Competent Person's Report Update of Zhuangpeng Dolomite Project in Linfen City, Shanxi Province, P.R. China

Report prepared for

Jade Road Investments Limited

Prepared by

srk consulting

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For

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Executive Summary

Jade Road Investments Limited ("Jade Road", the "Company" or the "Client") commissioned SRK Consulting China Limited ("SRK") to undertake an independent review on all relevant technical aspects of the Zhuangpeng Dolomite Project ("Zhuangpeng Project" or "the Project"), which is located in Linfen City, Shanxi Province, the People's Republic of China ("P.R. China"). SRK conducted an independent technical report on the Project in March 2014 and March 2018, and this report is an updated report in accordance with the requirements of the Australasian Joint Ore Reserves Committee Code 2012 Edition ("JORC Code 2012"). It is understood that the SRK Competent Person's Report update (the "Report") is proposed to provide the Company and its potential investors and possible future shareholders with a review of the Project's operation.

Summary of Principal Objectives

The principal objective of this Report is to provide the Company and its potential investors and possible future shareholders an unbiased technical assessment of the risks and opportunities associated with the Project.

Outline of Work Program

The work program for this report consisted of a review of data provided and a virtual site inspection from January to February 2021, due to the Covid-19 travel restriction.

SRK has previously undertaken the following:

- site visits in September 2011, September 2012, June 2013, March 2014 and January 2018;
- virtual site inspection in January 2021 by the clients under SRK's guidelines and requirements;
- discussions with Company personnel and the relevant geological mining professionals and consultants who conducted the geological exploration and feasibility study;
- Quality Assurance and Quality Control ("QA/ QC") supervision for the Zhuangpeng Mine between October 2011 and May 2012;
- Mineral Resource and Ore Reserves and estimation of the mine in January 2012; and
- analysis of the data provided by the Company and generated by SRK.

Results

Overall

The Project is located approximately 40 kilometres ("km") east of Xi County, 90km northwest of Linfen City, or 220km southwest of Taiyuan, the capital city of Shanxi Province, P.R. China. The Zhuangpeng Mine is an open pit dolomite mine. The Zhuangpeng mining license covers an area of 2.3063 square kilometres ("km^2") and allows a mining capacity of 0.3million tonnes per year ("Mtpa") ore/ dolomite. The designed capacity is 3Mtpa. The Company plans to crush all the mined dolomite ore and sell it as raw material for dolomite smelting and building stone. The stripped wall rocks (waste rock) will also be sold as building stone. A production line with a capacity of 0.3Mtpa ore has been running on the mine site. The properties are relatively easy to access from Linfeng City or Xi County.

The Zhuangpeng dolomite deposit is situated in the southern part of the Lvliang uplift, which is part of the Sino-Korean paraplatform. This region is dominated by Palaeozoic sedimentary rocks with less developed

faults and no magmatic activity. The deposit is hosted in the upper Cambrian-lower Ordovician Sanshanzi Formation, strikes nearly north-south and dips to the east with dip angles varying from 6° to 8°.
Under SRK's supervision, two mineralised bodies (No. 1 and No. 2) were defined by the No. 3 Geological Exploration Institute of the Chinese Metallurgical Geology Bureau ("No. 3 Geological Institute") in the Zhuangpeng dolomite deposit.

Mineral Resources within the license area were estimated in compliance with the Australasian Code of Reporting of Exploration Results, Mineral Resources, and Ore Reserves, 2012 Edition (the "JORC Code (2012)"). As of 31 December 2020, at a cut-off grade of 19% dolomite oxide ("MgO"), within the mining license area, the JORC Code Compliant Measured, Indicated and Inferred Mineral Resources of the Zhuangpeng Mine were 35.95 million tonnes ("Mt") with an average grade of 20.74% MgO; 81.40Mt with an average grade of 20.48% MgO; and 31.81Mt with an average grade of 20.61% MgO, respectively.

A side-hill open pit is adopted above level of 1,548m ASL, and a trough open pit is planned to be used below 1,548m. Mining and stripping operations are planned to be carried out via a process of conventional contract mining; rotary drilling, blasting, loading by excavator, and dump truck transportation. The estimated ore loss rate and dilution rate are both 5% respectively.

The feasibility study submitted by the Xi'an Nonferrous Metallurgy Design and Research Institute ("Xi'an NMDRI") planned a 3Mtpa capacity for mining and processing. The process includes crushing and screening. About 92% of the stripped wall-rocks will be sold as building stone, the rest will be discarded.

All mined dolomite ore will be crushed and screened with 80% of it to be sold mainly as raw material for dolomite smelting, with the rest sold as building stone. The dolomite content in Zhuangpeng dolomite ore is around 20% MgO and the mole ratio of dolomite oxide ("MgO") to calcium oxide ("CaO") ranges from 1.035 to 1.065, indicating that the ore is suitable for dolomite smelting by a silicothermic processes, such as the Pidgeon process.

According to the Zhuangpeng mine operation in recent years, SRK believes that the product market and sales are the main factors restricting the Zhuangpeng project to achieve its economic goals. The Company should aim to develop product market and strengthen product sales.

SRK recommends that more technical personnel will be needed to support smooth development of the Project when the mining rates are significantly increased to 3Mtpa ore.

The Project economic analysis was conducted using the discounted cash flow ("DCF") method. Based on assumptions of technical and economic parameters from the feasibility study with some adjustments by SRK, at a discount rate of 9%, the net present value ("NPV") is 487.47 M'CNY in a 40-year life of mine including a two-year construction period and the Project's internal rate of return ("IRR") is 28.55%.

Based on the review of the information provided and the site visit observations, it is SRK's opinion that the environmental risks for this project are generally being managed in accordance with Chinese national requirements.

Operational Licences and Permits

The following Table EX-1 summarises the status of the key operational licences and permits for the Zhuangpeng Project.

Table EX-1: Licenses and Permits of Zhuangpeng Project

Project	Business License	Mining License	Safety Production Permit	Land Use Permit	Water Use Permit	Site Discharge Permit*
Zhuangpeng Mine (300,000tpa)	Y	Y	Y	Y*	Y	Y

Notes: "Y" denotes that the licence/permit has been granted/signed and has been sighted by SRK; and * denotes that some land use rights were obtained through temporary land use arrangements.

Geology and Mineralogy

Geologically, the project area is situated in the south of the Lvliang uplift, which is part of the Sino-Korean paraplatform. This region is dominated by Palaeozoic sedimentary rocks with less developed faults and no magmatic activity. The Zhuangpeng dolomite deposits are hosted in the Upper to Lower Ordovician Sanshanzi Formation, which strikes nearly north-south and dips to the east with dip angles varying from 6° to 8°.

Under SRK's supervision, two mineralised zones (No. 1 and No. 2) were defined by the No. 3 Geological Institute in Zhuangpeng Mine. The No. 1 mineralised zone is approximately 1,640m long and extends 867m deep with an average thickness of 20m. The average grade of MgO is 20.32%. The No. 2 mineralised zone is over 2,000m long and extends 1,040m deep with an average thickness of 33m. The average grade of MgO is 20.60%.

The main ore mineral is dolomite. Gangue minerals include ferric oxide and some clay minerals. No associated recyclable component was detected in the ore, and the harmful elements include potassium oxide ("K_2O") with an average grade of 0.23%, sodium oxide ("Na_2O") with an average grade of 0.03%, silicon dioxide ("SiO_2") with an average grade of 2.30%, ferric oxide ("Fe_2O_3") with an average grade of 0.24%, aluminium oxide ("Al_2O_3") with an average grade of 0.34%, manganese oxide ("Mn_3O_4") with an average grade of 0.011%, sulphur ("S") with an average grade of 0.032%, and phosphorus ("P") with an average grade of 0.002%. SRK opines that the harmful elements and minerals identified within the mineralised zones will not materially affect the saleability of the dolomite produced at the mine or adversely impact the environment.

Mineral Resource Estimation

Under the supervision of SRK, the surface trenching and drilling programs, sampling methodologies, sample preparation, analytical procedure and quality assurance and quality control ("QA/ QC") for these programs were conducted by Chinese geological exploration institutes from October 2011 to May 2012. The surface drillings were conducted according to the basic Chinese Drilling Standard at the average whole core recovery rate of 94.41% and an average mineralised core recovery rate of 95.76%. The results for standards fall within control limits with no indication of systematic assaying problems in total MgO value. Overall, the majority of relative differences in MgO between the original results and coarse reject and pulp duplicate results are within 10%, which indicates that sample results assayed by the assaying laboratories associated with Chinese geological exploration institutes were reliable and acceptable for resource estimate.

It is the opinion of SRK that the No. 3 Geological Institute followed the QA/ QC procedures as proposed by SRK. The performances of sample blanks, coarse rejects, pulp duplicates, and laboratory internal and external checks showed acceptable assay results. Therefore, SRK has confidence in the geological database obtained during the exploration program and is satisfied that that the primary sample results are sufficiently reliable for use in resource estimation and in compliance with the JORC Code (2012).

All the available data was input into Surpac (version 6.1) ("Surpac") software for the estimation procedure. The database was validated within Surpac to search for errors such as missing or overlapping intervals, and to correct hole and trench lengths, azimuths and dips, and to eliminate duplicated samples. The Mineral Resource database comprises 48 boreholes/ trenches with a total depth of 6,176m and 1,779 samples with their assay results. The following Table EX-2 lists a summary of estimated Mineral Resources as of 31 December 2020 using an MgO cut-off grade of 19% for the Zhuangpeng Mine.

Table EX-2: Mineral Resources of Zhuangpeng Project, as of 31 December 2020

Category	Tonnage (Mt)	Grade (MgO %)
Measured	35.95	20.74
Indicated	81.40	20.48
Measured + Indicated	**117.35**	**20.56**
Inferred	31.81	20.61

Note:

1 All figures are rounded to the second significant figure to reflect the relative accuracy of the estimate; and

2 The information in this report which relates to Mineral Resources is based on information compiled by Mr Yuanjian Zhu and Dr Yiefei Jia, full time employees of SRK Consulting China Ltd and Member or Fellow of the Australasian Institute of Mining and Metallurgy. They have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the JORC Code. Mr Zhu and Dr Jia consent to the reporting of this information in the form and context in which it appears.

Exploration Potential

In SRK's opinion, the strata, structure and mineralised zones of the Zhuangpeng dolomite mine have been well investigated and studied. As the mining area is recognised as a beneficial environment for karst development, SRK recommends conducting an in-fill drilling program to verify and upgrade the Indicated Resources and Inferred Resources.

Ore Reserve and Mining Assessment

The Ore Reserves for the Zhuangpeng Mine were estimated based on the in-situ cut-off grade of 19% MgO, an average ore recovery rate of 95%, an average dilution rate of 5% and the open pit limit and other modifying factors in Xi'an NMDRI's feasibility study report. As of 31 December 2020, the Proved and Probable Reserves at the Zhuangpeng Mine are presented in the Table EX-3 below.

Table EX-3: Ore Reserves of Zhuangpeng Project, as of 31 December 2020

Category	Tonnage (Mt)	Grade (MgO %)
Proved	34.89	19.70
Probable	78.51	19.47
Total	**113.40**	**19.54**

Note:

1 All figures are rounded to the second significant figure to reflect the relative accuracy of the estimate; and

2 The information in this report which relates to Ore Reserves is based on information compiled by Mr Yongang Wu and Mr Qiuji Huang, full-time employee of SRK Consulting China Ltd and Member or Fellow of the Australasian Institute of Mining and Metallurgy. They have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "JORC Code". Mr Wu and Mr Huang consent to the reporting of this information in the form and context in which it appears.

The feasibility study by Xi'an NMDRI designates the No. 1 and No. 2 mineralized bodies as the open pit mining target, with a mining capacity of 3 Mtpa. The life of mine is estimated at 40 years. The open pit limit is optimised in the feasibility study, which defines a side-hill open pit with mining elevations between levels of 1,764mASL and 1,500m ASL and a trough open pit below level 1,548m ASL. The average stripping ratio is 1.55tonnes of waste rock per tonne of ore ("t/ t"). Other main parameters are as follows:

- Bench height: 12m;
- Combined bench height: 24m;
- Bench face angle: 66°;

- Overall slope angle: 45°;
- Cleaning berm width: 15m; and
- Ramp width: 12m.

A vehicle-access road is planned to be built, advancing as the open pit proceeds. Mining and stripping operations are planned to be carried out via a process of drilling, blasting and loading with excavator, and hauling with dump truck.

SRK reviewed Xi'an NMDRI's feasibility study and concluded that, due to the relatively simple mining conditions and selected mining method, the feasibility study meets the requirement for the initial stage of mine development. SRK recommends that an advanced mine design, i.e., a Definitive Feasibility Study ("DFS") should be made prior to large-scale mine development and exploitation.

Ore Processing

The MgO grade of Zhuangpeng dolomite ore is about 20% and the mole ratio of MgO to CaO is about 1.05, indicating that the ore is a suitable feed material for producing magnesium metal. A simple processing line with a crushing capacity of 300,000tpa to produce building stone and raw material for dolomite smelting has been installed at the mine site. The processing line includes two stages of crushing and one stage of classification via vibrating screen. Zhuangpeng currently has the mining capacity and the processing capacity of 300,000tpa, which represents its annual production capacity of dolomite rocks (excluding the stripped wall-rocks) under normal operating conditions.

The Company initially planned to expand its mining and processing capacity to 3Mtpa during 2018 and 2019. About 80% of the crushed ore (qualified dolomite) would be sold as raw material for magnesium smelting. The rest (unqualified dolomite) is unsuitable for magnesium smelting and will be sold as building stone. About 92% of the stripped wall-rocks (rock for sale) will be also sold as road construction materials and the remaining 8% wall-rocks (waste rock) are planned to be stored in a waste dump.

The mine has not been expanded its capacity to 3Mtpa, but part of the crushing equipment has been updated and the product warehouse and the mine's environmental protection facilities have been built. The mine's production capacity is still maintained at 300,000tpa. Production was only conducted from June to August 2020.

Occupational Health and Safety

SRK has sighted a simplified occupational health and safety ("OHS") management system/ procedures for the Zhuangpeng Project and has reviewed relevant Project safety assessments and approvals provided by the Company, which include proposed basic OHS management measures. According to the monthly OHS statistics provided by the Company, there have been no injuries or fatalities after the commencement of commercial operations.

Capital Expenditure and Investment

According to the feasibility study, the capital expenditures cover infrastructure construction, the mine development and the ore crushing station. The mine construction and development period to reach the planned 3Mtpa capacity is two years.

The total capital expenditure for the expansion construction is estimated at 286.5 million Renminbi (M'CNY"), which includes 219.1 M'CNY for engineering, 53.8 M'CNY for other expenses and 13.6

M'CNY as a contingency allowance. A further working capital required for the project is forecast at 46.6 M'CNY.

Operating Costs

Major cost inputs to the Project are power, salaries, consumables, factory overhead and administration costs. Consumption of materials is included in calculation of those costs based on prices obtained from suppliers in China. Information regarding salary scales was used to calculate labour costs. Power consumption and costs were based on local standards. The total annual cash operating costs are estimated at 154.4 M'CNY. The costs estimation is detailed in Table EX-4.

Table EX-4: Annual Operating Costs of Zhuangpeng Project

Item	Unit	Value	Annual Cost ('000 CNY)
Stripping	CNY/ t	7.69	53,802
Mining and Crushing	CNY/ t	12.37	37,099
Wall rock transportation on site	CNY/ t	1.50	10,500
Dolomite transportation on site	CNY/ t	1.00	3,000
General and administration	'000 CNY/ year	33,007	33,007
Sales expense	Sales revenue	1%	2,839
Royalty and resource tax		5%	14,195
Financial expense	1,000 CNY/ year	1,959	1,959
Depreciation and amortization	1,000 CNY/ year	19,563	19,563
Total production cost			**175,963**
Cash operating cost			**154,441**

Economic Analysis

The reader is cautioned that the economic analysis herein is provided only to fulfil the requirements of the Ore Reserve statement and should not be misconstrued as representing a valuation of the Project.

The Project economic analysis was conducted using the DCF method and based on assumptions of technical and economic parameters from the feasibility study with some adjustments by SRK. Based on the technical and economic parameters as shown in Table EX-5.

Table EX-5: Economic Assumptions, as of 31 December 2020

Item	Unit	Amount
Ore Reserve		
Proved + Probable Ore Reserves (JORC Code 2012)	Mt	113.40
Production Plan		
Dolomite Production Rate	Mtpa	3.0
Qualified Dolomite Yield	%	80
Unqualified Dolomite Yield	%	20
Saleable Wall Rock Yield	%	92
Construction Period Proposed	year	2
Life of Mine	year	38
Calculation period	year	40
Economy		
Construction Expenditure	M'RMB	286.50
Working Capital	M'RMB	46.64
Sustained Capital (Project Investment Base)	%	2.5
Stripping Cash Operating Cost	RMB /t	7.69
Mining and Crushing Cash Operating Cost	RMB/t	12.37
Dolomite Load and Haul Cost on Site	RMB/t	1.00
Wall Rock Load and Haul Cost on Site	RMB/t	1.50

Depreciation and Amortization	M'RMB/year	19.56
G&A	M'RMB/year	33.01
Financial Expenses	M'RMB/year	1.96
Sales Expenses (Sales Revenue Base)	%	1.00
Price of Qualified Dolomite (including VAT)	RMB/t	75.00
Price of Unqualified Dolomite (including VAT)	RMB/t	20.00
Price of Saleable Wall Rock (including VAT)	RMB/t	20.00
Resource Tax (sales revenue based)	%	5.00
Value-added Tax (VAT)	%	13.00
City Maintenance and Development Tax (payable VAT based)	%	7.00
Educational-surtax and Local Educational-surtax (payable VAT based)	%	5.00
Corporate Tax Rate (grass profit based)	%	25.00
Discount Rate	%	9

At a discount rate of 9%, the NPV is 487.47 M'CNY in a 40-year life of mine including a two-year construction period and the Project's IRR is 28.55%.

