development of the mines could convert some of the Inferred mineral resources to Measured and Indicated mineral resources, which in turn might be converted to Proved and Probable ore reserves. These new ore reserves would increase the mine life, This factor is important for the Baicao Mine as there are significant Inferred mineral resources in the deposit;

- the additional mineralization located west of the Xiushuihe mine right area could be acquired by the Company from the government. This will increase Xiushuihe Mine's mineral resources and ore reserves significantly and substantially extends the mine's life; and
- changes in the production rate would also change the mine life. The mine life would be shortened if the production rate is increased to a level higher than the anticipated long-term production level.

Table 6.5
Mine Life Analysis

Mine	Long-Term Production Rate (Mtpa)	Ore Reserve Mine Life	
		Ore Reserve (Mt)	Mine Life (years)
Baicao	4.3	60.0	14.0
Xiushuihe	3.2	18.7	5.8

7.0 POTENTIAL FOR DEFINING ADDITIONAL MINERAL RESOURCES

The potential for defining additional mineral resources within the mining right boundaries for the Baicao Mine and the Xiushuihe Mine is limited as the strike and down-dip extensions of the mineralized zones within the mining right boundaries are reasonably well-defined by current drilling and sampling.

Finding or obtaining additional mineral resources is not a high priority for the Baicao Mine as the current ore reserve life at the anticipated long-term production level is 14.0 years, but it is important for the Xiushuihe Mine as the current ore reserve life is only around 5.8 years at the anticipated long-term production level.

The Company's Xiushuihe mining right covers only the eastern portion of the mineralized mafic-ultramafic intrusive body in the area. The mineralization present within the Xiushuihe mining right continues to the west. The initial exploration work conducted by the 601 and 603 Geological Teams of the Sichuan Provincial Metallurgical Exploration Corporation from 1978 to 1981 covers the entire deposit, including the current Xiushuihe mining right area and the area west of the current Xiushuihe mining right, which is planned by the Company to be the Xiushuihe Mine expansion area. The deposit was delineated by surface trenches and diamond core drill holes at a 200 m by 200 m to 400 m spacing. The mineral resources estimated based on the initial exploration work were approved by Sichuan Provincial Metallurgical Geology Exploration Corporation in 1981. BDASIA was not able to review these initial resource estimates in detail as only a portion of the geological report for the initial exploration work was available. However, the metal grades of the initial resource estimates for the entire Xiushuihe deposit are very similar to the metal grades of the current resource estimates within the current Xiushuihe mining right, which brings some comfort to the initial resource estimates. BDASIA conducted a site visit to the proposed Xiushuihe Mine expansion area and held discussions with the Company's management and technical staff as well as its outside consultants regarding the geology and further exploration work within the proposed expansion area in June 2009. Based on the sampling spacing, BDASIA considers that the initial mineral resource estimates should be classified as Inferred Resources under the Australasian JORC Code.

The initial Inferred Resources estimated in 1981 for the entire Xiushuihe deposit consist of a higher-grade resource of 90.3 Mt with average grades of 28.1% TFe, 11.1% TiO_2 and 0.25% V_2O_5 and a lower-grade resource of 22.5 Mt with average grades of 17.1% TFe, 5.1% TiO_2 and 0.14% V_2O_5; the total Inferred Resources are 112.8 Mt with average grades of 25.9% TFe, 10.4% TiO_2 and 0.23% V_2O_5. While it is not clear how much of the initial Inferred Resource estimates are located within the Xiushuihe Mine expansion area from the available 1981 601 and 603 Teams' geology report, additional information provided by the Company indicates that the initial Inferred Resources within the proposed Xiushuihe Mine expansion area are 78.2 Mt with average grades of 25.0% TFe and 9.8% TiO_2, consisting of 51.8 Mt of higher-grade resource with average grades of 28.7% TFe, 11.7% TiO_2 and 0.25% V_2O_5 and 26.4 Mt of lower-grade resource with average grades of 17.7% TFe and 6.1% TiO_2 (V_2O_5 grade for the lower-grade resource was not provided). BDASIA notes that the Measured+Indicated+Inferred Resources (including mineral resources consumed by mining to date) within the current Xiushuihe mining right estimated by the Northwestern Sichuan Team in 2008 based on detailed exploration work are 43.7 Mt with average grades of 25.8% TFe, 10.0% TiO_2 and 0.22% V_2O_5, consisting of a higher-grade resource of 31.9 Mt with average grades of 29.0% TFe, 11.7% TiO_2 and 0.25% V_2O_5 and a lower-grade resource of 11.8 Mt with average grades of 17.3% TFe, 5.3% TiO_2 and 0.13% V_2O_5. The above resource figures are summarized in Table 7.1.

Table 7.1
Mineral Resources for the Xiushuihe Deposit

Project Area	JORC Resource Category	Resource Type	Tonnage (Mt)	Grade (%)		
				TFe	TiO_2	V_2O_5
Current Xiushuihe Mining Right Area(1)	Measured+	higher-grade	31.9	29.0	11.7	0.25
	Indicated+	lower-grade	11.8	17.3	5.3	0.13
	Inferred	total	43.7	25.8	10.0	0.22
Proposed Xiushuihe Mine Expansion Area(2)	Inferred	higher-grade	51.8	28.7	11.7	0.25
		lower-grade	26.4	17.7	6.1	—
		total	78.2	25.0	9.8	—
Total Xiushuihe Deposit(3)	**Inferred**	**higher-grade**	**90.3**	**28.1**	**11.1**	**0.25**
		lower-grade	**22.5**	**17.1**	**5.1**	**0.14**
		total	**112.8**	**25.9**	**10.4**	**0.23**

Notes:

(1) The resource figures are based on the 2008 Northwestern Sichuan Team report; they consist of Measured+Indicated+Inferred Resources as of December 31, 2007 and mineral resources consumed by mining to that date. BDASIA has reviewed this resource estimate in detail as discussed previously in this report.

(2) The resource figures are based on the 601 and 603 Teams' 1981 report as well as additional information provided by the Company. They are Inferred Resources only. BDASIA did not review the resource estimate in detail.

(3) The resource figures are based on the 601 and 603 Teams' 1981 report. They are Inferred Resources only and BDASIA did not review the resource estimate in detail. BDASIA notes that the total resources for the total Xiushuihe deposit are somewhat different from the sum of the resources in the Xiushuihe mining right area and the resources in the proposed Xiushuihe Mine expansion area as the two resource estimates were made based on different database and at different time.

Based on the mineralized zone distribution in the Xiushuihe deposit and the currently available information, BDASIA believes that mineral resource in the proposed Xiushuihe Mine expansion area could be larger than that within the current Xiushuihe mining right. The Inferred Resource figures for the proposed Xiushuihe Mine expansion area in Table 7.1 are good indication of the mineral resources to be defined by detailed exploration in the area. BDASIA notes that there are uncertainties with the Inferred Resource figures for the proposed Xiushuihe Mine expansion area in Table 7.1, thus recommends the Company to conduct detailed exploration work to increase the confidence level of the resource estimates in the proposed Xiushuihe Mine expansion area before conducting detailed mine planning and ore reserve estimation.

BDASIA was advised that the Company acquired an exploration right, which covers the proposed Xiushuihe Mine expansion area as well as most of the current Xiushuihe mining right area on July 8, 2009, in order to conduct detailed exploration for the additional vanadium-bearing titanomagnetite mineral resources in the Xiushuihe deposit. This exploration right covers an area of 1.73 km^2, and the current Xiushuihe mining right covers an area of 0.5208 km^2. The Company estimates that it will cost approximately RMB[●] million to conduct the exploration work and acquire the mining right for the proposed Xiushuihe Mine expansion area. Acquiring these additional mineral resources will significantly extend the mine life of the Xiushuihe Mine and also benefit the mining operation as the final open pit limits will no longer be restricted by the current mining right boundary located in the middle of the mineralized zone.

8.0 MINING

Both the Baicao Mine and the Xiushuihe Mine are open pit mining operations as the orebodies lie at or close to the surface. Mining operations are being carried out by a mining contractor, who is supervised by the Company personnel. An updated open pit design and a long term production plan were developed in May 2008 by Sichuan Provincial Metallurgical Engineering and Research Institute based on the updated mineral resource estimates for the two mines, and future mining operations will be generally based on these long term plans.

Table 8.1 lists the historical and forecast waste stripping and ore production for the Baicao Mine and the Xiushuihe Mine for the period from 2006 to 2011.

Table 8.1
Historical and Forecast Mine Waste Stripping and Ore Production, 2006-2011

(The Company's attributable share of the following mine production is 90.5% for Baicao and 86.0% for Xiushuihe.)

	Historical Production				Forecast Production		
Item	**2006**	**2007**	**2008**	**2009 Jan - Jun**	**2009 Jul - Dec**	**2010**	**2011**
Waste Stripping							
Baicao Mine (Mt)	1.452	3.510	12.151	16.627	10.24	14.96	10.29
(Mm^3)	0.538	1.300	4.500	6.158	3.79	5.54	3.81
Xiushuihe Mine (Mt)	0.230	1.362	1.377	0.637	1.73	2.00	2.36
(Mm^3)	0.085	0.504	0.510	0.236	0.64	0.74	0.87
Ore Production (Mt)							
Baicao Mine	0.497	1.147	2.917	1.959	1.96	4.27	4.35
Xiushuihe Mine	0.449	0.605	1.854	1.037	1.20	2.39	3.23

8.1 The Baicao Mine

The deposit strikes approximately north-south and dips approximately west at 35º to 40º and continues down dip for up to 300 m from the surface. Individual ore zones vary in thickness from 10 m to as much as 50 m; they are sometimes separated by zones of lower-grade mineralization and occasionally by small intruded waste zones. The lower-grade material is currently being treated as waste in mining and sent to the waste dump.

BDASIA considers that the final pit design has generally been conducted correctly, but may warrant some modifications in the future for the prevailing higher or lower prices for iron ore. Site specific geotechnical data was used for final pit slopes and the width and gradient of the main haulage ramp out of the pit. Since all stripping and mining is currently being done by the mining contractor, haul road widths and gradients are chosen by the contractor. The contractor is required to deliver a specific grade and tonnage of material to the three primary crushers, two owned by the company and one at a nearby subcontractor's concentrator. The separation of ore and waste is done principally by blasthole assays augmented by gridded shallow bench assays, all as directed by the company grade-control technicians who work during the daylight hours.

Based on the final pit design at the end of 2007, the open pit mine would extract a total of 63.5 Mt of ore and 213.0 Mt of waste for an overall strip ratio of 3.35 t or 1.24 cubic meters (m^3) of waste over 1.00 t of ore. The planned ore production in 2010, after completion of the expansion now in progress, is 4.3 Mt.

The designed final pit uses a 12-m bench height, with 22 benches required to reach the bottom of the pit from the highest point at the surface, which has an elevation of approximately 2,524 m. At two locations, however, one at the northern pit extremity and the other on the west side, the pit bottom is only 40 m below the land surface, providing relatively easy exits for the trucks from the pit bottom.