The sales price, capital expenditure and cash operating cost are selected as the sensitive variable factors on cash flow. The varying ranges of these essential factors on IRR and NPV variation are analysed within ±20%. The results indicate that the sales price is the most sensitive factor for the Project, followed by operating cost. The construction investment is not a key sensitive factor for the Project. The critical value for the sales price is the current price dropping by 26.0%.

SRK wishes to emphasize that SRK has not conducted any surveys or studies of the market capacity or marketing/ sales methods. The economic analysis presented in this report is based on the data in the feasibility study report, interview with local team of Zhuangpeng Magnesium and a series of assumptions.

Environmental and Social

The following Table EX-6 summarises the status of the environmental assessment and approvals for this project.

Table EX-6: Status of Environmental Assessment and Approvals

Project	Environmental Impact Assessment Report (EIA)	Approval for EIA	Water and Soil Conservation Plan (WSCP)	Approval for WSCP	Final Checking and Acceptance Approval
Zhuangpeng Mine (300,000tpa)	Y	Y	Y	Y	Y

Notes: "Y" denotes that the approval has been granted and has been sighted by SRK.

SRK considers the key environmental risks for the Project are:

- Waste rock stockpiling/ waste rock dump management;
- Land disturbance and issues related to rehabilitation and site closure;
- Soil loss due to stormwater; and
- Land contamination (i.e., due to inadequate hydrocarbon storage and handling).

The above environmental risks are categorised as moderate/ tolerable risks (i.e., requiring risk management measures).

Based on the review of the information provided, it is SRK's opinion that the environmental risks for this Project are generally managed in accordance with Chinese national requirements. The Company indicated

that the environment issues identified above are under consideration and are expected to be resolved in the foreseeable future.

Project Risk Assessment

Mining is relatively high-risk industry. In general, there is an expectation that project risk will decrease from exploration, through development to production stage. The Zhuangpeng Project is a production stage project.

SRK considered various technical aspects which may affect the economic viability and future cash flows able to be derived from the Project and conducted a qualitative risk analysis which has been summarised in Table EX-7. In this risk analysis, various risk sources/ issues have been assessed for likelihood and consequence, and then an overall risk rating has been assigned.

Table EX-7: Risk Assessment for Zhuangpeng Project

Risk Issue	Likelihood	Consequence	Overall
Geology and Resource			
Lack of Significant Resource	Unlikely	Minor	Low
Lack of Significant Reserve	Unlikely	Minor	Low
Significant Unexpected Geological Faulting	Unlikely	Moderate	Low
Significant Unexpected Karst Cave	Possible	Moderate	Medium
Unexpected Groundwater Ingress	Unlikely	Moderate	Low
Mining			
Significant Production Shortfalls	Unlikely	Minor	Low
Production Pumping System Inadequate	Unlikely	Moderate	Low
Excessive Surface Subsidence	Unlikely	Minor	Low
Poor Mine Plan	Unlikely	Moderate	Low
Poor Road Transportation/ safety	Unlikely	Moderate	Low
Processing			
Lower Technical Flowsheet Reliability	Possible	Moderate	Medium
Lower Equipment Reliability	Unlikely	Moderate	Low
Lower Production output	Unlikely	Moderate	Low
Environmental			
Waste Rock Stockpiling/ Waste Rock Dump Impact	Possible	Moderate	Medium
Poor Land Rehabilitation and Site Closure	Possible	Minor	Medium
Poor Stormwater Management.	Likely	Minor	Medium
Land Contamination (i.e., hydrocarbon storage and handling)	Likely	Minor	Medium
Capital and Operating Costs			
Project Timing Delay	Possible	Moderate	Medium
Mine Management Plan	Possible	Minor	Low
Capital Costs- Ongoing	Unlikely	Minor	Low
Operating Cost Underestimated	Possible	Moderate	Medium

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Disclaimer

The opinions expressed in this report have been based on information supplied to SRK Consulting China Ltd ("SRK") by Jade Road Finance Asia Limited ("Jade Road", the "Company", or the "Client"). The opinions in this Report are provided in response to a specific request from Jade Road. SRK has exercised all due care in reviewing the supplied information. While SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them.

Opinions presented in this Report apply to the site's conditions and features as they existed at the time of SRK's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this Report, about which SRK have had no prior knowledge nor had the opportunity to evaluate.

List of Abbreviations

%	Percent
°	Degrees, either of temperature or angle of inclination
ASL	Above sea level
AusIMM	Australasian Institute of Mining and Metallurgy
E	East
EP's	Exploration Permits
g	gram
g/ t	gram per tonne
Feasibility Study	A Feasibility Study is a comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The confidence level of the study will be higher than that of a Pre-Feasibility Study
Indicated Mineral Resource	That part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit
Inferred Mineral Resource	That part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes
JORC Code	Joint Ore Reserves Committee Code
JORC Committee	Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia
K	The chemical symbol for potassium
kg	kilogram, equivalent to 1,000 grams
km	kilometres, equivalent to 1,000 metres
km^2	square kilometres
kV	kilovolts – equivalent 1,000 volts
kW	Kilowatt, equivalent to 1,000 watt
m	Metres
m^2	Square metres
m^3	cubic metres
M	Million
Measured Mineral Resource	That part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit
Mg	The chemical symbol for dolomite
Micron	1/ 1,000 of a millimetre
Mineral Resource	A concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality) and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories

Modifying Factors	Modifying Factors are considerations used to convert Mineral Resources to Ore Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors
MLR	Ministry of Land and Resources
mm	Millimetre/ s
Mt	Million tonne (s)
Mtpa	Million tonnes per annum
MW	Megawatt, equivalent to 1,000,000 watt
Ore Reserve	The economically mineable part of a Measured and/ or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.
PPE	personal protective equipment
ppm	parts per million, equivalent to grams per tonne (g/ t)
PRC	People's Republic of China
Pre-Feasibility Study	A Preliminary Feasibility Study (Pre-Feasibility Study) is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, is established and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of any other relevant factors which are sufficient for a Competent Person, acting reasonably, to determine if all or part of the Mineral Resources may be converted to an Ore Reserve at the time of reporting. A Pre-Feasibility Study is at a lower confidence level than a Feasibility Study.
Probable Ore Reserve	The economically mineable part of an Indicated and in some circumstances Measured, Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and government factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified
Proved Ore Reserves	The economically mineable part of a Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and government factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified
QA/ QC	Quality Assurance/ Quality Control
Qualified Dolomite	That part of mined dolomite rocks, after being crushed and separated, of which the grain size and composition meets the requirement of dolomite smelting using the Pidgeon process.
S	South, also the chemical symbol for sulphur
SE	South East
Stripping Ratio	The ratio of wall rocks or overburden which must be removed to extract dolomite in an open pit operation. For example, a stripping ratio of five means that five tonnes of wall rocks or overburden need to be removed to extract one tonne of dolomite.
t	Tonne
tpa	tonnes per annum
tpd	tonnes per day
Unqualified Dolomite	That part of mined dolomite rocks, after being crushed and separated, of which the grain size and/ or composition fails to meet the requirement of dolomite smelting using the Pidgeon process.
Valmin Code	Code for Technical Assessment and Valuation of Mineral and Petroleum Assets and

	Securities for Independent Expert Reports
Wall Rock	Rocks on the periphery of orebodies
WSCP	Water and Soil Conservation Plan
Ore Reserve	The economically mineable part of a Measured and/ or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.
PPE	personal protective equipment
ppm	parts per million, equivalent to grams per tonne (g/ t)

1 Introduction and Scope of Report

Jade Road Investments Limited ("Jade Road", the "Company" or the "Client") commissioned SRK Consulting China Limited ("SRK") to review the Zhuangpeng Dolomite Project ("Zhuangpeng Project" or "the Project"), which is located in Linfen City, Shanxi Province, the People's Republic of China ("P.R. China"). SRK was required to provide a Competent Person's Report Update ("Report") including reviews of the geology and resources, mining technology, processing and social and environmental issues.

SRK conducted an independent technical review of this Project in March 2014. It is understood that the purpose of this Report was to provide the Company and its potential investors and possible future shareholders to review the Project's operation.

2 Background and Brief

2.1 Background of the Project

The Project and mining permit is currently owned by Linfen Zhuangpeng Magnesium. A copy of the original mining permit is shown in Appendix 1.

The Zhuangpeng Project, including the Zhuangpeng dolomite mine (mining licence No. C1410002010097130074911, valid till 13 March 2023) and one processing plant and other supporting facilities, is wholly owned by Linfen Zhuangpeng Magnesium, a subsidiary company of Jade Road.

3 Program Objectives and Work Program

3.1 Program Objectives

The principal objective of this Report is to provide the Company and its potential investors and possible future shareholders an unbiased technical assessment of the risks and opportunities associated with the Zhuangpeng Project's operation.

3.2 Reporting Standard

This Report has also been prepared to the standard of a Technical Assessment Report under the guidelines of the Australasian Code for Public Reporting of Technical Assessment and Valuation of Mineral Assets ("Valmin Code (2015)"). The Valmin Code is the code adopted by the Australasian Institute of Mining and Metallurgy ("AusIMM") and incorporates the Joint Ore Reserves Committee ("JORC") Code for the reporting of Mineral Resources and Ore Reserves. The standard is binding upon all AusIMM members.

This Report is not a valuation report and does not express an opinion as to the value of mineral asset. Aspects reviewed in this Report do include product prices, capital and operating costs, economic analysis, socio-political issues and environmental considerations; however, SRK does not express an opinion regarding the specific value of the assets and tenement involved.

3.3 Limitations Statement

SRK is not professionally qualified to opine upon and/ or confirm that Jade Road has 85% ownership of its subsidiary company, Linfen Zhuangpeng Magnesium, and that the subsidiary company has 100% control of the underlying tenement and/ or has any unresolved legal matters relating to any transfer of ownership or associated fees and royalties.

Assessing the legal tenure and processing rights to prospects of Jade Road and its subsidiary company are the responsibility of legal due diligence conducted by entities other than SRK.

3.4 Work Program

The work program for this report consisted of a review of data provided and a virtual site (due to Covid-19 travel restrictions at the time) inspection from January to Bebruary 2021 by the clients under SRK's guidelines and requirement.

SRK has previously undertaken the following

- site visits in September 2011, September 2012, June 2013, March 2014 and January 2018;
- discussions with Company personnel and the relevant geological and mining professionals and consultants who conducted the geological exploration and feasibility study;
- Quality Assurance and Quality Control ("QA/ QC") supervision for the Zhuangpeng Mine between October 2011 and May 2012;
- Mineral Resource and Ore Reserve modelling and estimation of this mine in August and September 2012; and
- analysis of the data provided by the Company and generated by SRK.

3.5 Project Team

The SRK project team, their titles, and their responsibilities within this Report are shown in Table 3-1 below.

Table 3-1: SRK Project Team

Consultant	Title	Discipline and Task
Dr Yiefei Jia	Principal Consultant (Geology)	Geology and Resources, Reporting
Yuanjian Zhu	Senior Consultant (Geology)	Geology and Resources
Lanliang Niu	Principal Consultant (Processing)	Processing and Product Quality
Quiji Huang	Principal Consultant (Mining)	Mining Assessment
Yonggang Wu	Principal Consultant (Mining)	Ore Reserve Estimate
Dr Yuanhai Li	Senior Consultant (Geo-Environmental)	Environment, Permits and Approvals
Qiong Wu	Senior BD Supervisor	Project Coordination
Dr Anson Xu	Principal Consultant (Geology)	Internal Peer Review
Alexander Thin	Principal Consultant (Mining/Project Evaluations)	External Peer Review

Yiefei Jia, *PhD, FAusIMM (CP),* is a Principal Consultant (Geology) with a specialty in exploration of mineral deposits. He has more than 25 years' experience in the fields of exploration, development, and resource estimate of precious metals (gold, silver, and PGE) and base metals (lead, zinc, copper, vanadium, titanium, and iron), as well as other metal deposits in various geological settings in North America, Australia and China. He also has five years of experience in coal deposits exploration and due diligence in China, Indonesia and Mongolia. He has extensive experience in project management, exploration design and resources assessment and *has coordinated a number of due diligence projects with technical reports either*

for fund raising or overseas stock listings such as on HKEx. Dr Jia was the project manager of this project and the Competent Person (CP) who takes overall responsibility for this report.

Yuanjian Zhu, *M.Sc,* is Principal Consultant (Geology). He earned a master's degree in Geology from the Institute of Geology and Geophysics at the Chinese Academy of Sciences in 2008. He also holds a bachelor's degree in Geology from Peking University. He has been involved in the oil gas profile national investigation project and was a technical leader in a mining company where he was in charge of resource explorations and due diligence reviews for new projects. He has extensive exploration experience in epithermal Au, Ag, Sb, Pb and Zn deposits as well as Cu and Fe deposits. He has expertise in geological modelling, resource/ reserve reconciliation and geo-statistical theory and software (GS+, ArcGIS, Grapher, etc.). Yuanjian is proficient with geological and digital graphic processing software such as MapGIS, AutoCAD, CorelDraw, Surfer, Photoshop, and many others. *Yuanjian assisted Dr Jia in completing the geological QA/ QC and resource estimate.*

Huang Qiuji, *B.Eng., MAusIMM,* is a Principal Mining Engineer with SRK Consulting China, who graduated from Central South University of Mining and Metallurgy in 1982. He was previously a mining director for several gold mines in the southwest region of China. He later joined the Gold Administration Bureau of Guangxi province in charge of the supervision and direction of mine construction mine planning and mining technology development. Mr Huang is an expert on mine construction, mining technology, mine production and mine planning. *He was the CP with respect to the mining review.*

Yonggang Wu, Wu, *M.Eng., MAusIMM,* is a Principle Consultant (Mining). He joined SRK after graduation from Jiangxi University of Science and Technology in 2007. He has acquired specialized knowledge of mining engineering and MineSight software and has been involved in a large number of projects to date. Minerals involved include Au, Pb, Zn, Mn, Cu, Fe, fluorite, potassium salts, alum, phosphorus, and many more. He has accumulated extensive experience in resource/reserve estimation, pit limit optimization and design, underground mining design, long-term production planning, and due diligence studies. Yonggang has expertise in geological and mining modelling and is proficient in using MineSight, AutoCAD, and other specialized software packages. *Yonggnag assisted Mr. Huang in completing the reserve modelling and estimate.*

Lanliang Niu, *B.Eng, MAusIMM,* is a Senior Mineral Processing Engineer, who graduated in 1987 from Beijing University of Science and Technology with a degree in ore processing. He has worked on the industrial testing of gold leaching with low grade ores, and managed or participated in processing and metallurgical testing for more than 10 precious and non-ferrous metals projects. SRK, he has been responsible for ore processing and metallurgical scopes of work and involved in many key projects *He was the CP with respect to the metallurgical and processing review and economic analysis.*

Yuanhai Li, *Ph.D, MAusIMM,* is a Senior Consultant (Environmental) with SRK Consulting China, an environmental scientist with 11 years' experience in environmental management for the hazardous waste treatment industries. This experience has been gained mainly from within the United States and China. He has particular expertise in environmental due diligence reviews, phase II/ III site investigations, environmental impact assessments, wetland and landfill rehabilitation, and environmental risk assessment. In addition, he has extensive experience in environmental engineering with a thorough knowledge of various environmental hazardous waste/ solid waste issues, including contaminated site assessment, landfill closures/ brownfield redevelopment, and contaminated site remedial designs. He also has a deep understanding of water/ wastewater treatment design, water distribution systems, storm water management systems, geographic information systems (GIS), and geotechnical issues through various projects. Furthermore, he is also experienced in AutoCAD/ Microstation, ArcGIS, and GMS. *Dr Li was responsible for the review of environmental issues.*

Dr Anson Xu, *PhD, FAusIMM,* is a corporate consultant with a specialty in exploration of mineral deposits. He has more than 25 years' experience in exploration and development of various types of mineral deposits including copper-nickel sulphide deposits related to ultrabasic rocks, tungsten and tin deposits, diamond deposits, and in particular, various types of gold deposits, such as vein-type, fracture-breccia zone type, alteration type, and Carlin type deposits. He was responsible for the resource estimates of several diamond

deposits, and reviews of resource estimates of several gold deposits. He has recently completed several due diligence jobs for clients in China, including gold, silver, lead-zinc, iron, bauxite, and copper projects, and several technical review projects, as well as technical reports for listing on HKEx. *Dr Xu provided internal peer review to ensure the quality control of the report.*

Alexander Thin, *BEng (Hons)(Mining), GDE, FAusIMM, FIMMM, FSAIMM,* is a Principal Consultant (Mining and Project Evaluations) with SRK Australasia. Alexander (Alex) is an experienced mining professional, with over 30 years' experience growing businesses across Africa and Australasia (Australia, Papua New Guinea, Solomon Island and Fiji), from start-ups to corporates and multinationals – listed and unlisted. His strategy and leadership experience spans feasibility studies, mineral asset audits and valuations, independent technical reports, techno-economic studies, capital raising, mergers and acquisitions, managing joint ventures, research and development, local and international stock exchange compliance, business development, company promotion, and investor/stakeholder relations. Alex's industry experience spans operational (underground and open pit), technical, consulting and corporate within the metalliferous resources sector, covering precious metals, base metals and bulk commodities. *Alex provided external peer review to ensure the quality the report meets the required standard.*

3.6 Statement of SRK's Independence

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

SRK's fee for completing this Report is based on its normal professional daily rates plus reimbursement of incidental expenses. Payment of that professional fee is not contingent upon the outcome of the Report.

None of SRK or any authors of this report have any direct or indirect interest in any assets which had been acquired, or disposed of by, or leased to any member of the Company or any of the Company or any of its subsidiaries within the two years immediately preceding the issue of this transaction.

3.7 Representation

Jade Road has represented to SRK that full disclosure has been made of all material information and that, to the best of its knowledge and understanding, such information is complete, accurate and true. SRK has no reason to doubt this representation.

3.8 Consent

SRK consents to this Report being included in full to provide Jade Road, its potential investors and possible future shareholders to review the Project's operation, but not for any other purpose.

SRK provides this consent on the basis that the technical views expressed in the summary and in the individual sections of this Report are considered with, and not independently of, the information set out in the complete Report and the cover letter.

3.9 SRK's Experience

SRK Consulting is an independent, international consulting group with extensive experience in preparing independent technical reports for various stock exchanges around the world (see www.srk.com for a review). SRK is a one-stop consultancy offering specialist services to mining and exploration companies for the entire

life cycle of a mining project, from exploration through to mine closure. Among SRK's more than 1,300 clients are most of the world's major and medium-sized metal and industrial mineral mining houses, exploration companies, banks, petroleum exploration companies, agribusiness companies, construction firms, and government departments.

Formed in Johannesburg, South Africa, in 1974 SRK now employs more than 1,400 professionals internationally in 43 permanent offices on six continents. A broad range of internationally recognized associate consultants complements the core staff.

SRK Consulting employs leading specialists in each field of science and engineering. Its seamless integration of services, and global base, has made the company a world's leading practice in due diligence, feasibility studies and confidential internal reviews.

The SRK Group's independence is ensured by the fact that it holds no equity in any project and that its ownership rests solely with its staff. This permits the SRK Group to provide its clients with conflict-free and objective recommendations on crucial judgment issues.

SRK China was established in early 2005, and is mainly working on Chinese mining projects independently or together with SRK's other offices, mainly SRK Australasia (see www.srk.cn and www.srk.com.au). SRK China has prepared a number of independent technical reports on mining projects for various companies who acquired Chinese projects or completed public listings on overseas stock exchanges, as shown in Table 3-2.

Table 3-2: Recent Reports by SRK for Chinese Companies

Company	Year	Nature of Transaction
China Coal Energy Company Ltd (China Coal)	2006	IPO Listing on HKEx
Sino Gold Mining Limited	2007	Dual listing on IPO Listing on HKEx
Xinjiang Xinxin Mining Industry Company Ltd	2007	IPO Listing on HKEx
Espco Technology Holdings Limited	2008	Very substantial acquisition of shareholding in gold-lead projects in Shaanxi, China
China Shenzhou Mining and Resources Inc	2008	Listing (SHZ) on the American Stock Exchange
Green Global Resource Ltd	2009	Acquisition of shareholding in iron project in Mongolia
Ming Fung Jewellery Group Holdings Ltd	2009	Acquisition of shareholding in gold projects in Anhui, China
Continental Holdings Ltd	2009	Acquisition of shareholding in a gold project in Henan, China
North Mining Shares Company Ltd	2009	Acquisition of a molybdenum projects in Shaanxi, Province, P.R. China
CNNC International Ltd	2010	Acquisition of a uranium mine in Africa
New Times Energy Corporation Ltd	2010	Acquisition of shareholding in gold projects in Hebei, Province, P.R. China
Sino Prosper Mineral Products Ltd	2010	Acquisition of shareholding in gold projects in Hebei, Province, P.R. China
United Company RUSAL Ltd	2010	IPO Listing on HKEx
CITIC Dameng Holdings Ltd	2010	IPO Listing on HKEx
China Hanking Holdings Ltd	2011	IPO Listing on HKEx
China Deye Non-ferrous Metal Mining Ltd	2012	Very Substantial Acquisition on HKEx
China Non-ferrous Mining Corporation Ltd	2012	IPO Listing on HKEx
Hengshi Mining Investments Ltd	2013	IPO Listing on HKEx
Future Bright Mining Holdings Ltd	2014	IPO Listing on HKEx
Agrtrade International Pte Ltd	2015	Acquisition of Shareholding in one coal mine in Indonesia
China Unienergy Group Ltd	2016	IPO Listing on HKEx

3.10 Forward-looking Statements

Estimates of Mineral Resources, Ore Reserves and forecasts of mine and processing plant production are inherently forward-looking statements, which, being projections of future performance will necessarily differ from actual performance. The errors in such projections result from inherent uncertainties in the interpretation of geologic data, variations in the execution of mining and processing plans, the ability to meet construction and production schedules due to many factors including weather, availability of necessary equipment and supplies, fluctuating prices and changes in regulations. The possible sources of error in forward-looking statements are addressed in more detail in the appropriate sections of this report. Also provided in the report are comments on the risks inherent in the different areas of mining and processing operations.

4 Regional Description

4.1 Regional Location

The Zhuangpeng dolomite mine is located in Xi County, Shanxi Province in China (Figure 4-1), administrated by Lingshang Village, Huangtu Town. The property is approximately 25km east-northeast of the Xixian urban area. The geographical coordinates of the mine area are within the limits of 36°45′03″ to 36°46′08″ North latitude and 111°11′12″ to 111°12′16″ East longitude.

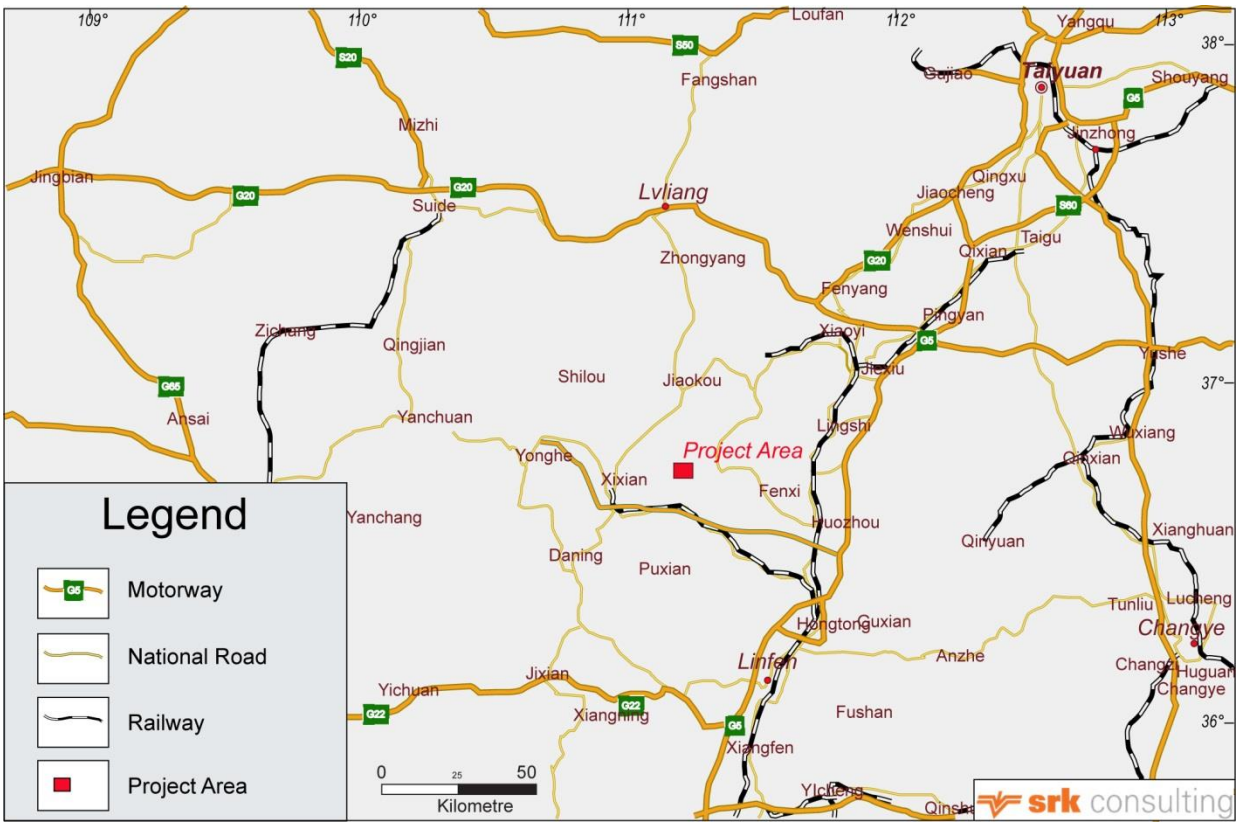


Figure 4-1: Project Location

4.2 Access

Zhuangpeng Project can be accessed from Xi County town via a 42.5km distance road. The Fenxi-Yonghe Provincial Highway passes 10 km east of the mine and the Huozhou-Yongheguan Motorway is 11km from the mine. The Linfen railway station in Linfen City is approximately 140km from the mine. A railway passing through Xi County and leading to Hongtong County is approximately 40km from the mine. As some magnesium smelters are located near the railway line and as the railway line is open to traffic, it provides convenient transportation of the dolomite ore and reduces the transport cost and enhances the price advantage.

4.3 Climate and Potential Natural Hazards

The Zhuangpeng Project is located on the northwest edge of Linfen City, in the middle of the Lvliangshan Anticline. In the mine area, the terrain descends from northeast to southwest with surface elevation varying from 1,500m to 1,823m above sea level ("ASL") with a relative relief of 323m. The vegetation in this region is well developed.

Mapao Spring lies in the region and is recognised as a perennial spring. A perennial river, Ziyu River, rises in the spring and crosses the region. Water for domestic use can be easily acquired from these sources.

The Zhuangpeng Project site is characterised by a continental arid climate with relatively large seasonal temperature variations, from winter lows reaching -20 degrees Celsius ("°C") to summer highs of up to +35°C, and an average annual temperature of 9.5°C. The annual precipitation varies from a maximum of 759.6mm to a minimum of 302.8mm with a mean of 530.5mm, mainly concentrated between July and September. The average wind speed in the region is 17.0 metres per second ("m/ s") with maxima greater than 26.5m/ s. The frost-free season during the year lasts from 150 days to 180 days.

According to the *China Seismic Ground Motion Parameter Zonation (GB-18306-2001)*, the seismic peak ground acceleration in the mine area is 0.4g, which indicates a relatively high level of basic seismic activity.

5 Operational Licences and Permits

This section summarises related operational licences and permits and SRK relied on the information provided by the Company.

5.1 Business Licences

The Zhuangpeng Project consists of the Zhuangpeng Dolomite Mine ("Zhuangpeng Mine") only. The business licence details for the Zhuangpeng Project are presented in Table 5-1.

Table 5-1: Business Licences

Project/ Company	Linfen Zhuangpeng Dolomite Mine (300,000tpa)
Business License No.	91140000561347717X
Issued To	Linfen Zhuangpeng Magnesium Industry Co., Ltd.
Issued By	Shanxi Industrial and Commercial Administration Bureau
Issue Date	21 August 2019
Expiry Date	21 August 2030
Licensed Business Activities	Dolomite mining, processing and sale; research on metal mining techniques, and consulting services

5.2 Mining Licences

The mining licence details for the Zhuangpeng Mine are presented in Table 5-2. SRK notes that the minimum depth interval is between levels 1,700m and 1,400m.

Table 5-2: Mining Licenses

Project	Linfen Zhuangpeng Dolomite Mine (300,000tpa)
Mining Licence No.	C1410002010097130074911
Issued To	Linfen Zhuangpeng Magnesium Industry Co., Ltd.
Issued By	Linfen Planning and Natural Resources Bureau
Issue Date	13 March 2020
Expiry Date	13 March 2023
Area (km^2)	2.3063
Mining Type	Open pit
Production Rate (tpa)	300,000

5.3 Safety Production Permits

The safety production permit details for the Zhuangpeng Project are presented in Table 5-3.

Table 5-3: Safety Production Permits

Project	Linfen Zhuangpeng Dolomite Mine (300,000tpa)
Safety Production Permit No.	2015 L10743
Issued To	Linfen Zhuangpeng Magnesium Industry Co., Ltd.
Issued By	Linfen Emergency Management Bureau
Issue Date	17 August 2020
Expiry Date	16 August 2023

5.4 Other Operational Permits

SRK has sighted a land use agreement with the Lingshang village, and the area reflected in the document is 2,928 m^2. SRK notes that this land use agreement was obtained through temporary land arrangements with a confirmation letter issued by the local government, and the arrangement will expire in January 2022. The land use purpose is for the processing, administration and ancillary buildings. SRK also sighted a permanent land use permit for a forest area of 3.5731 hectare ("ha") for the current open pit mining activity, which was approved by the Shanxi Province Forest Management Bureau.

In addition, SRK sighted a receipt for payment of a water use fee to the village and a site discharge permit. Details of this site discharge permit are presented in Table 5-4.

Table 5-4: Site Discharge Permits

Project	Linfen Zhuangpeng Dolomite Mine (300,000tpa)
Site Discharge Permit No.	14103109170004-1031
Issued To	Linfen Zhuangpeng Dolomite Industry Co., Ltd
Issued By	Linfen ecology and Environment Bureau
Issue Date	28 August 2019
Expiry Date	27 August 2022
Pollutant Discharge Type	Industrial dust

6 Geological Description

6.1 Regional Geology

The Zhuangpeng Project property is located in the southern part of the Lvliang uplift, which is part of the Sino-Korean paraplatform (Figure 6-1). Basement rocks occupying the region consist of Archaean magmatites, Neoproterozoic clastic sedimentary rocks, Palaeozoic sedimentary rocks and Cenozoic deposits. The Archaean rocks outcropping in the region belong to the Lvliang Group, including migmatized granodiorites, amphibolites and gneisses with less migmatized granites. The Proterozoic sedimentary rocks are mostly composed of sandstones. The Palaeozoic outcrops consist of Cambrian and Ordovician biochemical sedimentary rocks (limestones and dolomites) and Carboniferous and Permian sedimentary rocks (quartz sandstones, shales, mudstones and coal seams). The Cenozoic deposits include Tertiary clay and Quaternary loess, both widespread in the area.

The Zijinshan fault zone is distributed in the west of the region, characterised by a series of north-south trending compressive fractures and faults mostly developed in Mesozoic or Palaeozoic strata. The fault zone stretches over 270 km on the surface and primarily dips west with dip angles varying from 50° to 80°. The Qingxiang-Tailin fault zone is recognised as a synclinorium trending north-south and lies in the eastern part of the region. This fault zone is almost 95km long and 15km to 20km wide and affects the attitude of strata nearby. The Caocun-Shanzhong fault zone is located in the southwestern part of the area, trending northeast and consists of several parallel faults such as the Changjiawan syncline and Shanzhong anticline.

Igneous rocks are less developed in the region. Some Proterozoic diabase is found around the periphery, but no other igneous rocks are present.

Mineral resources are abundant in the region. Dolomite resources are primarily hosted in the Upper Cambrian-lower Ordovician Sanshanzi Formation. Various mines, including bauxite, coal, clay and iron extraction operations are also widespread in the area.

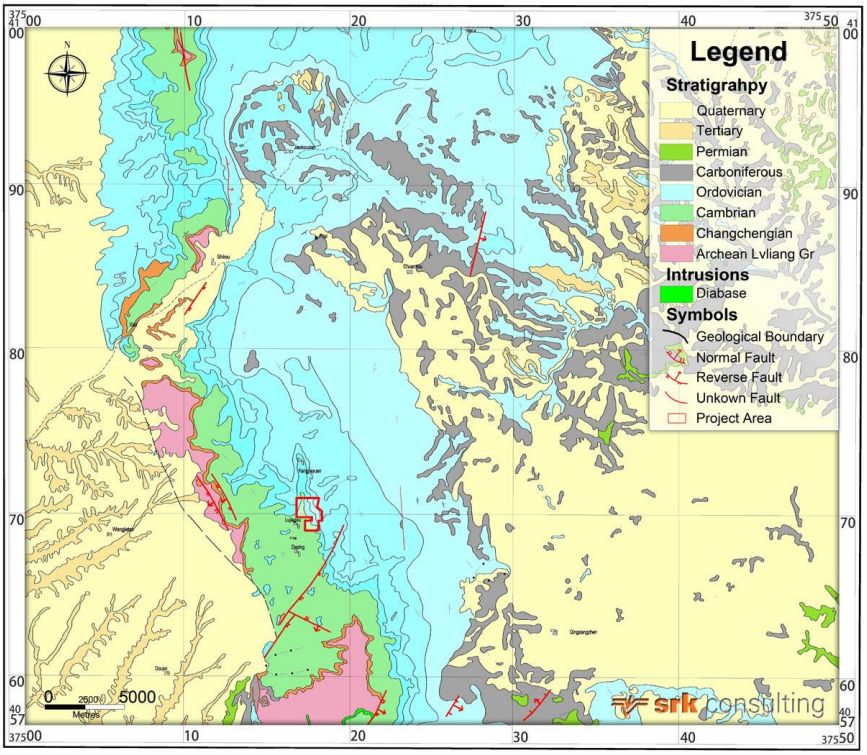


Figure 6-1: Regional Geological Map of Zhuangpeng Dolomite Mine

6.2 Deposit Geology

6.2.1 Stratigraphy

The exposed strata in the Zhuangpeng Mine consist of the Zhangxia Formation, Sanshanzi Formation, the Majiagou Formation, and the Quaternary deposits (Figure 6-2) as described below.

- The Zhangxia Formation is composed of Upper Cambrian rocks, and mostly outcrops in the western part of the mine area. It is characterised by thin/ platy limestone interbedded with banded argillaceous limestone and thin/ platy banded limestone, strikes north-south and dips to the east, with an average dip angle of 8°.

- The Sanshanzi Formation is composed of Upper Cambrian-Lower Ordovician dolomite. It is 70 m to 93m thick, strikes north-south and dips to the east, with dip angles varying from 6° to 8°. The Sanshanzi Formation is recognised as the primary ore-bearing layer.

- The Xiamajiagou Formation, from bottom to top, is composed of marlite with breccia, dolomitic limestone, and limestone interbedded with dolomitic marlite and dolomitic limestone. This layer is primarily exposed on the mountain top of the region. The outcrop is approximately 132 m thick, strikes north-south, and dips to the east, with dip angles varying from 6° to 10°.

- The Quaternary sediments are represented by eluvium, alluvium, and diluvium, all of which are widespread over the region.