The top of the final pit will measure approximately 2,100 m long and 440 m wide at its maximum point. The base of the final pit, at an elevation of 2,260 m, will measure 1,950 m long and 200 m wide at its widest point. The haul road in the final pit is designed to be 8-m wide with a maximum gradient of 7.5%, allowing for two-way traffic for the contractor's relatively small trucks. The final pit wall on the southern (steeper) side will have 8 m to 10 m wide catch benches every third level, with the two intermediate benches being 6 m wide. This configuration results in an inter-ramp slope angle of slightly over 45º on the hanging wall side; the inter-ramp slope on the footwall side is less than 45º as it conforms to the dip of the orebodies. Rock Quality Designation ("RQD") measurements of rock strength at different points around the pit, as well as past and current mining experience, were used to set the final pit slopes. BDASIA considers that these slope angles are on the conservative side.

The mining contractor utilizes 1.5-m^3 backhoes and 10-t to 20-t highway trucks, customarily overloaded by a factor of up to 50%, for both ore and waste mining. The terrain is quite rugged, most hauls are downhill and haulage ramps are narrow and very steep (up to 17%) in some areas. Waste hauls are short, but ore hauls from the pit to the three primary crushers are approximately 2.0 km, 2.3 km, and 12.5 km one-way, respectively. Elevations for the primary crushers are approximately 2,220 m, 2,300 m, and 1,900 m, respectively, whereas the current mining levels are at an elevation of approximately 2,500 m. It should be noted that the subcontractor's concentrator is responsible for maintaining the haul road from the mining area to the subcontractor's crusher, and that the trucks carrying the ore on this long and steep downhill haul also belong to, or are under the direction and control of the subcontractor's concentrator.

All of the loaded haulage trucks are weighed before reaching their destinations, and the scales are calibrated once a year by local government personnel. These weights, after deducting the moisture content, are the basis for payment to the mining contractor and the subcontractor's concentrator, as required.

The majority of the ore and waste requires blasting. The contractor has a professionally trained team for setting and carrying out blasts. The process utilizes self-propelled, tracked, wagon drills to drill 120-mm to 150-mm diameter blast holes at an angle of 70º. The blasting pattern is normally three rows deep, with a spacing of 3-m to 5-m between holes and a maximum of 20 holes per row. At the current production rate, only one blast per week is required, but this will increase as the new processing capacity comes on stream. The powder factor is 0.4 to 0.5 kilograms per tonne ("kg/t") for ore and 0.3 to 0.4 kg/t for waste.

Although pit dewatering is not currently required; it may be necessary at some stage in the future during the wet season (late May to early October) as the pit gets deeper, but the pumping head will be small. There is generally no groundwater at this high elevation.

The contractor does all maintenance on the mining equipment, so that no company mine maintenance facilities are required. An office for the company's mining staff (supervisors and geological ore control technicians) is provided in the concentrator building.

Contractor manpower for the mine is 130 to 140, but will increase as ore requirements increase when construction of the new concentrator is completed at the end of June 2008.

BDASIA believes that the planned production increases in ore and waste in 2009, 2010 and 2011 at the Baicao mine, as tabulated in Table 8.1, are readily achievable provided that the waste stripping is carried out as scheduled. Some improvement in the ore haul roads would be desirable to handle the increased truck traffic, but that would be at the discretion and cost of the mining contractor.

8.2 The Xiushuihe Mine

The principal deposit at the Xiushuihe area is approximately 1.05 km long east to west, varies from 130 m to 887 m wide from north to south, and the thickness ranges from 40 m to 130 m. The deposit covers an area of approximately 1 km^2. The Company currently has a mining right that covers only approximately the eastern one third of the deposit, and is thus mining up against a vertical boundary on the western side of the pit. The entire deposit is shaped like a basin with the northern rim dipping south on average at 10º to 20º and the south rim dipping north on average at 20º to 30º. The deposit generally outcrops at the surface and the overall strip ratio is low.

Final pit design parameters for the Xiushuihe Mine are very similar to those for the Baicao Mine, except that the design slopes on the west side are as steep as is safely possible in order to get as much of the ore lying within the mining lease boundaries as possible by open pit mining. Any ore left up against this west boundary will have to be mined by underground methods. The company is planning to get its mining right extended to the west by acquiring the remaining two thirds of the deposit from the government. The final pit layout is designed to mine out essentially all the rest of the ore lying within the Company mining right because of the basin shape of the deposit. The final pit daylights to surface on the south side allowing both easy egress from the pit and easy drainage during the wet season.

BDASIA found that the design for the final pit has generally been correctly conducted, and, unlike the Baicao Mine, is not likely to change as the price of iron ore changes.

As at Baicao, site specific geotechnical data was used for final pit slopes. Because the pit daylights on the south side, no main haulage ramp out of the final pit is needed. Stripping and mining are done by the same contractor as at Baicao; and haul road widths and gradients to the two primary crushers are again chosen by the contractor. Ore control procedures are essentially the same as at Baicao, except that the deposit is more massive and there is less dilution with lower grade mineralization and with waste and less mining losses as well.

From the designed final pit at the end of 2007, the mine would extract 21.4 Mt of ore and 19.5 Mt of waste for an overall strip ratio of 0.91 t or 0.34 m^3 of waste over 1.00 t of ore. The planned ore production in 2011 and the following years, after completion of the expansion now in progress as well as an additional concentrator, is 3.2 Mt.

The designed final pit uses a 12-m bench height, with 19 benches required to reach the bottom of the pit from the highest point at the surface which has an elevation of 2,534 m.

The top outline of the final pit will measure approximately 800 m long in the north-south direction by 400 m wide in the east-west direction at its maximum point. The base of the final pit at an elevation of 2,306 m will measure 350 m long by 200 m wide at its widest point. The final pit wall on the west (steepest) side will have 8 m to 10 m wide catch benches every third level, with the two intermediate benches being 6 m wide. This slope configuration results in an inter-ramp slope of slightly over 45º. On the other directions, the slope angle is less than 45º as it conforms to the dip of the orebody. As at Baicao, RQD measurements of rock strength at different points around the pit as well as past and current mining experience were used to set the final pit slopes, and BDASIA considers that they are also on the conservative side.

The bottom level of the final pit was set at 2,306 m elevation, as that represents the bottom of the deposit.

As at Baicao, the mining contractor utilizes 1.5-m^3 backhoes, but truck size is limited to 10-t capacity units, again overloaded by up to 50%. Waste hauls are short, with one-way ore haul distances to the old and new crushers of approximately 5.5 km and 2.5 km, respectively. Elevations of the two crushers are 2,180 m and 2,450 m, respectively, and the current mining level is at approximately 2,500 m in elevation. Approximately 80% of the forecast ore will be delivered to the new, higher, crusher, and only 20% to the lower, old crusher.

As at Baicao, the majority of the ore and waste requires blasting. Drilling and blasting practices are the same as at Baicao, except that blasting occurs less frequently because of the much smaller tonnages required to be moved.

There is no groundwater at the mine, and any water that is captured during the rainy season can readily exit the pit where it daylights.

Again, no company mine maintenance facilities are required, and an office for the company's mining staff (supervisors and geological ore control technicians) is provided in the concentrator building.

BDASIA considers that the planned production increases in ore and waste in 2009 and onwards at the Xiushuihe Mine, as tabulated in Table 8.1, are readily achievable. As at Baicao, some improvement in the ore haul roads would be desirable to handle the increased truck traffic, but that would again be at the discretion and cost of the mining contractor.

9.0 METALLURGICAL PROCESSING

9.1 The Baicao Mine

9.1.1 General

During BDASIA’s site visit in April 2008, the Baicao Mine ore was processed in a plant built in 1999 that is referred herein as the old concentrator and in a nearby subcontractor’s concentrator. The Company’s old concentrator has the capacity to treat approximately 0.6 Mtpa of ore and produce approximately 200,000 tpa of iron concentrates. The subcontractor’s concentrator treated 1.859 Mt of ore for the Company in 2008 and produced 461,000 t of iron concentrates.

The processing method for both the Company’s old concentrator and the subcontractor’s concentrator is similar. It involves wet, low-intensity magnetic separation to recover iron in vanadium-bearing titanomagnetite and wet, high-intensity magnetic separation to recover titanium in ilmenite. These concentrators produce two types of concentrates: an iron concentrate, assaying approximately 55% TFe and recovering approximately 57-59% of the TFe in ore and a medium-grade titanium concentrate, assaying 27% to 40% TiO_2 and extracting approximately 15-24% of the metal from the ore.

There was an ongoing expansion of the mine that has brought the total ore production to approximately 4.3 Mtpa in 2009. To accommodate the increased mine production construction of a new concentrator with a production capacity of 1.1 Mtpa of ore was completed in June 2008 and further expansion of the new concentrator to a production capacity of 1.8 Mtpa of ore was also completed in April 2009. This brings the total processing capacity, including the two company concentrators and the subcontractor’s concentrator, to 4.3 Mtpa. The total production is expected to reach 1.15 Mt of iron concentrates and 170,000 t of titanium concentrates in 2010. About 58% to 59% of the iron is expected to be recovered into the iron concentrates assaying 55% TFe. The new Company concentrator will include a flotation circuit for titanium concentrates processing and similar flotation facilities are also to be installed for the Company’s old concentrator and the subcontractor’s concentrator. Therefore, titanium concentrates with TiO_2 grade of 46% instead of medium-grade titanium concentrates will be produced when the upgrading is completed. The titanium recovery to upgraded titanium concentrates is expected to be around 24% TiO_2 while its grade is estimated to be at 46% TiO_2.

In addition, the Baicao Mine plans to purchase 470,000 t of iron ore from the Xiushuihe Mine and produce 135,000 t of iron concentrates using another subcontractor’s processing facilities in 2010. The purchased iron ore will be increased to 627,000 tpa and producing 180,000 tpa of iron concentrates from 2011 to 2013.

9.1.2 Concentrator Feed Description

The concentrator feed contains, on the average, 25.3% TFe and 10.6% TiO_2. The primary minerals of economic interest are vanadium-bearing titanomagnetite ($Fe_{3-x}Ti_xO_4$) and ilmenite ($FeTiO_3$). In addition, there is a small amount of magnetite. The titanomagnetite has been partially oxidized into titano-maghematite, hematite and limonite at or near the surface. There are small amounts of sulfide minerals in the unoxidized ore; they are mostly pyrrhotite followed by minor pyrite, chalcopyrite and pentlandite. The major gangue minerals are augite and plagioclase with minor hornblende, biotite, olivine, spinel and some secondary minerals such as chlorite, serpentine, sericite and kaolinite.

A majority of mineral particles are in the size larger than 200 mesh (or 0.074 mm): 88% for titanomagnetite, 87% for ilmenite, 84% for sulfides and 91% for gangue minerals. The finest examined size fraction of less than 0.040 mm contains only 4.1% titanomagnetite, 7.3% ilmenite, 9.1% sulfides and 2.5% gangue minerals. This indicates that liberation of minerals should not be difficult and that separation is expected to be good.