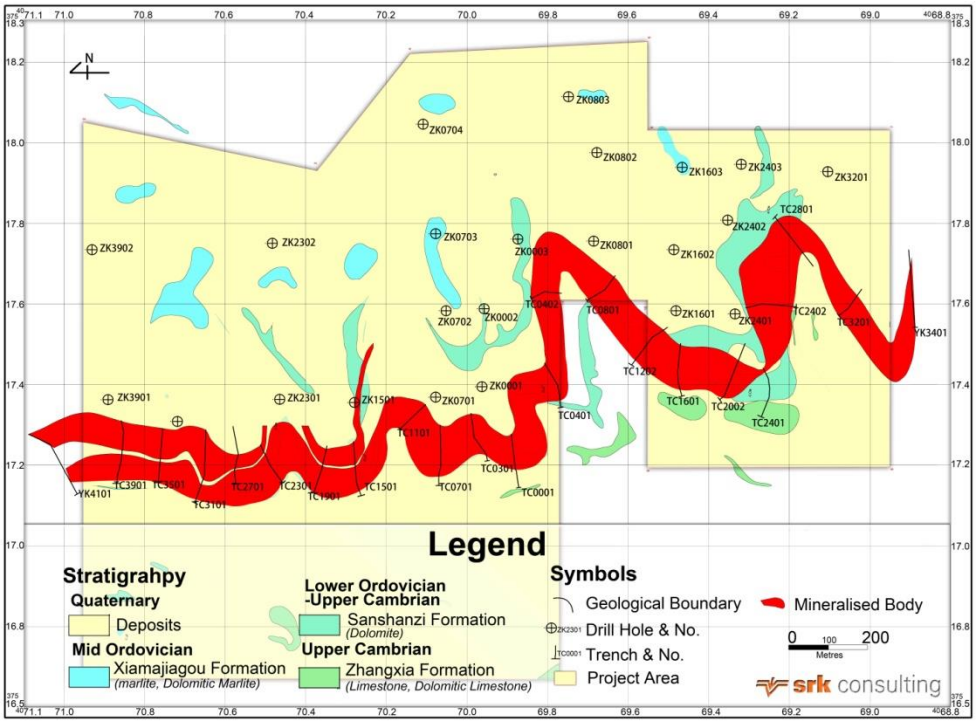


Figure 6-2: Geological Map of Zhuangpeng Dolomite Mine

6.2.2 Structure

Structural features in the Zhuangpeng Project site are relatively simple. The primary stratigraphic landform is a homocline with underlying strata striking north-southerly and dipping to the east, with dip angles varying between 6° and 8°. Strata in the region are characterised by good continuity and near uniform attitudes with rare folds and faults.

6.2.3 Magmatism

Magmatic activity is not found in the Zhuangpeng Mine area.

6.3 Mineralisation

6.3.1 Characteristics of the Mineralisation

Dolomite orebodies in the region are hosted in the Sanshanzi Formation. Two mineralised zones have been defined and numbered No. 1 and No. 2. The mineralised zones and host rocks share strike directions and dip angles; the boundary is clear and is set by the concentration gradient. Detailed descriptions of each zone are given below.

6.3.1.1 Mineralised Zone No. 1

The mineralised zone No. 1 is defined by 10 trenches and 19 drill holes. The mineralisation is approximately 1,640m long and extends 867m deep with an average thickness of 20m. It is stratiform, strikes north-south and dips to the east at 70° to 100° with dip angles between 6° and 8° (Figure 6-3).

6.3.1.2 Mineralised Zone No. 2

The mineralised zone No. 2 is defined by 23 drill holes and 24 trenches. The mineralisation is over 2,000m long and extends 1,040m deep with an average thickness of 33m. It is also stratiform, strikes north-south and dips to the east at 90° to 110° with dip angles between 6° to 8° (Figure 6-3).

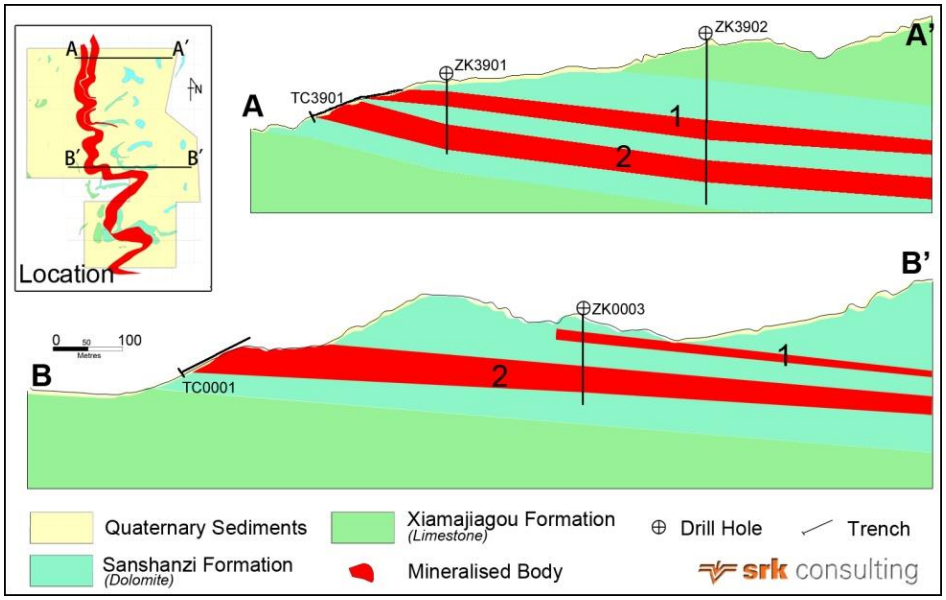


Figure 6-3: Simplified Exploration Section in Zhuangpeng Property

6.3.2 Mineralogy

The primary mineralisation is dolostone, which generally contains more than 94% dolomite. The main gangue mineral is ferric oxide, with content varying from 1% to 4%. Some filmy clay minerals are also discovered amongst the dolomites.

The dolomite exhibits small hoar crystals with grain sizes generally between 0.01 mm and 0.25 mm. Dolomite ore is present as powder, with fine or medium granular textures, and appears in thick or thin stratiform structures.

In 2011, the No. 3 Geological Exploration Institute of China Metallurgical Geology Bureau ("No. 3 Geological Institute") conducted basic elemental analysis of samples from the Zhuangpeng Mine, including dolomite oxide ("MgO"), potassium oxide ("K_2O"), sodium oxide ("Na_2O"), silicon dioxide ("SiO_2") and calcium dioxide ("CaO"), as well as composite analysis.

According to these results, no accompanying useful element can be extracted from the mineralisation. The harmful elements are K_2O with an average grade of 0.22%, Na_2O with an average grade of 0.03%, SiO_2 with an average grade of 2.30%, ferric oxide ("Fe_2O_3"), with an average grade of 0.24%, aluminium oxide ("Al_2O_3"), with an average grade of 0.34%, manganese oxide ("Mn_3O_4"), with an average grade of 0.011%), sulphur ("S"), with an average grade of 0.032% and phosphorus ("P"), with an average grade of 0.002%. SRK opines that the harmful elements and minerals identified within the mineralised zones are all within normal concentrations and should not materially impact the saleability of the dolomite produced at the mine or adversely impact the environment.

6.4 Exploration, Sampling, Analytical Procedures, Quality Assurance and Quality Control

Under SRK's supervision, the No. 3 Geological Institute conducted a drilling and trenching program at the Zhuangpeng dolomite deposit from October 2011 to May 2012. Figure 6-4 shows the drill hole distribution map. The following sections summarise the Mineral Resource data verification and reconciliation for the property.

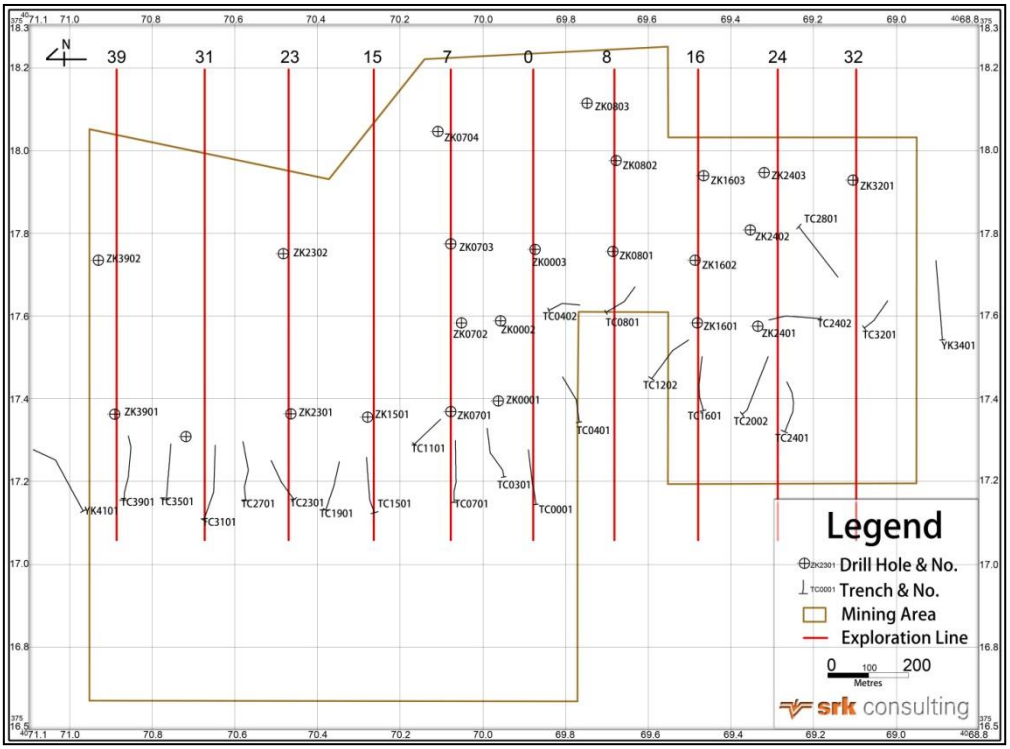


Figure 6-4: Drill Hole Distribution Plan Map

6.4.1 Exploration and Sampling Procedures and Quality Control

A total of 23 drill holes and 25 trenches were carried out at the Zhuangpeng Mine by the No. 3 Geological Institute during the detailed exploration. All of the boreholes were vertical (Figure 6-5); all drill cores were logged; and down-hole surveys were conducted in each hole at 100m intervals. The average recovery rate for all cores was 94.41%, and 95.76% for the mineralized drill cores (Figure 6-6).

Figure 6-5: A Surface Drill-hole Site

All trenches were arranged along exploration lines. Each trench's bottom and top were 0.8m wide and 1.2m wide, respectively.

Samples were taken from drill cores by splitting along the core axis. The sample length was generally 2m. Trench samples were collected from fresh rocks in the floors of trenches by channelling. The channel section size was about 10cm long by 3cm wide, and normally 2m long. Wall rocks and ore were sampled separately.

Figure 6-6: Drill Cores with High Recovery Rate

6.4.2 Analytical Procedures and Quality Control

6.4.2.1 Sample Preparation and Analysis

A total of 1,779 samples were collected from drill cores and trenches. All sample preparation and analysis were completed by the No. 3 Geological Institute's laboratory. All those samples for which the loss rate of the sample weight during preparation exceeded ±8% of the real weight were discarded, yielding a qualified

core sample collection rate of 90.38%, which is acceptable. Each sample was prepared following the standards set out in the China Geological Survey's Decree DZ0130-2006, "*Analytical Quality Management Specifications for Geological Laboratories"*. Five elements, including MgO, K_2O, Na_2O, SiO_2 and CaO were assayed. K_2O and Na_2O were assayed by Inductively Coupled Plasma ("ICP")-atomic emission spectroscopy, SiO_2 was assayed using colorimetry and gravimetry and MgO and CaO were assayed by titration.

6.4.2.2 Control Sample Insertion

Two types of standard reference materials ("SRM") were purchased, including high grade and low-grade materials. Thirty-six (36) blanks were picked from pure quartzite, 48 coarse rejects, 55 pulp duplicate samples and 100 external check samples were selected from the laboratory of No. 3 Geological Institute. All control samples were inserted randomly into the sample sequence with insertion rate of 10%.

6.4.2.3 Control Sample Performance

The certified standards for dolomite are GBW07216A and GBW07217A; SRM performance is considered acceptable, and the assay process well-controlled, if at least 90% of the results fall within ±10% of the accepted value. As shown in Figure 6-7, two (2) samples out of 37 assayed SRMs (with a disqualification rate of 5.4%) fall outside of the control limits. There is no indication of systematic assaying problems in the MgO analysis.

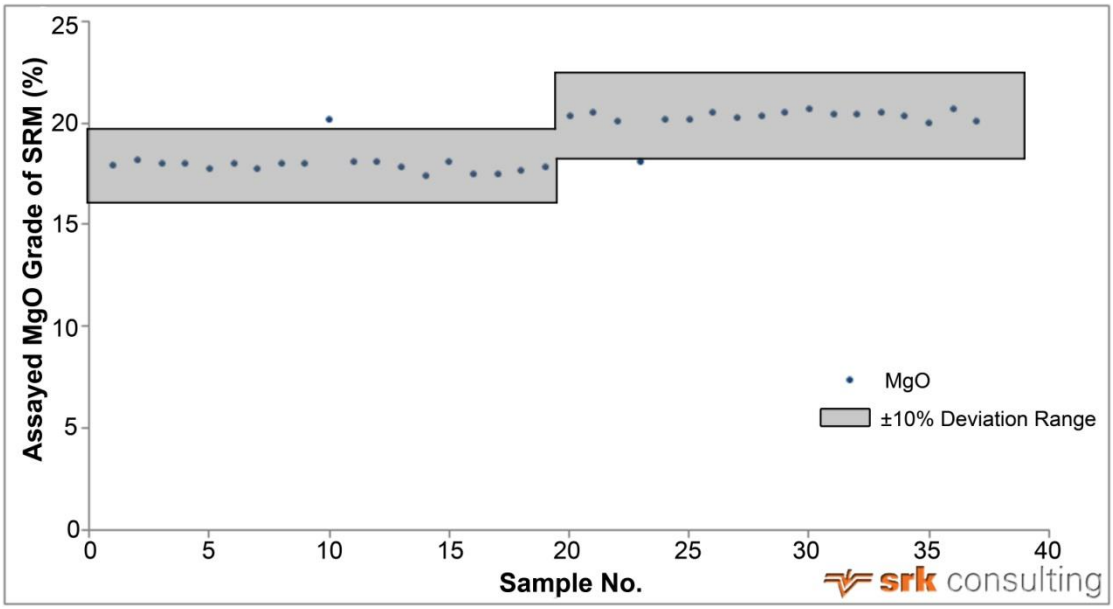


Figure 6-7: Performance of SRM

A total of 36 blank samples were submitted for analysis. The results are all within the control limit for the blank material assays, with deviations of less than 5%. The results of the blank sample analysis suggest that neither considerable nor systematic contamination occurred during sample preparation.

6.4.2.4 Duplicate Sample Performance

Duplicate samples, including coarse rejects and pulp duplicate samples, were inserted into each batch of original samples during the assaying procedure to ensure the quality of the assay. A scatter graph showing the MgO results for duplicates is shown below in Figure 6-8. One sample out of 95 assayed duplicates falls outside of the control limits. The assays are considered accurately reproduced.

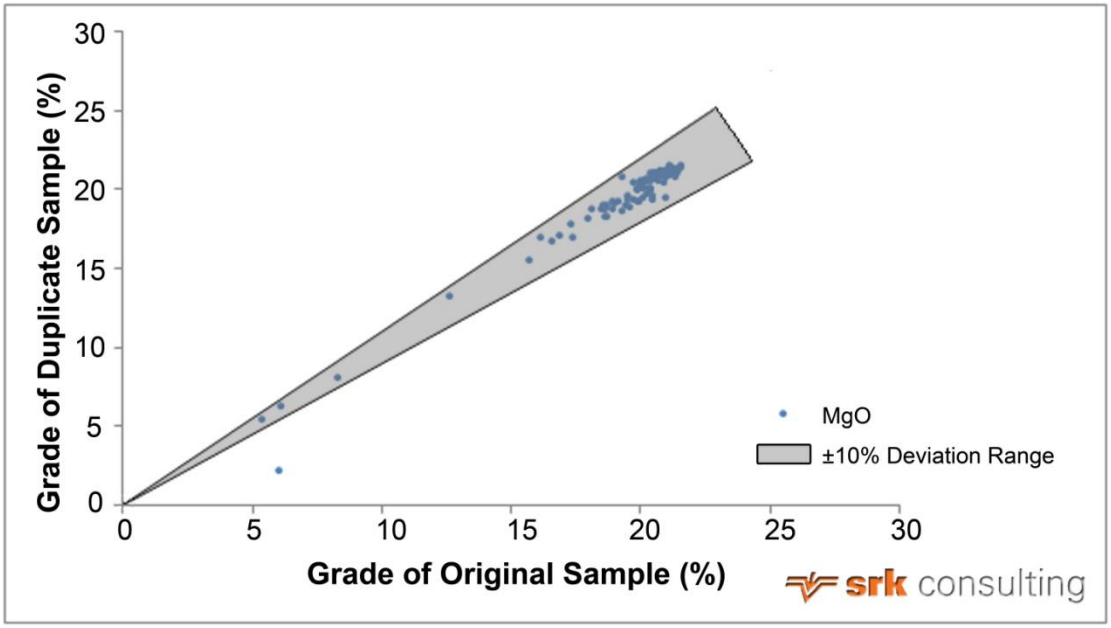


Figure 6-8: Performance of Duplicate Samples

6.4.2.5 External Sample Performance

External checks of the primary assay were performed by SGS-CSTC Standards Technical Services (Tianjin) Co., Ltd ("SGS Tianjin") and Taiyuan Mineral Resources Supervision and Testing Centre ("Taiyuan Testing Centre") on approximately 5% of the total samples; results are shown in Figure 6-9. Only four samples returned deviations between the original and external check samples greater than 10%, for a disqualification rate of 4%.