9.1.3 Processing

The two minerals of major economic importance in the deposit are both magnetic. Titanomagnetite is strongly magnetic while ilmenite is weakly but sufficiently magnetic. They are recovered by simple inexpensive and environmentally friendly magnetic separation methods. Titanomagnetite is readily recoverable by wet, low-intensity magnetic separation drums. Ilmenite requires wet, high-intensity magnetic separation, an efficient approach as well. Prior to employing the magnetic separation the ore is crushed and ground to an appropriate liberation size to allow for mineral grain separation and optimum concentrate grades and recoveries. The titanium concentrates from the magnetic separation are at present medium-grade (27% to 40% TiO_2). In the new concentrator it will be upgraded by a flotation circuit and its grade is expected to reach 46% TiO_2. This flotation circuit will also be installed for the old Company concentrator and the subcontractor's concentrator. Both iron and titanium concentrates are dewatered by filtration to 9% and 6% of moisture, respectively. The respective content of fines (minus 200 mesh or 0.074 mm) is 65% and 85%, respectively.

The ore processing flowsheet for the Company's new concentrator is simple and essentially very similar to that of the Company's old concentrator. The simplified processing flowsheet to be employed in the new concentrator is presented in Figure 9.1.

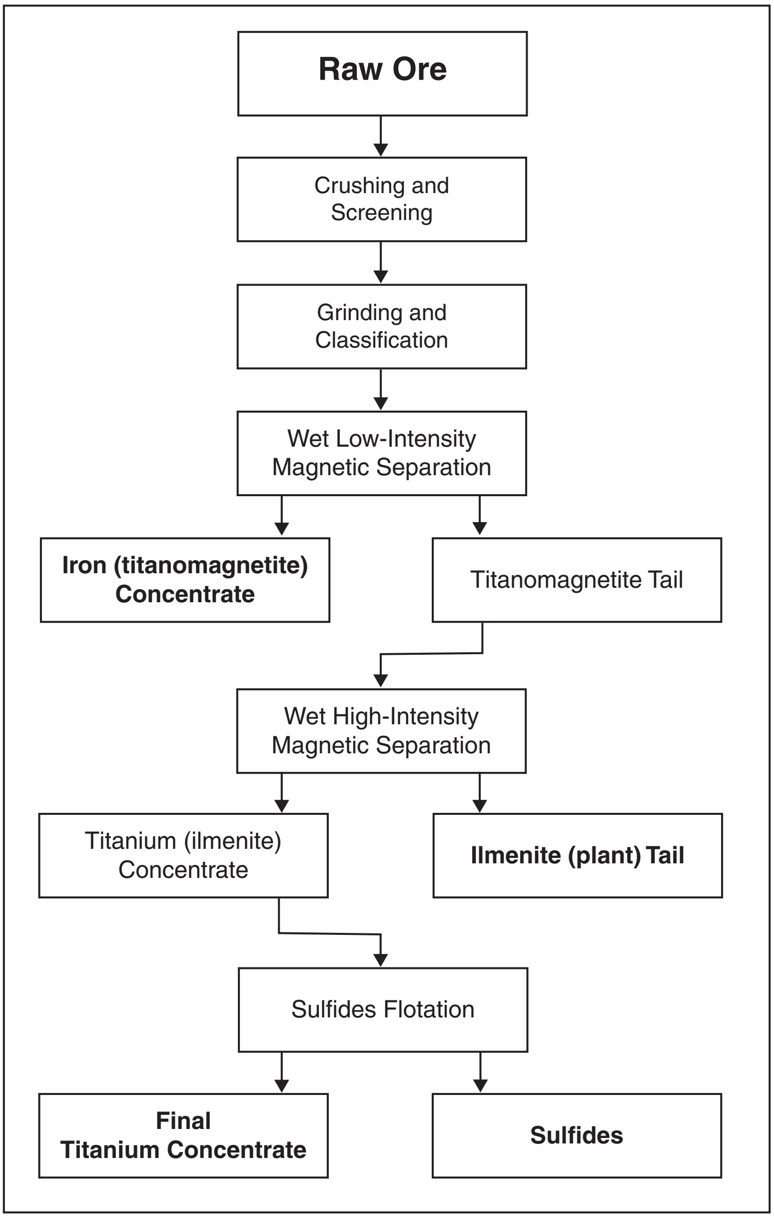

Figure 9.1 Simplified Ore Processing Flowsheet for the New Concentrator at Baicao

Briefly, the ore is crushed in three stages. The primary and secondary stages are open-circuit while the fine, tertiary crushing is in a closed circuit with a 20-mm screen. The grinding is in two stages, both in closed circuit with classifiers. In the primary grinding/classification stage the liberated titanomagnetite particles are magnetically separated from the ground ore. The tail from this primary titanomagnetite separation is then reground and sent for additional iron recovery, again by the use of low-intensity magnetic separation. The tail from this stage feeds high- intensity magnetic separators where ilmenite is recovered. The titanium concentrates are then subjected to sulfide flotation that removes impurities and thus upgrades the concentrates.

9.1.4 Plant and Equipment

The plant has three main sections:

- crushing and screening with ore stockpiles;
- grinding, classification and concentration with dewatering and iron concentrate stockpiles; and
- titanium magnetic concentration — flotation with dewatering and titanium concentrate stockpiles.

The equipment used in both old and the new plant is Chinese made. It is simple and sturdy. A C125 jaw crusher, a GP200SC cone crusher and a HP300 cone crusher are used for primary, secondary and tertiary crushing respectively. For the primary grinding, the MQG 2700×4000 ball mills are used. For the secondary grinding, the MQY 2400×3600 ball mills are selected. A double spiral 2FG and a single FC-24 spirals classify, respectively, the grinding mills' products. Permanent magnetic separator drums CTB 1050×2400 and CTB 1050×2100 separate the titanomagnetite from the ground ore. The iron concentrates are then filtered in GYW-12 drum filters. High-intensity magnetic separators with diameters of 1,750 mm and 1,500 mm are used to recover ilmenite. The titanium concentrates are upgraded by sulfides flotation in SF-20, SF-8 and SF-4 flotation cells. This titanium concentrates, i.e., the relatively low pulp density underflow of the sulfides flotation, are thickened in an 18-m thickener; the latter underflow is then filtered in a 60-m^2 ceramic filter. Plant tailings are thickened in a 56-m thickener, and the overflow is the recycled plant water and the underflow is the final plant tail sent to the tailings storage facility.

9.1.5 Test Work

In order to provide support necessary for production upgrading, the Company has engaged the Institute of Multipurpose Utilization of Mineral Resources of the Chinese Academy of Geological Sciences located in Chengdu, Sichuan to conduct new metallurgical test work. A test report titled "An Experimental Test Report on Iron and Titanium Separation for Baicao Vanadium-Bearing Titanomagnetite Ore" was issued in February 2008. The objective of the test work was to examine the mineralogy and characteristics of the ore, to evaluate the fineness of grinding required for adequate liberation of mineral grains and to determine the optimum conditions for magnetic concentration of the iron and titanium minerals followed by the upgrading of the concentrates where required and economically feasible. This comprehensive report stated that the following products are obtainable from an ore sample assaying 29.6% TFe and 13.2% TiO_2.

- iron concentrates at a weight yield of 33.3% with the TFe grade at 57.6% and the TiO_2 content of 11.9%. The TFe recovery rate was 64.9%; and
- titanium concentrates at a 14.3% weight yield with a grade of 48.1% TiO_2 and the TiO_2 recovery rate of 52.1%. All values are shown on the original ore feed.

The test work was well executed and its results are considered reliable and a sound basis for the planned modifications for the old concentrator and the subcontractor's concentrator as well as the construction of the new concentrator. BDASIA considers that the results outlined by the test work are achievable.

9.1.6 Conclusions

Based on the examination of the plants at Baicao, and historic information and close examination of the test work data, BDASIA considers that this operation can achieve the plan objectives and produce:

- iron concentrates assaying 55.0% TFe and 11.1% TiO_2 at the recovery of 58.4% of the TFe; and
- titanium concentrates assaying 46.0% TiO_2 at the recovery rate ranging from 16% to 18% TiO_2.

This concentrator feed is amenable to processing as proposed and the employed process, after an initial period of plant trials and adjustments, these concentrators should yield expected production results.

9.2 The Xiushuihe Mine

9.2.1 General

The Xiushuihe mine ore is processed by wet, low-intensity magnetic separation to recover iron in titanomagnetite and wet, high-intensity magnetic separation to recover titanium in ilmenite. Two concentrates are currently produced: an iron concentrates, assaying about 54.5% TFe with a TFe recovery of 54 to 58% and a medium-grade titanium concentrate, assaying 40% to 42% TiO_2 with a TiO_2 recovery of up to 15% from the ore.

There is an ongoing expansion of the mine that will bring the total ore production capacity to 3.1 Mtpa by the end of 2010. Ongoing modification and expansion of the concentrating facilities will bring up the total processing capacity to 2.7 Mtpa in 2011. The additional 470,000 tpa of produced iron ore will be sold to the Baicao Mine and processed by a contractor's concentrator. The total yearly production is expected to reach 770,000 t of iron concentrates and 120,000 t of titanium concentrates in 2011. About 58 of the iron is expected to be recovered into the iron concentrates assaying 54.5% TFe. The titanium recovery to upgraded titanium concentrates is expected to be approximately 24% while the concentrate grade is estimated to reach 46% TiO_2.

9.2.2 Concentrator Feed Description

On the average the concentrator feed assays 27.0% TFe and 11.0% TiO_2.

The two primary minerals of economic significance are vanadium-bearing titanomagnetite and ilmenite. Additional metallic minerals are magnetite, pyrrhotite and pyrite. There are also small amounts of chalcopyrite, pentlandite and limonite. Primary gangue minerals are augite, hornblende, olivine, and plagioclase with minor apatite. Some secondary minerals such as tremolite, chlorite, sericite, serpentine, talc epidote, anatase and leucoxene are present as well.

Titanomagnetite grains of generally 0.15 mm to 4.1 mm in size are usually attached to ilmenite with clearly defined boundaries. Ilmenite is evenly distributed through the ore and it is present as granular coarse and fine particles, as well as fine crystal wafers of 0.015 mm to 0.092 mm in size.

The sulfides occur in round granular shapes distributed in both iron and gangue minerals.

Liberation of particles does not appear to be unduly difficult and should not represent an obstacle to good separation.

9.2.3 Processing

The Xiushuihe ore is very similar to the Baicao ore. Therefore a rather similar process is employed. After crushing and grinding to the desired liberation size, the iron and titanium concentrates are produced by low and high, wet magnetic separation, respectively. The medium-grade titanium concentrates will be upgraded in the future from the current 40% to 42% TiO_2 to about 46% TiO_2 by additional magnetic and flotation separation.

The dewatering of concentrates is by drum filters to 8% to 10% moisture for both iron and titanium concentrates.

Due to the similarity to the Baicao ore, the upgraded processing flowsheets at Xiushuihe are basically the same as that for the Baicao Mine (Figure 9.1).

The Xiushuihe ore is crushed in three stages, the primary and secondary in open circuit and the tertiary in closed circuit with a screen. The crushed ore is ground in two stages, both in the ball mill — screw classifier closed circuit. Titanomagnetite is recovered from the ground ore by wet, low-intensity magnetic separation. Ilmenite is recovered by the wet, high-intensity magnetic separation from the iron separation tails. The titanium concentrates are upgraded by sulfide flotation. Both iron and titanium concentrates are dewatered by thickening and filtration.

9.2.4 Plant and Equipment

The plant consists of three sections:

- crushing, comprising raw ore stockpile, and three stages of crushing;
- main section, comprising grinding, magnetic separation, filtration and concentrate stockpiles; and
- titanium upgrading and the concentrate stockpiles.

The crushing equipment includes a PEF 1200×1500 jaw crusher, PYB 3200 standard cone crusher and HP 500 hydrocone crusher with a 2YAg 2152 vibrating screen. Wet grinding ball mills are MQG 3200×4500 and MQY 2700×3600 which, with their respective spiral classifiers, provide ground ore to wet, low-intensity magnetic separation, i.e., the titanomagnetite concentration. These concentrates are separated after each primary and secondary grinding stage. The wet, low-intensity magnetic separators are permanent drums CTB 1050×3000 and CTB 1050×2400 units. The produced iron concentrates are filtered in a GP-60 disc filter. The tails from the titanomagnetite separation are the feed to wet, high-intensity magnetic Slon-1750 separators that recover ilmenite. After sulfide flotation upgrading the concentrates are thickened in a NXZ 38-m thickener and filtered in a 45-m^2 ceramic filter. The tails are thickened in a GZX-53DT thickener, whose overflow is the plant recycles water and the underflow is the final plant tail sent to a tailings disposal facility.

All plant equipment is Chinese made and sufficiently robust for their function.

9.2.5 Testwork

In order to provide support for production upgrading, the Company has engaged the Institute of Multipurpose Utilization of Mineral Resources of the Chinese Academy of Geological Sciences located in Chengdu, Sichuan to conduct new metallurgical test work. A test report titled "An Experimental Test Report on Iron and Titanium Separation for Baicao Vanadium-Bearing Titanomagnetite Ore" issued in April 2008 was the basis for the concepts used for the modernization and expansion of the ore processing facilities for the Xiushuihe operation. The test work included examination of the mineral composition and characteristics of the ore, evaluation of grinding, magnetic separation of each titanomagnetite and ilmenite as well as flotation of sulfides and flotation and gravity upgrading of ilmenite.

The results of the test work showed that, under laboratory conditions, from a feed sample assaying 28.2% TFe and 12.1% TiO_2 the following concentrates can be obtained:

- iron concentrates at a weight percentage yield rate of 31.6% assaying 57.0% TFe and 11.4% TiO_2 and with a processing recovery of 63.7% for TFe and 29.8% for TiO_2; and
- titanium concentrates with a weight percentage yield of 10.8% assaying 48.3% TiO_2 and with a processing recovery of 43.4% TiO_2.

The test work appears to have been well conducted. The processing flowsheet is adequate. The test work results should be obtainable in the industrial practice.

9.2.6 Conclusions

Titanomagnetite and ilmenite concentration from their ores utilizes worldwide-known and employed technologies. The Xiushuihe ore is relatively easy to process and is expected to yield satisfactory results.

Based on the actual plant results as well as the results of the test work on this ore, BDASIA considers that the proposed process modifications and plant modernization will result in an expansion of this operation capable of treating 2.6 Mtpa of ore and produce the iron and titanium concentrates assaying 54.5% TFe and 46% TiO_2, respectively. The respective recoveries will be 54% to 57% for TFe in the iron concentrates and 13% to 24% for TiO_2 in the titanium concentrates.

10.0 MINE PRODUCTION

10.1 The Baicao Mine

Historical milled ore, metallurgical recoveries and concentrate production from 2006 to the first half of 2009 and production forecasts for the second half of 2009 to 2011 for the Baicao Mine are summarized in Table 10.1. The forecast processed tonnage reflects the project expansion schedule, i.e., the newly-constructed concentrator with a production capacity of 300,000 tpa of iron concentrates was further expanded to a production capacity of 500,000 tpa of iron concentrates in June 2009. Full production capacity of approximately 4.3 Mtpa of ore and 1.15 Mtpa of iron concentrates will be reached in 2010. In addition, the forecast production in 2010 and 2011 also includes the 470,000 tpa and 627,000 tpa purchased ore from the Xiushuihe Mine and 135,000 tpa and 180,000 tpa iron concentrates produced by a subcontractor's concentrator, respectively. The ore grade is forecast to remain almost constant for the period 2009 and 2011 and is in line with the ore reserve estimates of the deposit. The forecast feed grades are generally 25.5% for TFe and 10.7% for TiO_2.

Table 10.1
Historical and Forecast Production for the Baicao Mine, 2006-2011

(The Company’s attributable share of following production from the Baicao Mine is 90.5%.)

Item	Historical Production				Forecast Production		
	2006	2007	2008	2009 Jan - Jun	2009 Jul - Dec	2010	2011
Milled Iron Ore							
Tonnage (Mt)	0.510	1.374	3.263	1.922	2.26	4.74	4.98
Total Iron Grade (%)	28.05	26.52	23.52	24.40	25.5	25.5	25.6
TiO_2 Grade (%)	14.01	11.63	9.44	10.37	10.7	10.7	10.7
V_2O_5 Grade (%)	0.31	0.25	0.23	0.22	0.22	0.22	0.22
Total Iron Metal (kt)	143	364	767	469	576	1,208	1,271
Contained TiO_2 (kt)	71	160	308	199	241	505	531
Contained V_2O_5 (kt)	1.56	3.44	7.37	4.16	5.0	10.4	10.9
Concentrator Recovery							
Total Iron to Iron Concentrates (%)	57.28	59.26	57.84	57.35	58.4	58.4	58.4
TiO_2 to Medium-Grade Titanium Concentrates (%)	4.00	22.36	14.95	10.25	10.8	3.1	—
TiO_2 to Titanium Concentrates (%)	—	—	—	—	2.6	15.7	18.4
Final Products							
Iron Concentrates (kt)	149	392	803	489	613	1,284	1,351
Total Iron Grade (%)	55.00	55.00	55.24	54.96	54.9	55.0	54.9
TiO_2 Grade (%)	13.50	13.50	12.74	13.44	11.2	11.2	11.2
V_2O_5 Grade (%)	0.63	0.63	0.68	0.62	0.59	0.59	0.59
Total Iron Metal (kt)	82	216	444	269	337	706	742
Contained TiO_2 (kt)	20	53	102	66	69	143	151
Contained V_2O_5 (kt)	0.94	2.47	5.44	3.05	3.6	7.6	8.0
Medium-Grade Titanium Concentrates (kt)	7.1	112.6	150.8	61.2	81	59	—
TiO_2 Grade (%)	40.00	31.72	30.52	33.42	32.0	27.0	—
Contained TiO_2 (kt)	2.9	35.7	46.0	20.4	26	16	—
Titanium Concentrates (kt)	—	—	—	—	14	172	212
TiO_2 Grade (%)	—	—	—	—	46.0	46.0	46.0
Contained TiO_2 (kt)	—	—	—	—	6	79	98

Two concentrates are currently produced by the Baicao Mine, an iron concentrate and a medium-grade titanium concentrate. Forecast production for iron concentrates with an average TFe grade of 55% will increase from 803,000 t in 2008 to 1,351,000 t in 2011. The mine currently produces a medium-grade titanium concentrates with a TiO_2 grade of 31% to 40%. An ilmenite cleaning flotation circuit will be included in the newly-constructed concentrator and will also be installed for the existing concentrator as well as for the subcontractor’s concentrator, and the production will be upgraded to a titanium concentrate with an average TiO_2 grade of 46%. Forecast titanium concentrates production will reach 172,000 t in 2010 and 212,000 t in 2011. The forecast average metallurgical recovery is 58.4% for TFe to iron concentrates and 18.4% to 19.1% (after 2011) for TiO_2 to titanium concentrates. The product quality and metallurgical recoveries are all in the range indicated by the recent metallurgical test work and in line with historical production data. BDASIA considers that the forecast production targets are achievable provided that the expansion of the new concentrator is completed on schedule.

10.2 The Xiushuihe Mine

Historical milled ore, metallurgical recoveries and concentrate production from 2006 to the first half of 2009 and forecast production from the second half of 2009 to 2011 for the Xiushuihe Mine are summarized in Table 10.2. The forecast processed tonnage will increase from 1.38 Mt in 2008 to 1.85 Mt in 2009, 2.22 Mt in 2010, and 2.62 Mt in 2011, reflecting the current upgrading of the two existing concentrators and planned construction of a new concentrator with a production capacity of 300,000 t of iron concentrates in late 2009 to 2010. The full production capacity of 2.62 Mtpa will be reached in 2011. The ore grade is forecast to remain constant for the period from 2009 to 2011 and is in line with the ore reserve estimates and historical production. The forecast average feed grade is 27.0% for TFe and 11.0% for TiO_2.

Table 10.2
Historical and Forecast Production for the Xiushuihe Mine, 2006-2011

(The Company's attributable share of the following production from the Xiushuihe Mine is 86.0%.)