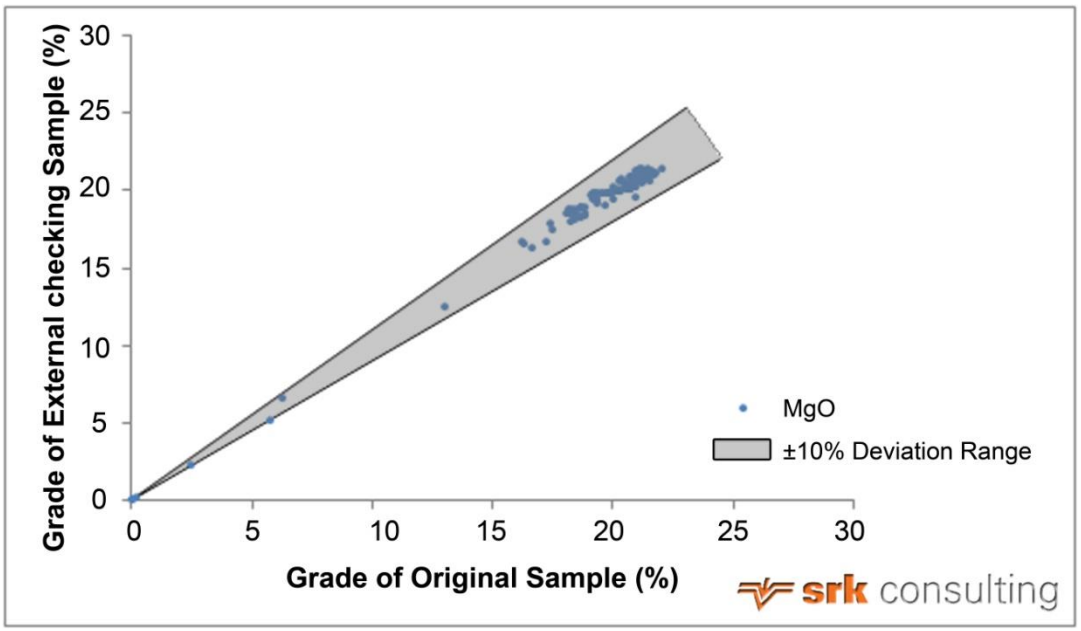


Figure 6-9: Performance of External Check Samples

6.4.2.6 Bulk Density Sample Analysis

An additional 92 bulk density samples were collected from different orebodies and locations and were measured by the No. 3 Geological Institute's laboratory for ore density. SRK has checked this data using a linear regression. The diagram shown in Figure 6-10 indicates that there is no linear relationship between

volumetric weight and grade of MgO. Bulk densities remain steady and range from 2.64 grams per cubic centimetre ("g/ cm^3") to 2.84g/cm^3, with an average density of 2.73g/cm^3.

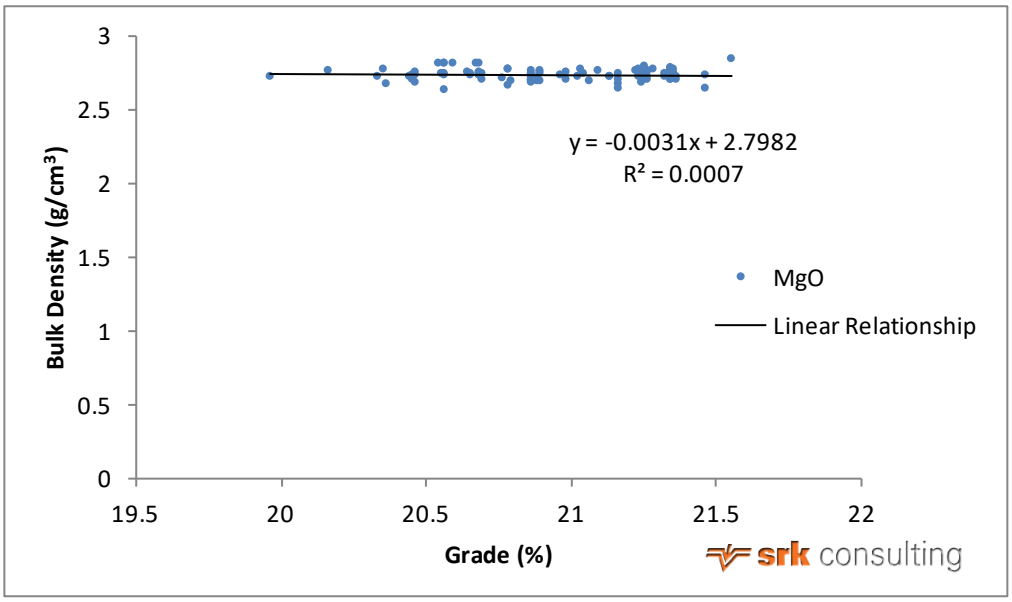


Figure 6-10: Scatter Diagram for Volumetric Weight vs. Grade of Mg

SRK is satisfied with the quality and results of the sample preparation and assay performed by the No. 3 Geological Institute's laboratory, and SRK also is confident that the primary sample results are sufficiently reliable for use in resource estimation.

6.5 Mineral Resource/ Ore Reserve Estimation

6.5.1 Ore Body Delineation

This section describes the Mineral Resource estimation methodology and summarizes the key assumptions considered by SRK.

The Mineral Resource Statement presented herein summarises the Zhuangpeng Mineral Resource evaluation prepared for the Client in accordance with the JORC Code (2012).

In SRK's opinion, the Mineral Resource evaluation reported herein is a reasonable representation of the global dolomite mineral resource found in the Zhuangpeng Mine at the current level of sampling.

The project limits are based on the Xi'an Geodetic Coordinate System 1980 ("XAS1980"). The database used to estimate the mineral resources was audited by SRK. SRK is of the opinion that the current drilling information is sufficiently reliable to interpret with confidence the boundaries for mineralisation and that the assay data are sufficiently reliable to support mineral resource estimation.

Surpac (version 6.3) was used to construct the geological solids, prepare assay data for geostatistical analysis, construct the block model, estimate metal grades and tabulate mineral resources. Microsoft Excel was used for geostatistical analysis.

6.5.2 Resource Category

The Measured Mineral Resources were defined with an exploration grid of 200m × 200m, the Indicated Mineral Resources were outlined with an exploration grid of 400m × 400m, and the Inferred Mineral Resources were defined based on outwards and downwards extrapolations (over distances of less than 1/2 of the exploration grid) of the Indicated Mineral Resources.

6.5.3 Mineral Resources

Mineral Resource estimation of the Zhuangpeng Mine was carried out by SRK using Surpac. Data from 23 boreholes and 25 trenches, borehole collars, down-hole surveys, assay results, and topographical survey data were prepared in the correct specific format and imported to Surpac (Figure 6-11). The survey and sample interval data was checked for errors (such as gaps and overlaps of samples) and minor transposition errors were found and corrected.

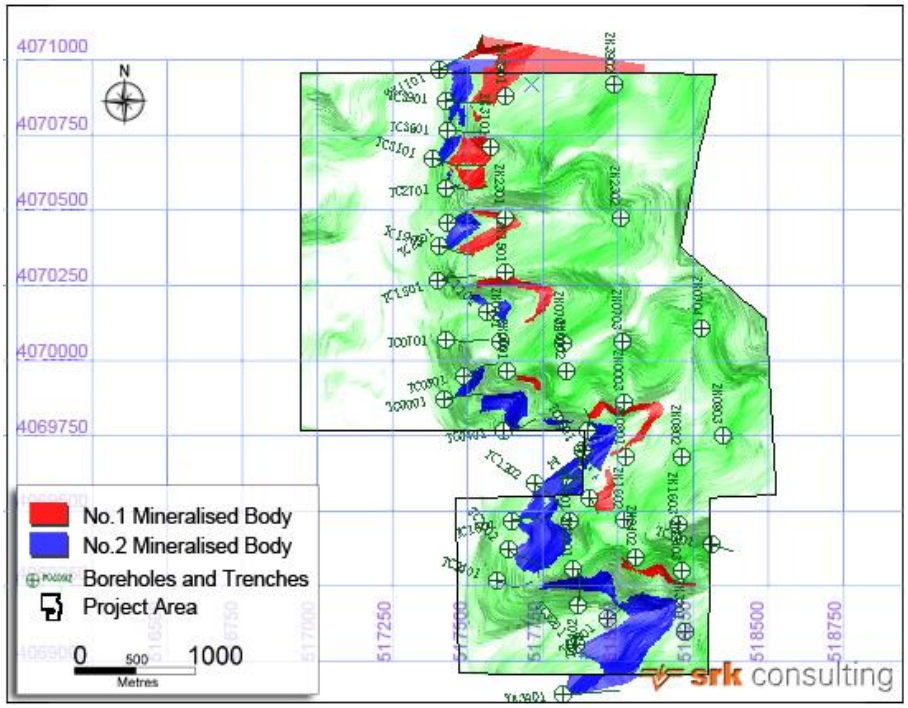


Figure 6-11: Mineralised Bodies with Exploration Engineering Layout

Data from 1,779 assayed samples were used for the Mineral Resource estimation. The composite length was set at 2m, because the samples were 2m long. No assay cap was applied for the deposit. Composite statistics for MgO are shown in Table 6-1.

Table 6-1: Composite Statistics for MgO

Number of samples	Minimum	Maximum	Mean	Variance	CoV*
1,744	4.74	21.74	20.6113	1.86016	0.066171

* CoV = Coefficient of variances

The histograms for all composite values of MgO and values in mineralised zones No. 1 and No. 2 are shown in Figure 6-12. Histogram analysis indicates that the distribution of MgO composites in mineralised zone No. 1 approach normality, and the distributions of MgO composites in all of the boreholes and in mineralised zone No. 2 approach log normality.

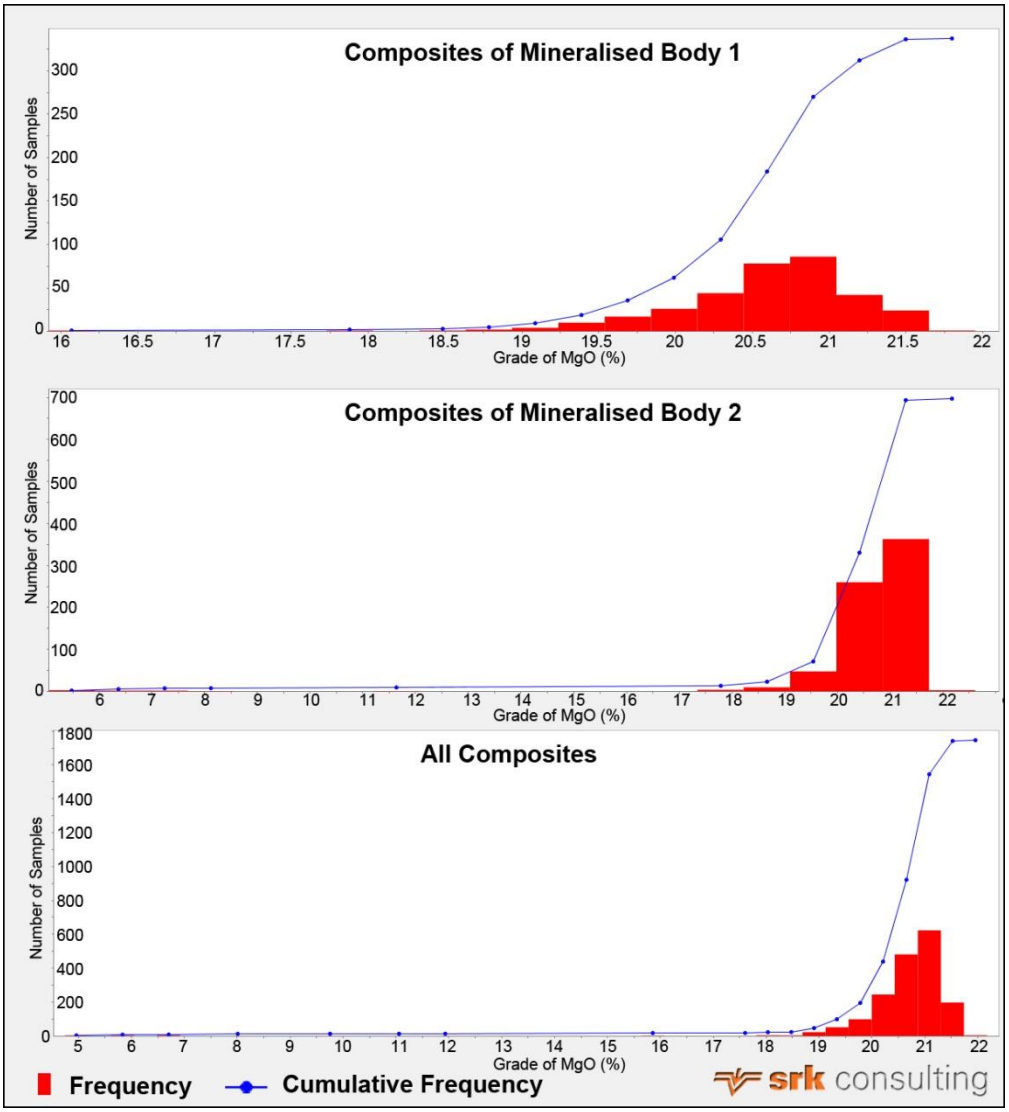


Figure 6-12: Histogram of Composite Values

A block unit size of 50m × 50m × 10m was adopted for the Mineral Resource block modelling. Coordinate extents of the block model are presented in Table 6-2. Grade estimation was done using Inverse Distance Squared ("IDS") within the mineralised zone. In all cases two paths were used for block estimation, controlled by an ellipsoid with attitudes adjusted for each mineralised zone (bearing 170° with dip angle of 7° and plunge angle of 0°). The search radius for path 1 was kept at 200m for all variables and path 2 was held at 400m. At least three and a maximum of 15 samples were used for grade estimation. An average bulk density of 2.73g/cm^3 was used for reporting Mineral Resources and Ore Reserves.

Table 6-2: Coordinate Extents of Block Model

Coordinate	Min	Max	Block Size
North	4,068,720	4,071,290	50
East	516,680	518,250	50
Elevation	1,300	1,784	10

The model was subjected to onscreen validation between samples and blocks. This involved checking block estimates and composite grades in cross sections, in plan and in longitudinal sections. The model was visualised to assess the general degree to which it honours the data. Through random checks SRK found that the resource model generally honours the exploration database and conforms to drilling intersections.

Swath plots were created in three orthogonal directions (northing, easting and vertical) in particular slice thicknesses in each direction to validate the resultant block models, as shown in Figure 6-13. Overall, the swath plot validation process shows that the block model estimates follow the trend of composites across the deposit. SRK considers the model to be a satisfactory representation of the sample data used and the grade interpolation has performed as expected.

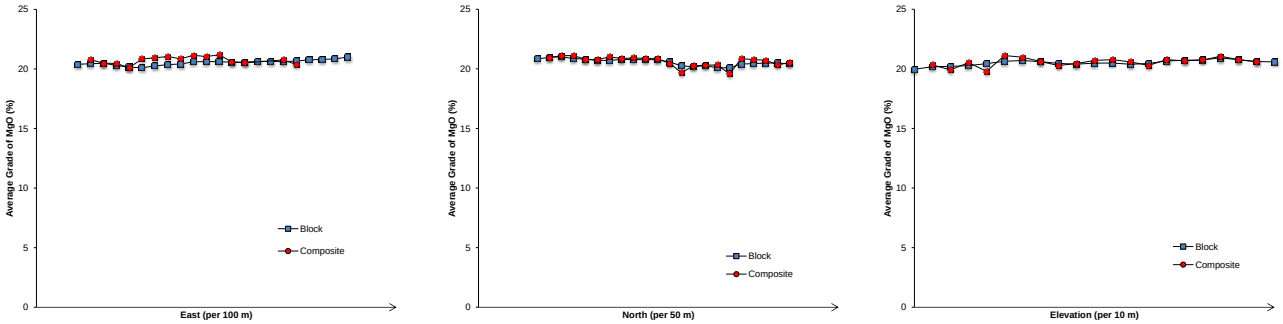


Figure 6-13: Swath Plots for Zhuangpeng Deposit

Mineral Resource classification considered the following factors: geological confidence in the interpretations, sample data density, sample/ assay confidence, grade continuity of the mineralization and estimation method. Generally, the Measured Mineral Resources were defined within an exploration grid of 200m × 200m, the Indicated Mineral Resources were outlined within an exploration grid of 400m × 400m. For those blocks, SRK considers that the level of confidence is sufficient to allow appropriate application of technical and economic parameters to support mine planning and to allow evaluation of the economic viability of the deposit. Conversely, other blocks beyond the grid in the mineralised zone should be classified as Inferred Mineral Resources, because the confidence in the estimate is insufficient to allow for the meaningful application of technical and economic parameters or to enable an evaluation of economic viability.

Figure 6-14 shows the resource block model of the two mineralised zones.

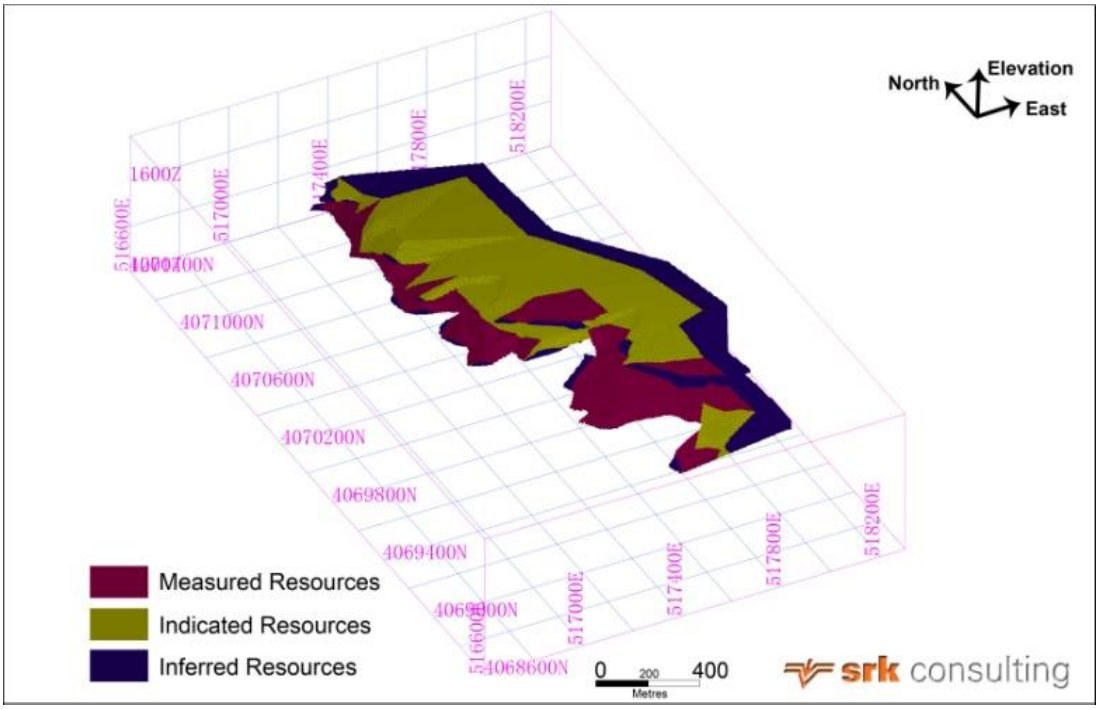


Figure 6-14: Mineral Resource Block Model of Zhuangpeng Dolomite Mine

6.5.4 Cut Off Grade

According to the feasibility study conducted by Xi'an Nonferrous Metallurgy Design and Research Institute ("Xi'an NMDRI"), the dolomite will be mined and sold to produce magnesium products. The cut-off grade was selected based on data from the feasibility study. The magnesium alloy price was also sourced from the feasibility study report which was based on the prices of last few years. The formula below and the parameters listed in Table 6-3 were applied by SRK to calculate the cut-off grade:

$$G = \frac{C \cdot MG}{P \cdot PR \cdot (1 - STR) \cdot (1 - MD)}$$

Table 6-3: Assumptions Used for Cut-Off-Grade Calculation

Parameter	Value	Unit
Dolomite Alloy Price (P)	55,000	CNY per tonne
Mg Grade in Dolomite Ingot (MG)	99.9	percent
Sale Tax Rate (STR)	17	percent
Total Operating Cost (C)	3,941	CNY per tonne of ore
Mining Dilution (MD)	5.0	percent
Processing Recovery Rate (PR)	77	percent
In Situ Cut-Off-Grade of MgO (G)	18	percent

The estimation indicates a cut-off grade of 18% MgO, assuming the final product will be magnesium alloy. The cut-off grade is dependent on the market price of magnesium alloy products, followed by the operating costs and processing recovery rates. However, the parameters and equations used for the cut-off grade calculation are relatively conceptual. In fact, as stated in *Mineral Resources Industrial Requirements Handbook (2010)*, a cut-off grade of 19% MgO for magnesium-production using dolomite is recommended in China and this cut-off grade is also widely used in the global magnesium-production industry. In addition, a lower content of MgO usually indicates higher contents of harmful components (such as Na_2O, K_2O, SiO_2). Figure 6-15 illustrates the Na_2O+K_2O versus MgO and SiO_2 versus MgO results in raw assayed data, indicating a marked increase of harmful components (Na_2O+K_2O and SiO_2) as MgO grade drops. Table 6-4 gives the average grades of Na_2O+K_2O and SiO_2 under various cut-off grades in raw assayed data. Higher contents of harmful components lead to much higher processing costs. Consequently, SRK opines that a cut-off grade of 19% MgO is more suitable and reasonable.

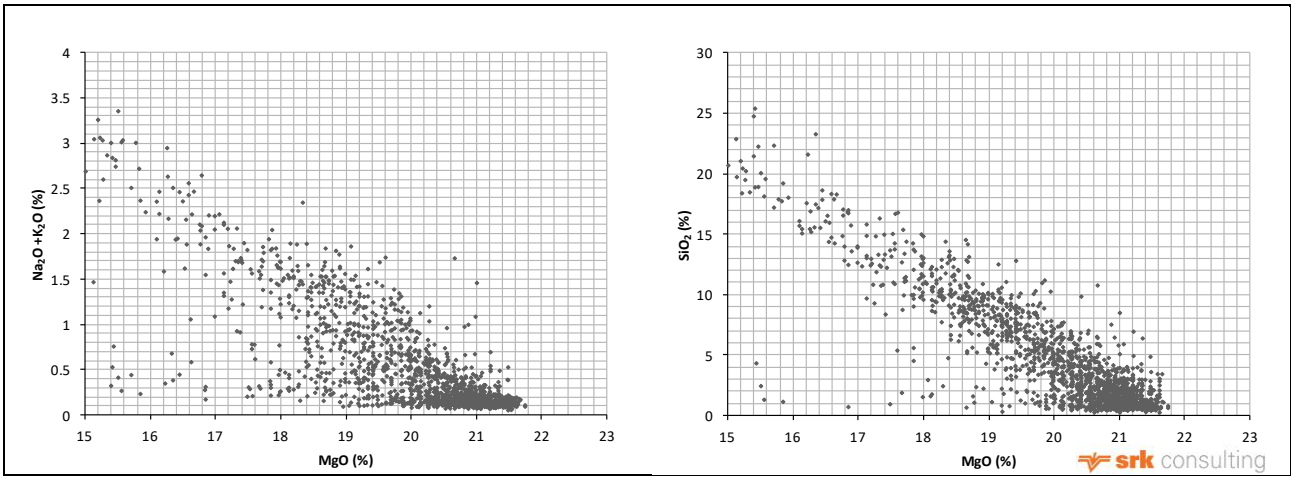


Figure 6-15: Relationships between Na_2O+K_2O and MgO, SiO_2 and MgO in Assayed Data

Table 6-4: Average Grade of Harmful Components under Different Cut-off Grades

Cut-off Grade (%)	Average Grade (%)	
MgO	Na_2O+K_2O	SiO_2
18	0.41	3.84
19	0.33	3.13

The Mineral Resources of the Zhuangpeng Mine as estimated according to the JORC Code 2012 were calculated based on a MgO cut-off grade of 19%. Table 6-5 lists the total Mineral Resources estimated at the Zhuangpeng Mine as of 31 December 2013. Under a cut-off grade of 19% MgO, the Measured Mineral Resource is 36.17million tonnes ("Mt") with an average grade of 20.74% MgO, the Indicated Mineral Resource is 81.40Mt with an average grade of 20.48% MgO and the Inferred Mineral Resource is 31.81Mt with an average grade of 20.61% MgO.

Table 6-5: Estimated Mineral Resources at Zhuangpeng Mine*, as of 31 December 2013

Resource Category	Mineralized Zone	Inventory (kt)	Grade (MgO %)
Measured	1	3.64	20.85
	2	32.53	20.73
Subtotal		**36.17**	**20.74**
Indicated	1	29.36	20.41
	2	52.05	20.52
Subtotal		**81.40**	**20.48**
Measured + Indicated	1	33.00	20.46
	2	84.57	20.60
Total		**117.58**	**20.56**
Inferred	1	10.87	20.41
	2	20.95	20.71
Subtotal		**31.81**	**20.61**

Note:

1. All figures are rounded to reflect the relative accuracy of the estimate; and
2. The information in this report which relates to Mineral Resources is based on information compiled by Mr Yuanjian Zhu and Dr Yiefei Jia, full time employees of SRK Consulting China Ltd and Member and Fellow of the Australasian Institute of Mining and Metallurgy. They have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Zhu and Dr Jia consent to the reporting of this information in the form and context in which it appears.

According to the trial mining record provided by the Client, a total of 216,728 t of Proved Ore Reserves at an average grade of 20.40% MgO was mined-out with a recovery rate of 95.2% and dilution rate of 4.1% during the period June to August 2020.

On the basis of the mining recovery rate and dilution rate, a total of 218,322t of Measured Mineral Resources at an average grade of 21.27% MgO was depleted by the end of 31 August 2020. SRK was also informed that there have been no mining activities from 1 September to 31 December 2020.

As of 31 December 2020, the remaining Measured, Indicated Inferred Mineral Resources at Zhuangpeng Mine are presented in Table 6-6**.**

Table 6-6: Estimated Mineral Resources at Zhuangpeng Mine*, as of 31 December 2020

Resource Category	Inventory (Mt)	Grade (MgO %)
Measured	35.95	20.74
Indicated	81.40	20.48
Measured + Indicated	**117.35**	**20.56**
Inferred	31.81	20.61

Note:

1. All figures are rounded to reflect the relative accuracy of the estimate; and
2. The information in this report which relates to Mineral Resources is based on information compiled by Mr Yuanjian Zhu and Dr Yiefei Jia, full time employees of SRK Consulting China Ltd and Member and Fellow of the Australasian Institute of Mining and Metallurgy. They have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Zhu and Dr Jia consent to the reporting of this information in the form and context in which it appears.

The tonnages and grades of the Zhuangpeng Mine Mineral Resources are sensitive to the selection of the reporting cut-off grade. To illustrate this sensitivity, a global grade and tonnage table is presented in Table 6-7. The reader is cautioned that the figures presented in this table should not be mistaken for a Mineral Resource Statement. The figures in Table 6-7 are only presented to show the sensitivity of the block model estimates to the choice of cut-off grade. Figure 6-16 presents this sensitivity as grade tonnage curves for the Zhuangpeng mine.

Table 6-7: Global Grade -Tonnage Table*, as of 31 December 2013

Cut-offs (MgO%)	Measured Resource		Indicated Resource		Inferred Resource	
	Inventory (kt)	Grade (MgO %)	Inventory (kt)	Grade (MgO %)	Inventory (kt)	Grade (MgO %)
19.0	**36,172**	**20.74**	**81,405**	**20.48**	**31,813**	**20.61**
19.5	35,693	20.76	79,774	20.51	31,638	20.62
20.0	34,065	20.81	72,338	20.58	30,450	20.65
20.5	29,409	20.89	41,490	20.80	17,979	20.91
21.0	9,913	21.16	6,376	21.11	7,388	21.16
21.5	1,194	21.51	0	0	0	0

*The reader is cautioned that the figures in this table should not be misconstrued as representing ea Mineral Resource Statement. The figures are only presented to show the sensitivity of the block model estimates to the choice of cut-off grade.

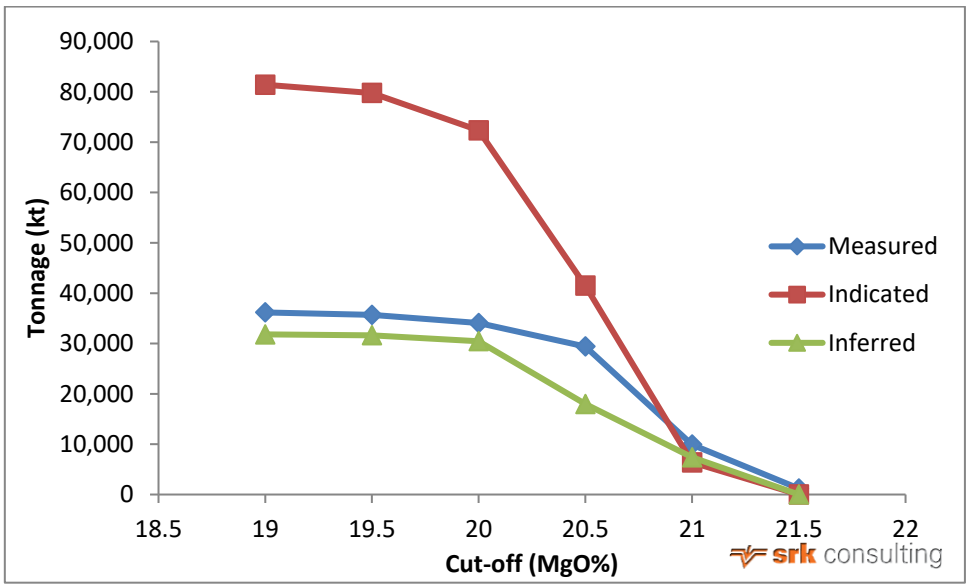


Figure 6-16: Grade Tonnage Curves for the Zhuangpeng Mine

6.6 Exploration Potential

In SRK's opinion the strata, structure, and orebodies of the Zhuangpeng Mine have been well investigated and studied. As the mining area is recognised as a beneficial environment for karst development, an in-fill drilling program is suggested to verify and upgrade the Indicated and Inferred Mineral Resources.

7 Mining Assessment

7.1 Mine Operation History and Current Status

The Mine, historically known as Xinghua Quarry, was initiated its construction in October 2010 and was put into a short-time commissioning in 2012, then stopped further developing. The Mine was re-initiated with construction by Zhuangpeng in May 2018. Commissioning was started in June 2020 and suspended in August 2020. A picture taken in January 2021 is shown in Figure 7-1. During the commissioning period, a total of 31,973t ore were mined out. The stripped wastes were used for road construction or dumped directly to waste dumps.

A conventional mining cycle of "drill-blast-load-haul" has been practiced during the commission months. The rock was drilled with one shallow-hole drill rig. Blastholes are usually 5-12m long and 75 degrees dipping in the pattern of 4m × 3m. Blasting was outsourced to a special blasting company. Blasted materials were loaded with excavator of 1.19 cubic meters ("m^3") and hauled with dump truck of 15 metric tonnes ("t") capacity.

Bench parameters practised during commissioning months are shown in Table 7-1.

Figure 7-1: Current Open Pit (dated in January 2021)

Table 7-1: Bench Parameters during Commissioning Months

Item	Unit	Value	Remarks
Bench height	m	10	
Active bench face angle	degree	75/45	bed rock/unconsolidated strata
Final bench face angle	degree	70/45	bed rock/unconsolidated strata
Minimum working berm width	m	18	
Minimum pit base width	m	20	
Dig-line length	m	1500	
Dig-line width	m	6	

7.2 Ore Reserves

The Ore Reserves at the Zhuangpeng Mine were estimated based on the in-situ cut-off grade of 19% MgO, an ore recovery rate of 95%, a dilution rate of 5% and the open pit limit and other modifying factors cited from Xi'an NMDRI's feasibility study.

As of 31 December 2020, the total Proved and Probable Ore Reserves at the Zhuangpeng Mine are presented in Table 7-1.

Table 7-2: Estimated Ore Reserves of Zhuangpeng Mine, as of 31 December 2020

Category	Tonnage (Mt)	Grade MgO (%)
Proved	34.89	19.70
Probable	78.51	19.47
Total	**113.40**	**19.54**

Note:

1. All figures are rounded to the second significant figure to reflect the relative accuracy; and
2. The information in this report which relates to Ore Reserves is based on information compiled by Mr Yonggang Wu and Mr Qiuji Huang, full-time employee of SRK Consulting China Ltd and a Member/Fellow of the Australasian Institute of Mining and Metallurgy. They have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Wu and Mr Huang consent to the reporting of this information in the form and context in which it appears.

7.3 Mining Technical Conditions

7.3.1 Engineering Geological Conditions

Geotechnical conditions at the Zhuangpeng Mine are simple with little geological exploration having been undertaken. The dolomite deposit is a shallow-marine (or neritic facies) sedimentary strata-bound deposit, with monoclinal structure. There are no obvious fault structure interrupts within the orebodies. Based on the results of physical tests conducted on the drill cores, the Rock Quality Designation ("RQD") value ranges from 36.01% to 77.45%, averaging 59.90%. The Quality index of the rock mass ("M") is 0.19, indicating that the rock quality is classified as moderate, semi-hard to hard.

The orebodies occur in Cambrian and Ordovician limestone and dolomite strata. Drilling exposed karst caves in coarse-grained dolomite of the Sanshanzi Formation, mainly distributed near the surface. No underground rivers or dewatering cones have been discovered. The mechanical strength of the rocks decreases significantly in karst cave development areas, which has an impact on roadway stability.

SRK suggests that a more comprehensive study and logging of karst caves should be carried out, to ensure safe and uninterrupted mining production in the future and the Company has accepted this suggestion.

7.3.2 Hydro-geological Conditions

The Zhuangpeng Mine is located in the Southern Lvliang Mountains, with low mountainous or hilly topography. Water systems within the mining area are well developed. Mapao Spring is perennial, but most streams along the valleys are ephemeral or intermittent. The minimum base level of erosion is at 1,251m ASL. The Xiazhuang Reservoir is south of the mine. Vegetation is well developed and the state-owned Lvliang Mountain Forest Farm covers much of the nearby territory.

This region has a continental arid climate, with hot summers (generally 25°C to 35°C) and cold winters (-10°C to -20°C). The annual temperature averages 9.5°C and the mean annual precipitation reaches 450mm to 550mm. Most precipitation occurs as rain during July and September and then runs off, which has little

impact on mine inflow. Ziyu River, the source of Mapao Spring south of the mine, is a perennial surface runoff, a tributary of the Yellow River system. There are no other surface water bodies.

Precipitation is the main source for groundwater replacement when it flows into the valleys as runoff.

Groundwater in the forms of rock pore water, carbonate weathered zone fissure water and karst water are the main sources for future mine water inflows; all are replenished by precipitation. The groundwater level rises because precipitation seeps directly into the ground. Additionally, the steep local topography and valley slopes may result in flash floods during rainstorms, which pose a threat to the open pit slopes. Generally speaking, the hydro-geological conditions are simple.