	Historical Production				Forecast Production		
Item	**2006**	**2007**	**2008**	**2009 Jan - Jun**	**2009 Jul - Dec**	**2010**	**2011**
Milled Iron Ore							
Tonnage (Mt)	0.472	0.562	1.381	0.940	0.91	2.22	2.62
Total Iron Grade (%)	28.71	22.23	26.57	27.00	27.0	27.0	27.0
TiO_2 Grade (%)	11.93	10.02	10.28	10.75	11.0	11.0	11.0
V_2O_5 Grade (%)	0.25	0.21	0.23	0.23	0.24	0.24	0.24
Total Iron Metal (kt)	135	125	367	254	247	600	709
Contained TiO_2 (kt)	56	56	142	101	100	243	287
Contained V_2O_5 (kt)	1.18	1.18	3.15	2.18	2.2	5.3	6.3
Concentrator Recovery							
Total Iron to Iron Concentrates (%)	55.01	54.66	53.52	54.48	53.5	53.5	57.4
TiO_2 to Medium-Grade Titanium Concentrates (%)	13.00	15.35	4.57	0.54	4.0	2.2	—
TiO_2 to Titanium Concentrates (%)	—	—	—	—	—	13.0	24.2
Final Products							
Iron Concentrates (kt)	138	127	360	254	242	590	747
Total Iron Grade (%)	54.00	54.00	54.50	54.35	54.5	54.5	54.5
TiO_2 Grade (%)	13.29	14.39	17.87	14.64	12.2	12.2	12.2
V_2O_5 Grade (%)	0.65	0.69	0.84	0.66	0.68	0.68	0.63
Total Iron Metal (kt)	75	68	196	138	132	321	407
Contained TiO_2 (kt)	18	18	64	37	32	78	92
Contained V_2O_5 (kt)	0.90	0.88	3.04	1.69	1.6	4.0	4.7
Medium-Grade Titanium Concentrates (kt)	17	22	17	2	11	14	—
TiO_2 Grade (%)	42.00	40.00	38.75	36.06	37.0	37.0	—
Contained TiO_2 (kt)	7.3	8.7	6.5	0.5	4	5	—
Titanium Concentrates (kt)	—	—	—	—	—	69	151
TiO_2 Grade (%)	—	—	—	—	—	46.0	46.0
Contained TiO_2 (kt)	—	—	—	—	—	32	69

As at the Baicao Mine, two concentrates are currently produced by the Xiushuihe Mine, an iron concentrate and a medium-grade titanium concentrate. Forecast production for the iron concentrates with an average TFe grade of 54.5% will increase from 360,000 t in 2008, to 496,000 t in 2009, 590,000 t in 2010, and 747,000 t in 2011. The mine currently produces a medium-grade titanium concentrate with a TiO_2 grade of 39% to 42%. The ilmenite recovery circuit will be upgraded and a titanium concentrates with an average TiO_2 grade of 46% will be produced beginning in 2010. Forecast titanium concentrates production will be 69,000 t in 2010 and 151,000 t in 2011. The forecast metallurgical recovery is 53.5% to 57.4% for TFe to iron concentrates and 13.0% to 24.2% for TiO_2 to titanium concentrates. The product quality and metallurgical recoveries are all in the range indicated by the recent metallurgical test work and in line with historical production data. BDASIA believes that the forecast production targets are achievable provided that the upgrading of the two existing concentrators and construction of the planned new concentrator are completed on schedule.

10.3 Concentrates Sale

The Company sells its iron concentrates produced from the Baicao Mine to direct customers who are steel producers and/or distributors in the southwestern region of China. Iron concentrates produced from the Xiushuihe Mine are generally used by the Company's pellet plant in Huili County, where the concentrates are converted to pellets then sold to the direct customers who are steel producers and/or distributors in the southwestern region of China. Titanium concentrates produced from the two mines are generally sold locally for the downstream processing plants. The Company plans to develop its own downstream processing plants for titanium concentrates in the future.

Based on the sales agreements between the Company and the buyers, the iron concentrates and/or pellets will be delivered to the nearby rail stations by contractor's trucks. The Company will cover the trucking cost. The buyers will cover the rail shipping cost from the nearby rail stations to the buyers' plants. The delivery location for the titanium concentrates is at the two mines and the buyers are responsible for all the shipping costs.

The concentrates are weighed at the mine or the nearby rail stations. A sample of the concentrates for sale is taken at the mine site or nearby rail stations by both the buyer and the seller, and is split into three sub-samples to determine the concentrate's metal grades as well as impurity and moisture contents by the buyer, the seller, and, if necessary, by an arbitrator.

The sale prices for metals contained in the concentrates are determined based on the market concentrates prices in the Panzhihua-Xichang area at the date of sale, adjusted by the concentrate's metal grades as well as impurity concentrations.

BDASIA is advised that the Company should not encounter any difficulties in selling all the concentrates produced by the Baicao Mine and Xiushuihe Mine and the pellets produced by the pellet plant.

11.0 PELLET PLANT

The Company owns a 90.5% interest on the pellet plant through its 90.5%-owned subsidiary, Huili County. The plant was constructed in September 2005 with a designed pellet production capacity of 400,000 tpa. In addition, the Company currently has contracts with two local pellet plants to produce pellets for the Company using the Company's iron concentrates starting in late 2008. The pelletizing process for the subcontractors are generally very similar to that of the Company's pellet plant, and will not be discussed further in this report.

11.1 The Pelletizing Process

Iron concentrate and bagged activated bentonite are trucked into the plant and placed in storage areas. The feedstock materials are then moved to surge bins with gravity feed disc feeders that strip proportion the concentrate, together with 8-kilogram ("kg") bentonite per tonne of concentrate, onto a conveyor that leads to a 2.5-m diameter rotary drying kiln that mixes and dries the feedstock to approximately 7% moisture. After leaving the kiln, the feedstock is fed to an annular discharge ball mill where it is ground, using a mixture of 60-, 70-, 80- and 90-mm balls, to 70% <200 mesh in size.

The feedstock is then conveyed to 3.6-m diameter rotating balling discs. Together with a misted water spray, the feed addition to the balling disc agglomerates onto the "seed" pellets that are circulating in the disc and gradually grow in size to 13-mm to 16-mm diameter "green balls". The green balls are then forced out of the balling disc by the underlying smaller balls and discharge over a static inclined rod screen, which screens out the undersize, onto a conveyor belt. The water content of the resulting green ball pellets is approximately 8%. At this stage the green balls, if properly formed, should be able to withstand four successive drops from a meter height onto a hard surface without breakage.

The green balls are transported to the pelletizing 5.2-m diameter vertical kilns and skip loaded into them. These kilns are bottom fired by gas (principally CO) provided by a gas generation furnace on site. The green ball pellets are processed as they slowly pass by gravity through the kiln. Induration of the pellet occurs at a temperature of approximately 1,300°C at the bottom of the kiln where the heat from this induration section rises up the kiln to preheat the pellet before induration. After preheating, the heat continues to rise up the kiln to dry the green ball pellets in the uppermost section of the kiln. After induration the pellets are manually withdrawn from the kiln from chutes that are emplaced around the bottom girth of the kiln and are transported in manually propelled barrows to the outside storage area to cool.

11.2 Coal Gasification

Gas production is gained from the gasification of anthracite, sourced from a local mine, by the following process:

The anthracite is mixed and ground together with water and chemical binder and then extruded in elongate cylinders through an extrusion machine. The resulting coal cylinders of approximately 25 mm in diameter are then dried in a horizontal drying machine. After aging for about 24 hours to allow for further solidification, the coal cylinders are fed into a gas generating furnace where they are transformed by heat into mainly a carbon monoxide gas. The off-gas is scrubbed and cooled by water sprays in a vertical counterflow tower. The entrapped coal dust from this unit is fed to a thickening pond where the settled coal dust is clam-shelled out and recycled. Before the gas is used in the pelletizing machine it is held in a pressurized storage vessel.

Figure 11.1 below is a simplified pellet plant flowsheet.

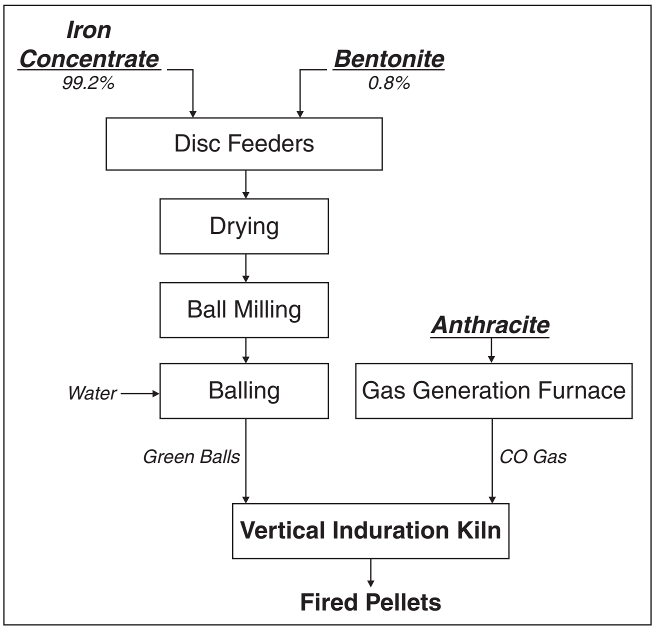

Figure 11.1 Simplified Pellet Plant Flowsheet

11.3 Plant Equipment

The pellet plant equipment is listed below in Table 11.1.

Table 11.1
Pellet Plant Equipment List

Equipment	Type	Number
Pellet Plant		
Disc Feeder	DK 800	4
Rotary Kiln	GZL - 07	1
Ball Mill	QM3562	1
Balling Disc		10
Vertical Induration Furnace		10
Electric Dust Precipitator	2DF3X45m-2X68-14S	1
Anthracite Gasifier		
Double Mixer	SLJ4025	1
Extruder	DLJ4020	2
Horizontal dryer	WGH3	1
Gas Generator Furnace		1
Cyclone Dust Filter	CCQ-03	2

The pellet plant design differs substantially from the more conventional Dravo-Luirgi traveling grate or the Allis-Chalmers grate-kiln pelletizing machines. In contrast to these machines, the Huili Caitong plant design, by its simplicity, requires a substantially lower capital expenditure and can be readily operated by an unskilled labor force. However, on the negative side, the design does not allow for flexibility of operation, close control of the pellet’s physical specifications, nor for sizable operational tonnages. Also it is more energy wasteful, requires a higher labor input and greater bentonite usage.

Despite these disadvantages, the plant can readily produce pellets that meet the required contractual physical specifications of pellet size, fines allowance and compression strength. BDASIA has checked a number of analysis certificates against contractual specifications and is satisfied that the current plant output can readily meet these specifications without penalty.

11.4 Pellet Chemistry

The pellet production from this plant differs considerably from more conventional acid pellets in that the main diluent is titanium rather than silica. The silica content of the pellets averages approximately 3.5%, which is a sufficiently low amount. Also notably the undesirable FeO content of the pellet is very low, only approximately 0.4%. The TiO_2 content of the pellet is extremely high, averaging approximately 11%. Normally, a high titanium content ore cannot be smelted like more common iron ores in a conventional blast furnace as the presence of a large carbon excess, needed to reduce iron oxide, reduces the titanium dioxide content to titanium sequioxide, which then combines with the air blast to form titanium nitrides and carbides. This then results in the precipitation of a solid agglomeration that chokes the furnace blast passages and shuts down the furnace. The current sale contract does not specify a limitation on titanium content; it is understood that the pellets produced by this plant will be blended with other low-titanium pellets in steel production.

The concentrate feed to the pellet contains approximately 0.59-0.84% of V_2O_5. This results in a vanadium rich pellet, which is a desirable constituent as it is a steel hardener.

11.5 Quality Assurance

Most of the world's pellet plants operate under strict quality assurance guidelines. The Huili Caitong pellet plant is ISO 9001:2000 certified, which means that it has in place documented quality control assurance procedures and records and that it has documented means of inspection and corrective measure procedures.

11.6 Pellet Production

Historical iron concentrate consumption, pelletizing recoveries and iron pellet production from 2006 to the first half of 2009 and forecast production from the second half of 2009 to 2011 for the Company's iron pellet plant and the subcontractors are summarized in Table 11.2. Historical iron pellet production was gradually increased from 181,000 t in 2006 to 249,000 t in 2007 and 325,000 t in 2008, and the forecast iron pellet production will increase further to 594,000 t in 2009 and 760,000 t in 2010 and 2011. The total iron grade of the pellets is approximately 53.0%. The Company currently has no plans to further expand the iron pellet production beyond 2010.