7.4 Mining Design

7.4.1 Mining Method and Scope

Mineralized zones No. 1 and No. 2 have been selected as the mining targets based on the feasibility study. The dip and strike of the two mineralised zones are gentle (low) and their average thickness ranges from 21m to 33m, with dip angles between 6° and 8°. The mineralized zones have a strike extent of 2,000m and extend 1,040m down dip. Open-pit mining has been selected for these two mineralized bodies, which are thick and outcrop to the surface. The low dip angles and shallow depth of burial result in a low stripping ratio that is economically beneficial for open-pit mining. Open-pit mining facilitates access and extraction of dolomite blocks from the mine, reducing the mining losses and dilution rate of dolomite. In addition, the open-pit mining method does not require the specialized machinery, equipment or supporting structures that are necessary for underground mining, and hence is characterised by its low capital expenditure ("Capex") requirements and enables the mining and processing of dolomite relatively quickly. Compared to underground mining, open pit mining operations generally require less use of explosive materials (per tonne mined) or hazardous chemicals, thereby significantly mitigating safety and environmental pollution concerns.

The mining area designed in the feasibility study is identical to the approved area delineated in the mining license. The designed mining elevation is between 1,500m and 1,746m and the mining sequence is from top to bottom by benches. The extraction is planned to be conducted starting from the central area and expanding to the south and north. The 1,644m to 1,620m level bench is selected as the initial mining section.

In SRK's view, the designed mining method is reasonable based on the occurrences of the orebodies, the technology is conventional and commonly adopted for large-scale open pit mines.

7.4.2 Open pit Limit Delineation

Xi'an NMDRI estimated the economic stripping ratio for open pit mining at 5.0t/t, and the parameters for the final pit limits are shown in Table 7-3.

Table 7-3: Parameters of Final Pit Limits

Items	Unit	Parameter
Surface opening dimension (length × width)	m	2,000×1,000
Pit base dimension (length × width)	m	500×120
Closed wall elevation	m	1,548
Minimum elevation	m	1,500
Maximum elevation	m	1,764
Ore tonnage	Mt	116.29
Waste rock	Mt	180.42
Ore and waste rock in total	Mt	296.71
Life of mine	a	40
Average stripping ratio	t/ t	1.55

The average stripping ratio for the final pit limit is 1.55t/t, which is far less than the maximum of 5.00t/t found to be acceptable in the mine design, indicating that open pit mining is feasible for this project. The design of the final open pit is shown in Figure 7-2.

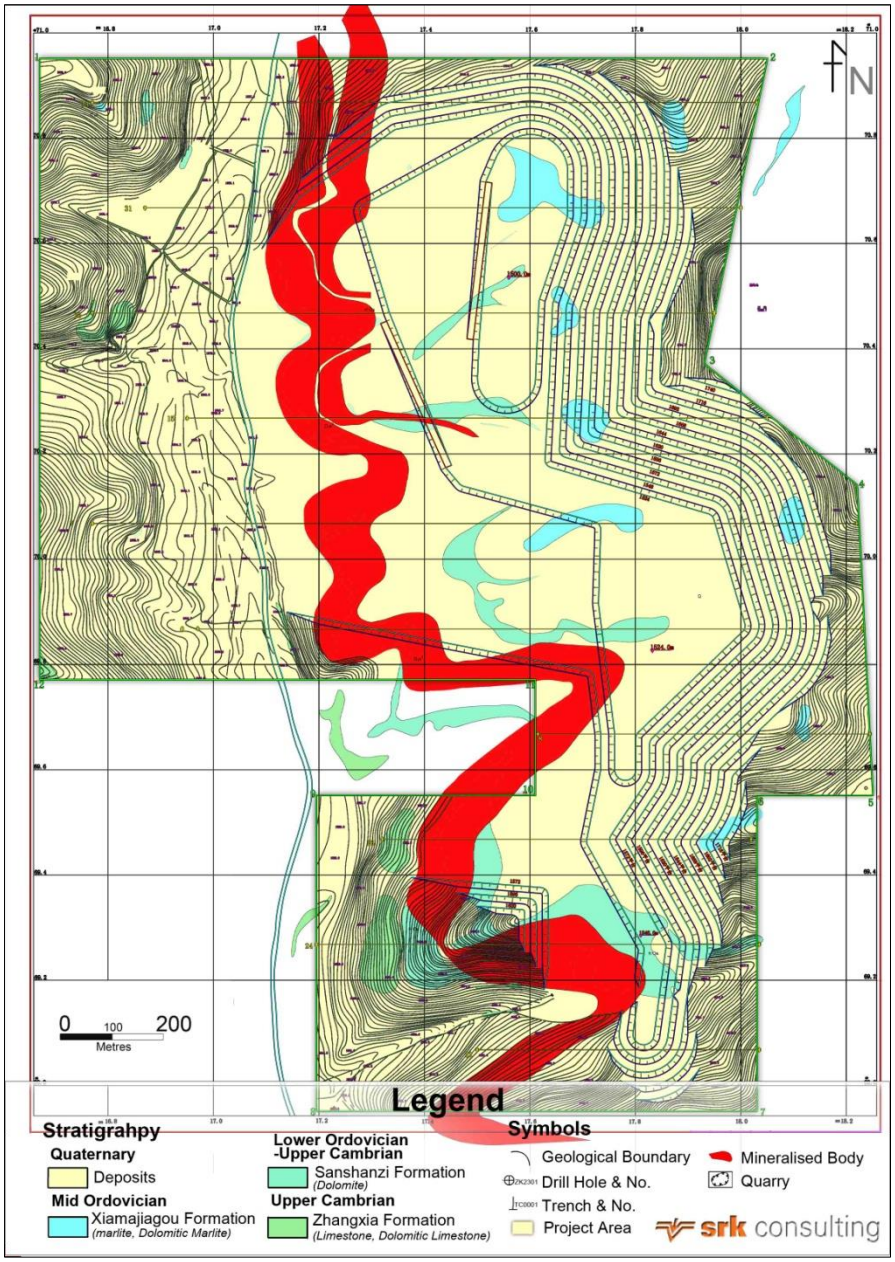


Figure 7-2: Final Open Pit Limit

7.4.3 Mine Development

Since the regional topography is complex and the production throughput and quantity of product to be transported are large, ore is planned to be transported out of the open pit via dump trucks on haul roads, which will advance gradually into the open pit as mining advances.

The final top-edge loop (contour line through the lowest point of the top-edge in the final pit limit) elevation is 1,548m. A side-hill open pit is adopted above the 1,548m ASL while a trough open pit is planned to be used below 1,548m. The bottom elevation of the final pit limit is 1,500m. An in-pit haul road will be constructed for every two benches in the side-hill pit and the ore will be trucked to the crushing plant.

The trough open pit is located at the north end of the project area, where the topography is relatively gentle, with smaller dip angles. The mining platform is sufficiently wide, and the transportation route will mainly follow the western slope of the open pit, with an inlet and outlet ramp located at the 1,548m ASL.

The construction parameters for the mine road are:

- Stone subgrade thickness: 0.27m;
- Mud-gravel thickness: 0.08m;
- Road width: 12m; and
- Gradient: 0 to 8%.

After blasting and secondary crushing, the ore and waste rock produced below the closed wall will be loaded into dump trucks and transported respectively to the ore crushing plant and waste rock crushing plant. The ore produced above the closed wall will be directly trucked from the cleaning berms to the crushing plant, and the topsoil will be trucked to the storage area located west of the pit for later rehabilitation. The waste rock will be transported to the south crushing plant.

The development plan in the feasibility study is considered by SRK to be appropriate and technically feasible.

7.4.4 Mining and Stripping Techniques

Based on the feasibility study, horizontal stripping is planned to be adopted. The working face is implemented approximately perpendicular to the strike of the ore body, advancing from the central area to the north and south sections. It is pushed from north to south as the waste stripping is completed in the closed wall. Waste stripping must be carried out ahead of the ore mining operation.

A large amount of waste pre-stripping work must be done to reach a production capacity of 3Mtpa; the annual stripping quantity will total 9.99Mt. Excavators with 5.5 cubic metre ("m^3") bucket capacities are planned to be used. In addition, one 2.5m^3 excavator and three 4.5m^3 scrapers are designed for the excavating and loading operations.

Ore mining and waste stripping operations are planned to be carried out through a conventional contract mining, process of rotary drilling, blasting, loading, and hauling.

7.4.4.1 Drilling and blasting

Based on the geophysical properties and annual stripping quantity, a medium-depth drilling operation is planned to be conducted using KY-250B rotary drills, which can advance at rates of between 4,000m and 6,000 m per month. Since the quantity of stripping work necessary in construction and the early stages of production is so large, three KY-250B drills will be used, two for stripping and one for mining of ore.

Ammonium nitrate and fuel oil ("ANFO") explosive will be used for stripping and mining, detonated by a non-electric blasting system. To improve blasting quality and reduce negative impacts as well as to increase loading efficiency, multi-stage millisecond blasting is designed to be adopted. The main parameters of the blasting are as follows:

- Hole length: 15.99m;
- Subgrade depth: 2.75m;
- Minimum burden (W1): 8.4m;
- Hole spacing (a): 8.4m;
- Hole burden (b): 7.56m;
- Blasting quantity for each metre: 47.66 cubic metres per metre ("m^3/m");
- Explosive consumption: 0.47 kilograms per cubic metre ("kg/m^3"); and

- Drill hole diameter: 250mm.

Rocks larger than 1,000mm in size are planned to be broken by an Ingersoll Rand Monte Pui 900MS breaking hammer before being fed into the crushers.

7.4.4.2 Loading

Based on the ore/ rock properties, and annual stripping and mining quantities, three CE(D)750-7 hydraulic excavators are designed to be used, with a standard bucket capacity of 5.5m^3 each.

One CE(D) 460-5 hydraulic excavator (2.5m^3 capacity) and three ZL490 loading machines (4.5m^3 capacities) will be equipped for auxiliary loading operations.

7.4.4.3 Open pit Road and Transportation

The haul road in the open pit is classified as grade III, with stone sub-grade greater than 300mm and is designed to be 15m wide and the maximum longitudinal gradient is 8%, with a minimum turning radius of 15m.

Considering the haulage distance and road conditions, Zhonghuan BZKD52 dump trucks (unit capacity: 52t) are proposed to be used for the ore and rock transportation. A total of 21 dump trucks are required for the Project operation.

In SRK's view, the mining and stripping technique designed in the feasibility study are conventional. However, considering the regional topography and drill mobility, SRK prefers a 150mm DTH drill to the rotary drill proposed in the feasibility study. If the 150 mm diameter drill hole is used, reductions will need to be made to the drill hole burden and spacing.

7.4.5 Mining Equipment

On-site mining equipment are shown in Table 7-4.

Table 7-4: On-site Mining Equipment

Equipment	Type	Quantity	Remarks
Shallow-hole drill rig	YT-24	1	
Excavator	CAT320	2	monthly hired
Loader	Lovol 955f	2	monthly hired
Tank car	Dongfeng 5 cubic meters ("m^3")	1	
Pressure vessel	JS-100HP，1.58MPa	1	

The main mining equipment proposed in the feasibility study is listed in Table 7-5.

Table 7-5: Mining Equipment

Item	Quantity	Power (kW)	Weight (kg)
Zhonghuan BZKD52 Dump Truck	21		40,000
ZL90 Loading Machine (4.5 m^3)	3		36,100
Ingersoll Rand Monte Pui 900MS hammer	2		
KY-250B Rotary Drill	3	400	95,500
CE(D)750-7 Hydraulic Excavator (5.5 m^3)	3	280	75,000

CE(D)460-5 Hydraulic Excavator (2.5 m^3)	1	132	45,000
BC-8 Explosives Loading Truck	1		
BZK D21T Water Truck	1		
ZQZD140 Truck	1		
KQX-100 Slope Drill	1	117	9,000
KQG-100 Submerged Drill	1	117	9,000
CP-7B Concrete Sprayer	1		
BMZ Shotcrete Machine	1		
Road Roller	1		
Refuelling Truck	1		
SY5031XJH－B2CH Ambulance	1		

In SRK's view, the main equipment listed in Table 7-5 is adequate for the requirements of the 3Mtpa stripping and mining operation.

7.4.6 Slope Maintenance

Considering the mining technical and geotechnical engineering conditions, the final open pit slope angle designed in the feasibility study is appropriate, and the slope stability is generally considered to be adequate. In addition, the following measures have been introduced to ensure the slope stability:

- Pre-splitting blasting or smooth blasting is planned to be adopted at a distance of 10m to 20m from the final pit wall to reduce the impact of blasting on the slope's stability.
- Interceptor ditches will be set up on the main platforms of the final open pit limit and surrounding the final open pit at a distance of 10m to collect and drain rainwater. All the ditches will be maintained regularly to ensure the facility's safety.
- A slope monitoring team will be installed to check and report the slope stability and proceed with any operating measures deemed necessary. The team will also be responsible for cleaning benches for production and transportation safety.
- The parameters of the final slope should be adjusted based on monitoring results and ore/ rock physical properties to keep the final pit angle with safe limits.

The slope management measures designed in the feasibility study are considered by SRK to be appropriate and compliant with production regulations for open pit mines. Safe production is expected to be achieved provided that the operating measures are effectively implemented.

SRK was told that some permanent monitoring pegs have been laid regularly on site to provide accurate survey.

7.4.7 Water Management and Drainage

Water in the side-hill open pit will be drained by gravity while the water in the trough open pit is planned to be pumped out.

To prevent rainwater from building up in the lower area of the open pit, interceptor ditches with a 6% gradient are designed to be set up at all main platforms and outskirts. Rain and production water will drain directly out of the open pit following the slope of the ditches.

The mine design includes construction of 2.3km of ditches before construction stripping is concluded. The ditches will be excavated in a trapezoidal shape (700mm × 600mm × 700mm), with C15 concrete support. The side support will be 150mm thick and the bottom support will be 100mm thick.

Settling ponds will be set up near the ditch outlets for sedimentation of production wastewater, which will be tested before recycling use and discharge.

Mine inflows in the trough open pit will be directly pumped out to the drains.

In SRK's opinion, the designed water management and drainage measures are adequate for the production of the side-hill open pit, but mining operations in the trough open pit may still be restricted during the rainy season as the water catchment area is large (2,000m × 1,000m). Therefore, some water sumps/ basins together with high-powered drainage equipment should be equipped in the trough open pit.

7.4.8 Mine Services

A water tank of 5t will be used to spraying water to suppress dust in the open pit.

The power supply facilities include: two power distribution shelters, two transformers of 630kW and 400kW for production, and one transformer of 250kW for offices and accommodation.

Explosive supply and management have been outsourced to the specialist explosive company.

Equipment maintenance will be outsourced to specialist maintenance contractors.

Ten two-way radios have been used on site to dispatch the daily operation.

7.5 Production Schedule

7.5.1 Work Schedule, Production Scale, and Service Life

The feasibility study designed the mine as a continuous 3Mtpa operation producing magnesium contained in run-of-mine dolomite ore. The planned mining capacity is based on the mining operations scheduled for 330 days per year, taking into account holidays, weather downtime and equipment maintenance, with drilling and stripping for three eight-hour shifts per day and other activities in two eight-hour shifts per day. SRK believes that the designed 3Mtpa production capacity can be achieved in 300 working days per year with same 3 shifts per day and 8 hours per shift.

The Ore Reserves after completion of construction (post 2024) is sufficient to satisfy the mining capacity of 3.0Mtpa for approximately 40 years. The service life of the mine in the feasibility study includes two years for commissioning and ramping up to the designed capacity, 37 years for stable production and one year for production ramp-down.

About 80% of the crushed ore (qualified dolomite) will be sold as raw material for magnesium smelting. The rest (unqualified dolomite) is unsuitable for magnesium smelting and will be sold as building stone. About 92% of the stripped wall-rocks (rock for sale) will be also sold as road construction materials.

Since all the ore and 92% of the wall-rock is planned for sale, the market plays a leading role in determining the production capacity. The proposed 3.0Mtpa ore production capacity will also be affected by some uncertainties in future production. Therefore, SRK suggests that Linfen Zhuangpeng should communicate with possible and potential customers and sign long-term sales contracts for 100% of the planned annual production as soon as possible, so that the planned production capacity can be assured.

7.5.2 Mine Construction

The upper part of the orebodies in the south end of mining area, south of the exploration line 7#, which have lesser amounts of mineral resources and require less construction work, are planned to be mined first. The work platform is planned to start from Line 0 and advance to the south. When the resources in the south are

extracted, the work platform will then move northward. The upper rocks are scheduled to be stripped in preparation for mining of the deeper part of the orebodies.

During the construction period, the topsoil and rocks in the south are scheduled to be stripped first. More than three stripping operation faces are required to prepare for stripping and mining in the deeper parts of the open pit. Stripping of the upper three benches in north of the mining area should also be carried out simultaneously, preparing for ore recovery in the deep ground.

Mining is planned to first occur at the 1,644m and 1,620m levels. During the construction period, all rocks above the 1,740m, 1,716m and 1,692m levels as well as part of the rocks at the 1,668m, 1,644m and 1,620m levels are planned to be mined. The total mining quantities are 7,474,800m^3 (20,410,000t), producing 150,000t of ore as a by-product.

Haul roads connecting the benches at 1,668m, 1,644m and 1,620m levels, as well as the interceptor ditches around the open pit perimeter, are planned to be built during the construction period. Two years will be needed to finish this work. The following are the final parameters at the end of the construction period:

- Prepared Ore Reserves: 1,450,297t; time required: 0.48 years (six months);
- Developed Ore Reserves: 4,756,187t; time required: 1.58 years (19 months);

SRK considers that the construction plan in the feasibility study is appropriate. The waste pre-strip during the construction period will account for more than 20% of the total stripping quantity over the lifetime of the mine. Though investments in the early period are high, the plan for this period is favourable for future mining production.

7.5.3 Production Schedule

Zhuangpeng provided a production schedule in a business plan report published in January 2018. According to the plan, SRK tabulated the production schedule and presents it in Table 7-6.