Table 11.2
Historical and Forecast Production for the Pellet Plant, 2006-2011

(The Company's attributable share of the following production from the pellet plant is 90.50%.)

	Historical Production				Forecast Production		
Item	2006	2007	2008	2009 Jan - Jun	2009 Jul - Dec	2010	2011
Iron Concentrate Consumption							
Tonnage (kt)	183	253	331	316	290	770	770
Total Iron Grade (%)	54.01	53.03	54.33	54.64	54.9	54.8	54.8
Total Iron Metal (kt)	99	134	180	173	160	420	420
Pelletizing Recovery							
Total Iron (%)	97.36	98.37	95.97	96.40	95.2	96.1	96.1
Pellet Production							
Pellets (kt)	181	249	325	314	280	760	760
Total Iron Grade (%)	52.99	53.08	53.01	53.10	53.4	53.3	53.3
Total Iron Metal (kt)	96	132	172	167	150	400	400

12.0 OPERATING COSTS

Based on information provided by the Company, BDASIA has calculated historical unit mining, concentrating, G&A and others costs on a per tonne basis for ore milled during the period from 2006 to the first half of 2009, and developed forecast unit costs for the period from the second half of 2009 to 2011 for the Company's two production mines and the pellet plant. BDASIA has also calculated a unit product operating cash cost and total production cost for a tonne of concentrates or pellet for each operation.

The operating cash costs include mining costs, processing costs, G&A costs, selling costs, environmental protection costs, production taxes, resource compensation levy, interests on loans and other cash cost items. The total production costs comprise the operating cash costs, depreciation/ amortization costs and other non-cash cost items. These costs are expressed in Chinese currency with a unit of RMB. For the benefit of international investors, BDASIA has converted these costs into United States dollars ("US$").

12.1 The Baicao Mine

The unit operating costs for the Baicao Mine are shown in Table 12.1 for the period from 2006 to 2011. The 2006- the first half of 2009 historical mining costs of RMB15.93/t (US$2.33/t) to

RMB19.24/t (US$2.82/t) of milled ore and the second half of 2009-2011 forecast mining costs of RMB20.0-20.6/t (US$2.93-3.02/t) of milled ore reflects the mining contracts between the Company and the contracted miners; resource tax has also been included in the mining costs. The costs for waste stripping are generally capitalized and are not included in the operating costs. The historical concentrating costs range from RMB24.43/t (US$3.58/t) in 2006 to RMB41.22/t (US$6.03/t) in 2007 and the forecast concentrating costs range from RMB37.1/t (US$5.43/t) in the second half of 2009 to RMB42.9/t (US$6.28/t) in 2011, reflecting the selected magnetic separation-flotation processes and the gradual increase of labor and material costs. . The significant increase in the forecast concentrating cost starting in the second half of 2009 is mostly due to adding the ilmenite flotation circuit to the concentrators and the cost for iron ore purchase from the Xiushuihe Mine. The mine management and technical team are included in the G&A and others costs, which range from RMB7.29/t (US$1.07/t) to RMB51.70/t (US$7.57/t) of milled ore historically and RMB7.3/t (US$1.07/t) to RMB10.9/t (US$1.60/t) forecast. Historically, rail shipping costs (of approximately RMB120/t or US$17.6/t of iron concentrates) were paid by the Baicao Mine as part of the selling costs, but beginning in 2008, the rail shipping costs have been paid by the buyer. Therefore, the 2008 and first half 2009 actual and forecast G&A and others costs are significantly lower than the historical costs in previous years. Another reason for the decrease of unit G&A and others costs is that the total production has been increased significantly whereas the total G&A and others costs have not been increased as much proportionally.

The historical operating cash cost for a tonne of iron concentrates ranges from RMB196.2 (US$28.73) in 2008 to RMB311.1 (US$45.55) in 2006, and the forecast operating cash cost for a tonne of iron concentrates ranges from RMB207 (US$30.3) to RMB220 (US$32.2). The historical total production cost for a tonne of iron concentrates ranges from RMB251.7 (US$36.85) in 2008 to RMB368.6 (US$53.97) in 2006 and the forecast total production cost for a tonne of iron concentrates ranges from RMB258 (US$37.8) to RMB308 (US$45.2) in the second half of 2009. The decrease of the forecast total operating costs and total production costs for a tonne of iron concentrates over the historical costs mostly reflect the decrease on concentrate shipping costs and the increase in productivity for both iron concentrates and titanium concentrates. Historical and forecast operating cash costs and total production costs for a tonne of medium-grade titanium concentrates and titanium concentrates for the Baicao Mine are also summarized in Table 12.1.

Table 12.1
Historical and Forecast Unit Cost Analysis for the Baicao Mine, 2006-2011

	Historical				Forecast		
Cost Item	**2006**	**2007**	**2008**	**2009 Jan-Jun**	**2009 Jul-Dec**	**2010**	**2011**
Mining Cost (RMB/t of ore milled)	15.93	15.15	19.24	19.21	20.6	20.0	20.5
(US$/t of ore milled)	2.33	2.22	2.82	2.81	3.02	2.93	3.01
Concentrating Cost (RMB/t of ore milled)	24.43	41.22	30.36	32.19	37.1	39.7	42.9
(US$/t of ore milled)	3.58	6.03	4.44	4.71	5.43	5.82	6.28
G&A and Other Costs (RMB/t of ore milled)	51.70	30.90	7.29	9.05	10.9	10.5	7.3
(US$/t of ore milled)	7.57	4.52	1.07	1.32	1.60	1.53	1.07
Total Operating Cash Costs (RMB/t of ore milled)	**92.07**	**87.26**	**56.88**	**60.45**	**68.7**	**70.2**	**70.8**
(US$/t of ore milled)	**13.48**	**12.78**	**8.33**	**8.85**	**10.05**	**10.28**	**10.36**
Unit Product Operating Cash Cost							
Iron Concentrates (RMB/t)	311.1	264.1	196.2	215.5	220	209	207
(US$/t)	45.55	38.66	28.73	31.55	32.2	30.6	30.3
Medium-Grade Titanium Concentrates (RMB/t)	85.8	144.3	185.4	175.7	186	174	—
(US$/t)	12.56	21.13	27.14	25.72	27.2	25.5	—
Titanium Concentrates (RMB/t)	—	—	—	—	384	314	342
(US$/t)	—	—	—	—	56.3	46.0	50.1
Unit Product Total Production Cost							
Iron Concentrates (RMB/t)	368.6	285.3	251.7	292.3	308	277	258
(US$/t)	53.97	41.77	36.85	42.80	45.2	40.6	37.8
Medium-Grade Titanium Concentrates (RMB/t)	135.2	171.8	234.8	252.3	313	248	—
(US$/t)	19.80	25.15	34.37	36.94	45.9	36.3	—
Titanium Concentrates (RMB/t)	—	—	—	—	546	401	420
(US$/t)	—	—	—	—	80.0	58.8	61.4
Unit Product Total Production Cost without G&A and Other Costs							
Iron Concentrates (RMB/t)	192.7	182.5	227.1	258.1	271	240	233
(US$/t)	28.21	26.72	33.25	37.79	39.7	35.2	34.1
Medium-Grade Titanium Concentrates (RMB/t)	113.5	153.2	208.2	242.0	297	227	—
(US$/t)	16.62	22.42	30.48	35.43	43.5	33.2	—
Titanium Concentrates (RMB/t)	—	—	—		529	396	410
(US$/t)	—	—	—		77.5	58.0	60.0

12.2 The Xiushuihe Mine

The unit operating costs for the Xiushuihe Mine are shown in Table 12.2 for the period from 2006 to 2011. The 2006-first half 2009 historical mining costs from RMB16.15/t (US$2.36/t) to RMB22.06/t (US$3.23/t) of milled ore and the second half 2009-2011 forecast mining costs of RMB21.9-22.8/t (US$3.20-3.34/t) of milled ore reflects the mining contracts between the Company and the contracted miners. Resource tax has also been included in the mining costs. The costs for waste stripping are generally capitalized and are not included in the operating costs. The historical concentrating costs range from RMB22.19/t (US$3.25/t) in 2007 to RMB25.11/t (US$3.68/t) in 2008 and the forecast concentrating costs range from RMB23.3/t (US$3.41/t) in the second half of 2009 to RMB38.5/t (US$5.64/t) in 2011, reflecting the selected magnetic-flotation separation processes and the gradual increase of labor and material costs. BDASIA notes that adding the ilmenite flotation circuit in 2010 and 2011 will increase the concentrating cost significantly. Mine management and technical team are included in the G&A and others costs, which range from RMB4.63/t (US$0.68/t) to RMB10.48/t (US$1.53/t) of milled ore historically and RMB5.6/t (US$0.82/t) to RMB8.9/t (US$1.31/t) forecast.

Table 12.2
Historical and Forecast Unit Cost Analysis for the Xiushuihe Mine, 2006-2011

	Historical				Forecast		
Cost Item	2006	2007	2008	2009 Jan-Jun	2009 Jul-Dec	2010	2011
Mining Cost (RMB/t of ore milled)	16.15	19.19	20.21	22.06	21.9	22.1	22.8
(US$/t of ore milled)	2.36	2.81	2.96	3.23	3.20	3.24	3.34
Concentrating Cost (RMB/t of ore milled)	24.52	22.19	25.11	22.75	23.3	30.6	38.5
(US$/t of ore milled)	3.59	3.25	3.68	3.33	3.41	4.47	5.64
G&A and Other Costs (RMB/t of ore milled)	4.63	9.11	10.48	5.64	8.9	6.6	5.6
(US$/t of ore milled)	0.68	1.33	1.53	0.83	1.31	0.96	0.82
Total Operating Cash Costs (RMB/t of ore milled)	**45.30**	**50.48**	**55.80**	**50.45**	**54.1**	**59.2**	**66.9**
(US$/t of ore milled)	**6.63**	**7.39**	**8.17**	**7.39**	**7.92**	**8.67**	**9.80**
Unit Product Operating Cash Cost							
Iron Concentrates (RMB/t)	141.8	191.1	205.2	184.6	194	171	154
(US$/t)	20.75	27.98	30.04	27.03	28.4	25.0	22.6
Medium-Grade Titanium Concentrates (RMB/t)	104.0	194.6	187.5	296.9	216	184	—
(US$/t)	15.22	28.50	27.46	43.47	31.6	27.0	—
Titanium Concentrates (RMB/t)	—	—	—	—	—	411	399
(US$/t)	—	—	—	—	—	60.1	58.4
Unit Product Total Production Cost							
Iron Concentrates (RMB/t)	152.3	216.5	259.0	240.6	247	216	195
(US$/t)	22.30	31.70	37.91	35.23	36.2	31.7	28.6
Medium-Grade Titanium Concentrates (RMB/t)	110.1	220.7	232.7	396.5	263	228	—
(US$/t)	16.12	32.32	34.06	58.05	38.5	33.4	—
Titanium Concentrates (RMB/t)	—	—	—	—	—	477	461
(US$/t)	—	—	—	—	—	69.9	67.6
Unit Product Total Production Cost without G&A and Other Costs							
Iron Concentrates (RMB/t)	137.7	178.8	220.5	220.5	215	194	179
(US$/t)	20.16	26.18	32.28	32.29	31.5	28.5	26.2
Medium-Grade Titanium Concentrates (RMB/t)	100.6	204.5	196.2	278.2	231	207	—
(US$/t)	14.73	29.94	28.72	40.73	33.8	30.4	—
Titanium Concentrates (RMB/t)	—	—	—	—	—	456	445
(US$/t)	—	—	—	—	—	66.7	65.2

The historical operating cash cost for a tonne of iron concentrates ranges from RMB141.8 (US$20.75) to RMB205.2 (US$30.04) and the forecast operating cash cost for a tonne of iron concentrates ranges from RMB154 (US$22.6) to RMB194 (US$28.4). The historical total production cost for a tonne of iron concentrates ranges from RMB152.3 (US$22.30) to RMB259.0 (US$37.91) and the forecast total production cost for a tonne of iron concentrates ranges from RMB195 (US$28.6) to RMB247 (US$36.2). Historical and forecast operating cash costs and total production costs for a tonne of medium-grade titanium concentrates and titanium concentrates for the Xiushuihe Mine are also summarized in Table 12.2.

12.3 The Pellet Plant

The unit operating costs for the pellet plant are shown in Table 12.3 for the period from 2006 to 2011. The operating costs are divided into iron concentrate cost (representing the Company's iron concentrate production cost plus transportation cost), pelletizing cost and G&A and other cost for a tonne of pellet produced.

The historical iron concentrate cost ranged from RMB121.62/t (US$17.81/t) of pellet produced in 2006 to RMB261.62/t (US$38.30/t) in 2007, and the forecast iron concentrate cost ranges from RMB215/t (US$31.5/t) of pellet produced in 2011 to RMB242/t (US$35.4/t) in the second half of 2009. The historical pelletizing cost ranged from RMB134.17/t (US$19.64/t) of pellet produced in 2007 to RMB200.56/t (US$29.37/t) in the first half of 2009 and the forecast pelletizing cost ranges from RMB171/t (US$25.0/t) in the second half of 2009 to RMB180/t (US$26.4/t) in 2011. The historical G&A and other cost ranged from RMB9.15/t (US$1.34/t) of pellet produced in the first half of 2009 to RMB215.09/t (US$31.49/t) in 2007 and the forecast G&A and other cost ranges from RMB8/t (US$1.1/t) in 2010 to RMB8/t (US$1.2/t) in the second half of 2009 and 2011. The significant decrease in G&A and other cost in 2008 is that prior to 2008, rail shipping costs (of approximately RMB120/t or US$17.5/t of pellets) were paid by the pellet plant as part of the selling costs, but beginning in 2008, the rail shipping costs have been paid by the buyer. Therefore, the 2008 and the first half 2009 actual and forecast G&A and others costs are significantly lower than the historical costs in 2006 and 2007. The historical and forecast total operating costs, total production costs and total production costs without the G&A and other cost for a tonne of pellet produced are also summarized in Table 12.3.

Table 12.3
Historical and Forecast Unit Cost Analysis for the Pellet Plant, 2006-2011

	Historical				Forecast		
Cost Item	**2006**	**2007**	**2008**	**2009 Jan-Jun**	**2009 Jul-Dec**	**2010**	**2011**
Iron Concentrate Cost (RMB/t of pellet)	121.62	261.62	261.14	203.35	242	223	215
(US$/t of pellet)	17.81	38.30	38.23	29.77	35.4	32.7	31.5
Pelletizing Cost (RMB/t of pellet)	156.78	134.17	157.61	200.56	171	177	180
(US$/t of pellet)	22.95	19.64	23.08	29.37	25.0	25.9	26.4
G&A and Other Costs (RMB/t of pellet)	175.05	215.09	56.28	9.15	8	8	8
(US$/t of pellet)	25.63	31.49	8.24	1.34	1.2	1.1	1.2
Total Operating Cash Costs (RMB/t of pellet)	**453.45**	**610.88**	**475.03**	**413.06**	**421**	**408**	**403**
(US$/t of pellet)	**66.39**	**89.44**	**69.55**	**60.48**	**61.6**	**59.7**	**59.0**
Depreciation and Amortization Cost (RMB/t of pellet)	30.16	22.42	34.85	19.52	10	8	8
(US$/t of pellet)	4.42	3.28	5.10	2.86	1.5	1.1	1.1
Total Production Costs (RMB/t of pellet)	**483.61**	**633.30**	**509.88**	**432.58**	**431**	**416**	**411**
(US$/t of pellet)	**70.81**	**92.72**	**74.65**	**63.34**	**63.1**	**60.9**	**60.1**
Total Production Cost without G&A and Other Costs (RMB/t of pellet)	**308.56**	**418.21**	**453.61**	**423.43**	**423**	**408**	**403**
(US$/t of pellet)	**45.18**	**61.23**	**66.41**	**62.00**	**61.9**	**59.7**	**59.0**

12.4 Discussion

Based on our review, BDASIA believes that the Company's forecast for the operating costs for the two operating mines and the pellet plant are reasonable as they generally reflect the future cost increase caused by labor and material and also unit cost savings as the result of the productivity increase. Therefore, these forecasts are generally considered achievable.

13.0 CAPITAL COSTS

13.1 The Baicao Mine

Historical and forecast capital costs for the Baicao Mine are shown in Table 13.1 for the period from 2006 to 2011. The mine capital costs consist of waste stripping cost. Costs for mining equipment are the responsibility of mining contractors. It can be seem that significant mining capital investment is needed for the next three years as waste stripping is very high in these years. The 2008 actual and forecast concentrator cost of RMB339.8 Million (US$49.8 million) is for the newly-constructed concentrator and its expansion with a total production capacity of 500,000 tpa of iron concentrates and related supporting facilities.

Table 13.1
Historical and Forecast Capital Costs for the Baicao Mine, 2006-2011

(The Company's attributable share of the following capital costs for the Baicao Mine is 90.5%.)

	Historical				Forecast		
Item	**2006**	**2007**	**2008**	**2009 Jan-Jun**	**2009 Jul-Dec**	**2010**	**2011**
Capital Cost in RMB×10³							
Mine	6,186	14,950	73,358	84,980	52,300	76,500	52,600
Concentrator	—	—	198,977	99,539	26,300	15,000	—
Admin	—	—	—	—	—	—	—
Tailings	—	10,000	—	6,280	29,700	—	—
Exploration	—	—	—	—	—	—	—
Land	—	—	8,475	20,747	—	—	—
Closing	—	—	—	—	—	—	—
Property Acquisition	—	15,574	76,749	1,250	1,300	—	—
Total	**6,186**	**40,524**	**357,559**	**212,796**	**109,600**	**91,500**	**52,600**
Capital Cost in US$×10³							
Total	**905**	**5,933**	**52,351**	**31,156**	**16,040**	**13,390**	**7,700**

13.2 The Xiushuihe Mine

Historical and forecast capital costs for the Xiushuihe Mine are shown in Table 13.2 for the period from 2006 to 2011. The mine capital costs consist of waste stripping cost. Costs for mining equipment are the responsibility of mining contractors. It can be seen that mining capital investment for the Xiushuihe Mine is much lower than that for the Baicao Mine as the strip ratio for the final Xiushuihe open pit is much lower than that for the final Baicao open pit. The total concentrator capital cost of approximately RMB196.8 Million (US$28.8 million) from 2009 to 2010 is for the upgrading of the two existing concentrators and construction of a new concentrator with a production capacity of 300,000 tpa of iron concentrates and related supporting facilities. The total exploration cost and mining license acquisition cost of approximately RMB[●] million (US$[●] million) from the second half of 2009 to 2011 represents the cost of exploration and resource acquisition in the Xiushuihe Mine expansion area.

Table 13.2
Historical and Forecast Capital Costs for the Xiushuihe Mine, 2006-2011

(The Company's attributable share of the following capital cost for the Xiushuihe Mine is 86.0%.)

	Historical				Forecast		
Item	**2006**	**2007**	**2008**	**2009 Jan-Jun**	**2009 Jul-Dec**	**2010**	**2011**
Capital Cost in RMB×10³							
Mine	978	5,799	10,965	4,838	13,100	15,200	17,900
Concentrator	—	66,560	500	2,380	27,600	166,800	—
Admin	—	—	—	—	—	—	—
Tailings	—	—	—	—	—	—	—
Exploration	—	—	—	—	6,000	14,000	—
Land	—	—	17,868	2,821	—	—	—
Closing	—	—	—		—	—	—
Property Acquisition	—	9,165	42,666	500	6,500	—	93,000
Total	**978**	**81,525**	**71,998**	**10,540**	**53,200**	**196,000**	**110,900**
Capital Cost in US$×10³							
Total	**143**	**11,936**	**10,542**	**1,543**	**7,800**	**28,690**	**16,240**

13.3 The Pellet Plant

Historical capital costs for the pellet plant are shown in Table 13.3 for the period from 2005 to 2008. The pelletizing capital costs reflect the very simple technology of the plant. No capital costs are forecasted as the Company currently has no plan for any plant upgrade or modification.

Table 13.3
Historical and Forecast Capital Costs for the Pellet Plant, 2005-2011

(The Company's attributable share of the following capital costs for the pellet plant is 90.5%.)

	Historical					Forecast		
Item	2005	2006	2007	2008	2009 Jan-Jun	2009 Jul-Dec	2010	2011
Capital Cost in RMB×103								
Pelletizing	47,363	850	13,886	4,993	—	—	—	—
Admin	—	—	—	—	—	—	—	—
Land	—	—	—	5,270	—	—	—	—
Total	**47,363**	**850**	**13,886**	**10,263**	—	—	—	—
Capital Cost in US$×103								
Total	**6,934**	**125**	**2,033**	**1,503**	—	—	—	—

13.4 Discussion

BDASIA notes that no sustaining capital was budgeted in the forecast capital expenditures and suggests that equipment replacement costs of approximately 2% of the total equipment costs for the concentrator and pellet plant be budgeted for each year following the completion of the construction.

14.0 ENVIRONMENTAL MANAGEMENT

The Baicao and Xiushuihe Mines as well as the pellet plant have all had Environmental Impact Statements approved and subsequently obtained environmental permits from the Huili County Environment Protection Bureau ("EPB"), for mining and processing activities at current production levels. The Baicao Mine Environment Permit is valid to January 2010, the Xiushuihe Mine Environment Permit is valid until May 2010, and the pellet plant Environment Permit is valid until January 2010. These permits are extendable at the expiration of their period of validity. Environmental measures to be implemented at the upgraded operations comprise:

- Dust mitigation: including the use of dust collectors, exhaust fans, water sprays and enclosure of dust generating activity. Personal protection devices ("PPE") to provide additional personal protection from dust are also provided to workers. Use of water trucks and wet drilling procedures reduce dust generated from mining and drilling activities;
- Waste water treatment: the sites are being designed as zero discharge sites, with an expectation of recycling up to 85% of used water in processing. Used water (including tailings effluent) is being recycled to the process plants for use in mineral processing or is used for dust suppression. Top up and domestic water is taken from nearby springs and streams, which can provide a good supply;
- Solid waste: a small amount of waste rock from the open pits is used for construction purposes, but mostly it is placed in the waste rock dumps. Tailings from the processing plants are stored in engineered tailings storage facilities ("TSF", Tables 14.1 and 14.2);

- Noise control: methods of noise control include use of silencers, noise and vibration dampening and absorbing materials, isolation and enclosure of noisy equipment, and regular equipment maintenance. Company policy requires PPE use, such as ear muffs or ear plugs, for noise-affected workers;
- Environmental monitoring: the mines undertake schedules for regular noise, water and air quality monitoring. Monitoring results are regularly submitted to the County EPB; and
- Rehabilitation: a rehabilitation and re-planting program for disturbed areas and for forest replacement is ongoing. TSFs and waste rock dumps are to be properly rehabilitated upon mine closure.

Table 14.1
Tailings Storage Facility of the Baicao Mine

Design Capacity and Estimated life	Comments
The TSF is constructed to meet the requirements of the concentrator over its designed mine life (at least 18 years remaining), with a capacity of approximately 8.6 Mm^3 still available.	The TSF is constructed in the valley adjacent to the concentrator site. Tailings are gravity fed to the TSF from the process plant at a density of 50% solids (by weight), and the supernatant water, together with rainwater, returned to the process plant for recycling. The TSF emplacement is designed with a 1 in 500 year flood design factor. This includes an underdrain, connected to several downpipes, which will permanently drain the emplacement. The TSF is designed to accommodate a local seismic risk factor of 7 (on the Chinese Richter scale equivalent). The TSF will be topsoiled and grassed upon closure.

Table 14.2
Tailings Storage Facility of the Xiushuihe Mine

Design Capacity and Estimated life	Comments
The TSF has been constructed to meet the requirements of the concentrators over a 3.5 year period at the expanded production rate, with a capacity of approximately 3.11 Mm^3 still available.	The TSF has been constructed in a valley adjacent to the concentrator site and will provide storage of tailings over a period of approximately 3.5 years, after which one of several available sites nearby will be utilized for ongoing storage. Tailings are gravity fed to the TSF from the process plant at a density of 50% solids (by weight), and the supernatant water, together with any collected rainwater, returned to the process plant for recycling. The TSF emplacement is designed with a 1 in 100 year flood design factor, which includes the provision of a clean water diversion channel, and an underdrain, connected to several downpipes, which will permanently drain the emplacement. The TSF is designed to accommodate a local seismic risk factor of 7 (on the Chinese Richter scale equivalent). The TSF will be topsoiled and grassed upon closure. An old TSF is located next to the concentrator, which contains a small amount of tailings that may be reprocessed at some future time. If they are not reprocessed, the site will be rehabilitated.

15.0 OCCUPATIONAL HEALTH AND SAFETY

The Company implements a corporate safety policy which incorporates national safety standards and applies to contractors as well as to company employees. Safety permits are the responsibility of the mining contractor; however, the Company holds current permits for the safety of the TSFs.

The Company conducts its operations in accordance with the relevant national laws and regulations covering occupational health and safety ("OH&S") in mining, production, blasting and explosives handling, mineral processing, TSF design, environmental noise, emergency response, construction, fire protection and fire extinguishment, sanitary provision, power provision, labor and supervision. Regular reports are submitted to the County Safety Bureau, who also conducts random inspections, as required by law.

BDASIA has confirmed with the Company that no fatality has been recorded at either Baicao or Xiushuihe or the pellet plant during the period of the Company's ownership and management.

16.0 RISK ANALYSIS

When compared with many industrial and commercial operations, mining is a relatively high risk business. Each orebody is unique. The nature of the orebody, the occurrence and grade of the ore, and its behavior during mining and processing can never be wholly predicted.

Estimations of the tonnes, grade and overall metal content of a deposit are not precise calculations but are based on interpretation and on samples from drilling or channel sampling, which, even at close sample spacing, remain very small samples of the whole orebody. There is always a potential error in the projection of sampling data when estimating the tonnes and grade of the surrounding rock, and significant variations may occur. Reconciliations of past production and ore reserves can confirm the reasonableness of past estimates but cannot categorically confirm the accuracy of future predictions.

Estimations of project capital and operating costs are rarely more accurate than ±10% and will be at least ±15% for projects in the planning stages. Mining project revenues are subject to variations in metal prices and exchange rates, though some of this uncertainty can be removed with hedging programs and long-term contracts.

The Company's two iron mining projects reviewed in this report have been in operation for a number of years and the risks are reduced by the knowledge and experience gained from the ongoing operations. The second half 2009-2011 projections are largely based on recent production and planned upgrading. Forecast cost parameters are considered generally reasonable.

In reviewing the Company's two mining properties, BDASIA has considered areas where there is perceived technical risk to the operation, particularly where the risk component could materially impact the projected production and resulting cashflows. The assessment is necessarily subjective and qualitative. Risk has been classified as low, moderate, or high based on the following definitions:

- High Risk: the factor poses an immediate danger of a failure, which if uncorrected, could have a material impact (>15%) on the project cash flow and performance and could potentially lead to project failure.
- Moderate Risk: the factor, if uncorrected, could have a significant impact (>10%) on the project cash flow and performance unless mitigated by some corrective action.

- Low Risk: the factor, if uncorrected, could have little or no effect on project cash flow and performance.

Risk Component	Comments
Mineral Resources *Low to Moderate Risk*	The layered mafic-ultramafic intrusive-hosted vanadium-bearing titanomagnetite mineralization at the Baicao and Xiushuihe Mines generally consists of large stratiform or lenticular mineralized bodies of hundreds to thousands of meters in dimension along the strike and dip directions and with good continuity in both grade and thickness. However, these mineralized bodies have been offset and/or interrupted by post-mineral faulting and igneous activities. BDASIA considers that these mineralized bodies have generally been defined by reasonably close-spaced drilling and surface trenching. But further drilling will be needed to increase the geological confidence level of the mineralization in the down-dip direction, especially for the Baicao Mine. Resource estimation for the two deposits followed set processes and procedures which in general have been diligently carried out. The Measured and Indicated category resources are based on drill hole and surface trenching sampling at a maximum spacing of 100 m × 100 m or 100 m × 200 m, respectively; there was generally no extrapolation from any data point for the Measured and Indicated mineral resources. The Inferred category resources were also reasonably estimated by limited extrapolation from the Measured and Indicated resource blocks or based on sampling data spaced more than 200 m apart.
Ore Reserves *Low to Moderate Risk*	The Proved and Probable ore reserves for the Baicao and Xiushuihe Mines were estimated from the higher-grade Measured and Indicated mineral resources within the designed final open pit limits. Although historical reconciliation data is not available to calculate actual mining dilution factor and mining recovery factor, BDASIA considers that the mining dilution factor and mining recovery factor used for mine planning are reasonable for the type of deposit. Final pit design was based on a manual method and it might not be optimized. BDASIA believes that a computerized pit optimization and final pit design should further improve the economics and lower any risk at the projects.
Open Pit Mining *Low Risk*	At both mines all mining is done by a contractor with relatively small equipment, which can readily be augmented as required. Mining operations are ongoing and pit planning for the future has been done competently. No significant problems are foreseen by BDASIA.

Risk Component	Comments
Concentrating *Low Risk*	Both Baicao and Xiushuihe ores are amenable to concentration and upgrading by conventional and widely used separation methods. These methods are magnetic and sulfide flotation. The future results are in line with the past production parameters. Also, ore samples from the two mines were competently tested recently and the obtained results were well within achievable boundaries. Therefore, there is minimal, if any, risk that the anticipated metallurgical results cannot be obtained provided that the ore characteristics remain unchanged.
Pelletizing *Low to Moderate Risk*	The present plant as it now stands represents a low risk operation as it is mechanically simple, has more than adequate capacity to meet required production levels, does not require the use of skilled operators and is easy to maintain. The main risk is that it has a comparatively high operating cost that cannot be readily diminished, without major capital expenditures in order to implement changes to its design and flowsheet. Also, because of the extreme titanium content of its pellets, its product sales can only be made into a very restricted marketplace. A further risk is that the plant operations are dependent on trucking operations, which, should these be disrupted, plant output will inevitably be lessened.
Infrastructure *Low to Moderate Risk*	Sufficient electricity is generally available for mine production at the Huili County. Access roads are rugged near the mines but the Company has plans to upgrade them now or in the near future. Water supply is generally sufficient but could be a problem at the end of the dry season in April and early May. To overcome the water shortage problem at the end of the dry season, a reservoir is being constructed for the Baicao Mine; lower production levels with scheduled maintenance work have been planned in April and early May for the Xiushuihe Mine.
Production Targets *Low to Moderate Risk*	The increased mine tonnage can readily be achieved by the addition of additional drilling, loading and hauling units by the mine contractor. The mine head grade should also not be a problem because of the good continuity and uniformity of the orebodies, provided that the current good ore control practices are continued. Both Baicao and Xiushuihe processing facilities will meet production targets provided that the waste stripping is carried out as planned for the Baicao Mine and construction of new concentrators and upgrading of existing concentrators are completed on schedule.

Risk Component	Comments
Operating Cost *Low to Moderate Risk*	Forecast mine costs from the second half of 2009 to 2011 at both mines are based on a new contract. The operating cost for concentrating will depend on the prices of supplies, power and materials. Consideration has been given to inflation in the forecast costs from the second half of 2009 to 2011. Forecast unit G&A and other cost is lower than the historical numbers as planned production increase will reduce the unit cost as the total G&A and other costs will not increase as much proportionally as the production.
Capital Cost *Low Risk*	Because the contract miner is responsible for any required increases in mining equipment, the only capital needed by the Company is for capitalized stripping. Since both the amount and the unit cost of the stripping are known, the chance of a cost overrun is low. Most of the processing facilities are nearing completion and major equipment has already been purchased. Therefore, the risk for cost overrun is low. BDASIA notes that no sustaining capital was budgeted in the forecast capital expenditures and suggests that equipment replacement costs of approximately 2% of the total equipment costs for the concentrator are budgeted for each year following the completion of the construction.
Environment *Low Risk*	Mitigation measures are being put in place to ensure environmental risks are minimized and regulatory environmental requirements are satisfied. The TSFs are designed to withstand potential flood and seismic impact. An Environmental Management Program is being implemented.
Occupational Health and Safety *Low Risk*	The Company seeks to conduct its operations in accordance with national safety regulations and has a Safety Management system in place. The two mines have maintained a good safety record for their employees over the period 2006-2008.