Table 7-6: Production Schedule Compiled by Zhuangpeng Dolomite Mine

Item	Unit	Ramp-up Stage		Production Stage			
		2021	2022	2023	2024~2038	2039~2042	2043~2045
Mined ore	kt	300	300	2,100	3,000	3,000	3,000
Stripping rock	kt	7,300	9,700	7,900	7,000	6,500	3,230
Stripping ratio	m^3/ m^3	24.33	32.33	3.76	2.33	2.17	1.08
Ore and waste rock in total	kt	7,600	10,000	10,000	10,000	9,500	6,230
Rock for sale	kt	550	9,260	7,540	6,690	6,210	3,080
Qualified dolomite for sale	kt	240	240	1,680	2,400	2,400	2,400
Unqualified dolomite for sale	kt	60	60	420	600	600	600
Item	**Unit**	**Production Stage**					
		2046~2053	**2054**	**2055~2056**	**2057~2058**	**2059**	**2060**
Mined ore	kt	3,000	3,000	3,000	3,000	3,000	3,000
Stripping rock	kt	1,500	1,200	1,000	700	400	200
Stripping ratio	m^3/ m^3	0.5	0.4	0.33	0.23	0.13	0.07
Ore and waste rock in total	kt	4,500	4,200	4,000	3,700	3,400	3,200
Rock for sale	kt	1,430	1,150	960	670	380	190
Qualified dolomite for sale	kt	2,400	2,400	2,400	2,400	2,400	2,400
Unqualified dolomite for sale	kt	600	600	600	600	600	5,400

As the approved mining capacity under current mining license is 300,000tpa ore, the mining production before 2023 will be constrained to this level and development work will mainly comprise stripping and civil construction. The overall stripping volume will achieve 17.60Mt. Linfen Zhuangpeng management informed SRK that all of the stripped rock material from the construction and mining period will be sold out of the mine. SRK accepts this plan but notes that the state of the rock material market is the key element to realize this plan.

Taking into account adjustment due to harsh weather conditions during winter seasons and Chinese New Year holidays, it is reasonable to assume that the Company will operate at full capacity throughout the mine life based on the following:

- For the period from 2021 to 2022, there is no technical impediment for the Company to operate at the mining capacity of 300,000t of dolomite per year, as the mining condition at the Zhuangpeng Mine is simple.
- There is a transition period (2023) after the construction period (2021-2022), during which the Company shall conduct the testing of equipment and production process. Based on the experience of SRK, our independent technical consultant, the actual production volume can generally reach 60% - 80% of the designed mining capacity. Therefore, there is no technical impediment for the Group to produce 2.1Mt of dolomite in 2023, being 70% of the designed mining capacity.
- As the mining conditions at Zhuangpeng Mine are conventional, after the transition period, there is no technical impediment to operate at the full mining capacity of 3.0Mt per year, ore from 2024 onwards.

7.6 Conclusions

The dolomite asset owned by Linfen Zhuangpeng is a large-scale open pit mine. In order to develop this mineral asset as soon as possible, the Company commissioned Xi'an NMDRI to complete a feasibility study on dolomite mining. After completing the first site visit and a review of the feasibility study, SRK concluded that the feasibility study produced by Xi'an NMDRI is feasible and can give adequate guidance for production.

SRK notes the following issues in the feasibility study, which should be resolved in the preliminary mine design:

- The final open pit limit and the mining technical and economic parameters should be further optimized;
- The mineable resources should be divided into blocks based on grade, so that the Company can adjust the mined ore grade in response to market price variations;
- The topsoil stockpiling site and the waste rock storage site design should be further improved; and
- The mine production schedule should be calculated and planned more carefully and thoroughly based on the Measured and Indicated Mineral Resources, in order to determine an appropriate life of mine.

8 Processing Assessment

8.1 Zhuangpeng's Product Plan

Dolomite, a double salt mineral, is composed of magnesium carbonate ("$MgCO_3$") and calcium carbonate ("$CaCO_3$"). It is the major mineral component of dolomite ore and dolomitic limestone. Dolomite is versatile and can be used for the following purposes depending upon its quality and the type of processing method:

- Construction materials: building stone, cement, glasses, ceramic materials and architectural coatings (heavy calcium carbonate);
- Metallurgical materials: magnesium production;
- Refractory materials: fire brick production;
- Metallurgical flux: blast furnace iron production and a basic solvent for ferroalloy smelting;
- Chemical raw materials: calcium magnesium phosphate, magnesium sulphate and magnesium oxide production; and
- Chemical packing: rubber, plastic, papermaking and paint filler.

There is no uniform quality standard for magnesium production using dolomites. According to the sales contracts signed between the Company and its major clients (Shanxi Dongyi Coal Aluminium Group and Shanxi Meijin Magnesium Alloy Science & Technology Co., Ltd), the qualified dolomites are with content of SiO2 ≤ 3%, Fe2O3 ≤ 0.5%, MgO ≥ 20%, CaO ≥ 29%, K2O + Na2O ≤ 0.25% and mole ratio of MgO to CaO between 1.035 – 1.065. The ore from Zhuangpeng Mine currently meets these standards.

The MgO grade of Zhuangpeng dolomite ore is about 20% and the mole ratio of MgO to CaO is about 1.05, Table 8-1 shows the analysis results of two batches of dolomites for magnesium smelting according to the smelters' feedback, indicating that the ore is a suitable feed material for magnesium metal production.

Table 8-1: Analysis Results of Two Batches of Dolomites for Magnesium Smelting (unit: %)

MgO	CaO	Fe_2O_3	Al_2O_3	SiO_2	K_2O	Na_2O	Mole Ratio
20.49	29.78	0.179	0.38	1.97	0.152	0.038	1.044
20.65	30.44	0.163	0.38	1.50	0.098	0.038	1.059

"Mole Ratio" is the morel ratio of MgO to CaO

A metallurgical processing test on 1,000t of Zhuangpeng Mine's dolomite was undertaken by Shanxi Dongyi Coal Aluminium Group's Xiaoyi Magnesium Plant and the spectroscopic analysis results from production in a total of 25 furnaces is shown in Table 8-2. These results indicate that the dolomite from Zhuangpeng Mine can produce high quality magnesium metal.

Table 8-2: Spectroscopic Analysis Results for Test Products (unit: %)

Shift	Furnace Quantity	Mg*	Al	Zn	Mn	Si	Fe	Ni	Cu
1	8	99.9693	0.0098	0.0046	0.0083	0.0049	0.0023	0.0003	0.0005
2	8	99.9623	0.0122	0.0038	0.0093	0.0078	0.0037	0.0004	0.0005
3	9	99.9452	0.0202	0.0054	0.0116	0.0107	0.0057	0.0004	0.0008
Average	25	99.9589	0.0141	0.0046	0.0097	0.0078	0.0039	0.0004	0.0006

* Mg content is obtained by subtracting the contents of other elements.

8.2 Current Processing Situation

A simple flowsheet is currently applied at the mine site to process dolomite ore. The Company updated the processing plant and product warehouse from May 2018 to May 2020. The new crusher and vibrating screen

have been replaced the old ones. The production was carried out from June to August 2020. Figure 8-1 shows the processing line (crushing station) at the mine site.

A jaw crusher is used for the first stage crushing and an impact crusher is applied for the second stage crushing. A three-deck vibrating screen is used for the first classification, which classifies the crushed material to three kinds of products with grain sizes of -5mm, -10 to +5mm and +10mm. The +10mm product is transported and feed to the second vibrating screen by blet conveyers for further classification. Therefore, there are five products produced currently with grain sizes including -5mm, -10 to +5mm, -20 to +10mm, and -35 to +20mm.

The main equipment currently operating at the mine is listed in Table 8-4. The crushing capacity is 200 t per hour ("tph"). There is no technical problem to allow production of a variety of size categories according to any client's requirement. The required particles size can be easily achieved by changing the mesh of the vibrating screen.

Figure 8-1: Existing Small-Scaled Processing Line

8.3 Construction and Production Plan

Over a period of two years, the Company plans to build a new crushing station to increase its production capacity to 3Mtpa from the current 300,000tpa. Mined ore with size of up to 1,000mm will be crushed to less than 60mm via three stages of closed circuit crushing and screening and classified to different size fractions. Fragments 10 - 60mm in size will be sold to magnesium smelters as feed material, the rest will be sold as building materials. The 10 – 60mm size category which includes several size grades is named as "qualified ore". The production rate of qualified ore is designed to comprise 80% of the total crushed ore, according to the test results during trial/ production. According to the data provided by the Company, among dolomite mining companies in Shanxi Province, the ratio of qualified dolomite to the total dolomite production volume ranges from 75% to 82%, while the ratio of unqualified dolomite to the total dolomite production volume ranges from 18% to 25%. SRK opines that the chosen 80% rate of qualified ore is reasonable. Meanwhile 92% of the stripped wall rock will be sold as road construction materials. The planned production outputs are listed in Table 8-3.

The main equipment in the new designed crushing station includes two crushers, two vibrating screens and some belt conveyers, as listed in Table 8-4. The yield rate of the qualified dolomite is designed at 80%. SRK is of the opinion that this equipment complies with current industry standards and is sufficient to reach a crushing capacity of 3Mtpa (or 10,000tpd), after plan modifications.

Table 8-3: Production Plan

Product	Annual Output (kt)	Sale Volume (kt)	Sale/ Output
Wall-Rock	7,000*	6,440*	92%
Dolomite Ore	3,000	3,000	100%

of which: Qualified ore	2,400	80%
Unqualified ore	600	20%

*Note: The production rate of wall-rock will vary with the stripping ratio year by year from a maximum of 7,900kt in the first year to a minimum of 80 kt during the last year of production

Table 8-4: Main Equipment in Designed Crushing Station

Operation	Equipment	Specification	Quantity	Motor Power
ROM Feeding	Vibrating feeder	ZSW-490X110	1	15kW
1st stage crushing	Jaw crusher	PE750X1060	1	110kW
2nd stage crushing	Impact crusher	PE1320	1	250kW
1st size classifying	Vibrating screen	3YA2470	1	37kW
2nd size classifying	Vibrating screen	3YK2460	1	37kW

9 Workforce Assessment

9.1 Organization Structure and Personnel Quota

Linfen Zhuangpeng has two sets of administrative bodies at the Project, one for the headquarters and one overseeing the workshop. Based on the flowsheet's requirements, Linfen Zhuangpeng's major departments include the geology/ stripping group, crushing workshop, auxiliary workshop and other functional departments.

Due to the nature of the Project and production conditions, some major processes run continuously while others are intermittent. Continuous processes run every day without holidays except as necessary for equipment maintenance. The stripping team and crushing team operate 330 days a year. The main procedures run 24 hours a day in three shifts of eight hours each.

According to the feasibility study, the Project is located in an area with an abundant labour force and a sound social service system. The workforce required for efficient operation of the proposed equipment and flowsheet is listed in Table 9-1. SRK considers that the proposed workforce is adequate to meet the Company's production capacities.

Table 9-1: Position Role and Personnel Quota (Unit: Person)

Position Role	Admin Staff	Technical Staff	Workers	Total
Geology	**1**	**4**	**6**	**11**
Geology	1	4	4	9
Survey			2	2
Mining	**1**	**4**	**115**	**120**
Drilling	1	4	16	21
Explosive loading			1	1
Blasting			2	2
Excavation			12	12
Loading			9	9
Transportation			70	70
Road maintenance			5	5
Crushing		**1**	**24**	**25**
Crushing		1	15	16
Screening			9	9
Auxiliary workshop	**1**	**3**	**7**	**11**
Power/ maintenance	1	3	5	9
Warehouse			2	2
Management and Services	**5**	**5**	**10**	**20**
Administration office	2	1		3
Finance department	1	2	1	4
Production/ technology department	1	1		2
Material purchase department			2	2
Sales department			2	2
Safety/ environment department	1	1		2
Living service			5	5
Total	**8**	**17**	**162**	**187**

9.2 Assessment of Workforce

All Company staff and employees have signed work contracts as required by labour law labour contract law of the P.R. China. The Company has also acquired endowment, medical, work injury, unemployment, and pension insurance, plus housing accumulation funds, for employees. SRK was informed during the site visit that Company staff and contractors have relatively low turnover.

The total staff turnover is about 5% per year, mostly due to migrant workers in the mining department. SRK was informed during the site visit that the Company is planning to decrease the turnover rate and build more stable management and production teams by further improving safety conditions and increasing salary levels.

10 Occupational Health and Safety

10.1 Project Safety Assessment and Approvals

SRK has sighted the following Project safety assessment reports and approvals:

- Emergency Response Plan;
- The preliminary mine design ("PMD") *Safety Section Assessment Report for Linfen Zhuangpeng Dolomite Mine*;
- The approval for the PMD *Safety Section Assessment Report for Linfen Zhuangpeng Dolomite Mine*, issued by Linfen Safety Supervision Bureau on 15 August 2011;
- The *Final Check Acceptance Safety Assessment report for Linfen Zhuangpeng Dolomite Mine*; and
- The approval for the *Final Check Acceptance Safety Assessment report for Linfen Zhuangpeng Dolomite Mine* issued by Linfen Safety Supervision Bureau on 16 January 2012.

Details of the Project's safety production permit are covered in Section 5.3 of this Report.

10.2 Occupational Health and Safety Management and Observations

SRK has sighted a simplified occupational health and safety ("OHS") management system/ procedures for the Zhuangpeng Project. This document includes basic OHS management items, such as mining and crushing safety, open pit slope failure prevention, blasting and explosives handling, waste rock disposal, environmental dust and noise suppression, emergency response, construction safety, fire protection and fire extinguishment, sanitation, power, labour and supervision and safety administration.

SRK observed that appropriate safety signage was in place in the mining and crushing areas and minimum personal protective equipment ("PPE") requirements were provided to the workers. In addition, protective shields, protective fences and water sprinklers were installed around crushers to protect workers.

10.3 Historical Occupational Health and Safety Records

The Company provided monthly OHS statistics records, which indicate that there were no fatalities/ injuries after the commencement of commercial operation. In addition, SRK reviewed monthly safety inspection reports including open pit operation, open pit slope stability, workers PPE and electrical equipment, etc. Some minor deficient safety performances were identified and corrected immediately.

11 Capital Expenditures and Operating Costs

11.1 Capital Expenditures

11.1.1 Capital Expenditure and Investment Scope

The estimate for the Capex is based on the proposed 3Mtpa ore mining and processing capacity. The Capex covers land purchase, mining rights, project feasibility study, mining design, mine infrastructure construction for prospecting, open pit mining and crushing and auxiliary projects. The project construction is expected to take two years and be put into operation in the third year at 70% capacity. Normal production is assumed to start from the fourth year.

The forecast total Capex is 286.50 M'CNY and an additional forecast working capital of 46.64 M'CNY.

11.1.2 Capex for Construction

Construction Capex includes investments on engineering expenses, other expenses and contingency allowances. The total construction expenditure is presented in Table 11-1. In addition, a value added tax ("VAT") of 3.34 M'CNY is estimated for the fixed assets, which can be deducted from the Project's sales VAT.

Engineering Capex include engineering costs for the following single projects:

- Main production units: geological engineering, open pit mining, crushing workshop;
- Auxiliary units: mechanical repair workshop, laboratory and warehouse;
- Public utilities: heating, water supply/ drainage, power supply, communications and transportation; and
- Administrative/ logistic facilities: office building, cafeteria, toilet facilities and staff dormitory.

Mining expenditures are not included in civil engineering expenses, as the actual mining work is contracted out and all mining equipment and facilities will be provided at the contractor's expense.

Other Capex include land acquisition, administration management, equipment/ workshop furniture purchases, joint commissioning, laboratory research, office furniture purchases, staff training, environment impact assessments, safety assessments, project supervision, project insurance, project demonstration, feasibility studies, designing, prospecting, project cost consulting, bid compiling, as-built drawing compiling and safety production.

The contingency allowance is money set aside to meet unexpected expenditures apart from engineering expenditures and other expenditures. The contingency allowance is estimated at 5% of the sum of engineering expenditure and other expenditure, as shown in Table 11-1.

Table 11-1: Construction Expenditure Breakdown

Investment Items	Expenditure ('000 CNY)
Geological Engineering	9,117
Open Pit Mining Development	165,654
Crushing Engineering	8,762
Auxiliary Facilities	3,064
Public Facilities	23,971
Administrative Facilities	8,542
Land Purchase	29,396
Mining Right	8,352
FS, Design, EIA, Safety Assessment	8,666
Other	7,333
Contingency Allowance（5%）	13,643

Total Expenditure	**286,500**

In the economic analysis cash flow model, it is assumed that the construction will start in 2021, and the amount of construction investment will be evenly distributed in the two-year construction period, that is, in 2021 and 2022, it would be 143.25 M'CNY respectively.

11.1.3 Working Capital

According to the feasibility study reports, the estimated working capital is 46.64 M'CNY (see Table 11-2).

Table 11-2: Working Capital Breakdown (Unit: CNY 1,000)

Item	Minimum turnover days	Annual turnover	Year with full capacity ('000 CNY)
Liquid asset			**52,847**
Receivables	60	6	23,374
Inventory			19,222
Raw material expense	30	12	6,205
Unfinished product	20	18	5,225
Finished product	20	18	7,791
Cash	60	6	10,251
Current liabilities			**6,205**
Accounts payable	45	8	6,205
Working Capital			**46,642**

11.2 Operating Cost

11.2.1 General Introduction

The annual mining capacity is planned to be 3Mt, 80% of which (2.4Mt) should be appropriate for smelting (qualified dolomite ore) after crushing-sieving and will be sold to magnesium smelters; the remaining 20% (0.6Mt) will be sold as building stone. The stripping ratio ranges from 32.33 to 0.04, decreasing stage by stage and year by year and averaging 1.55. A total of 182.87Mt of rocks will be stripped, 92% of which will be sold as stone without crushing and screening and 8% of which will be discharged as waste rock. An average of 7Mt of wall rock will be stripped in a normal production year.

Auxiliary materials will be purchased domestically. Prices are estimated based on information provided by the Company. Prices for water, electricity and coal are estimated based on local market conditions. Figure 11-1 illustrated the composition of the operating costs.

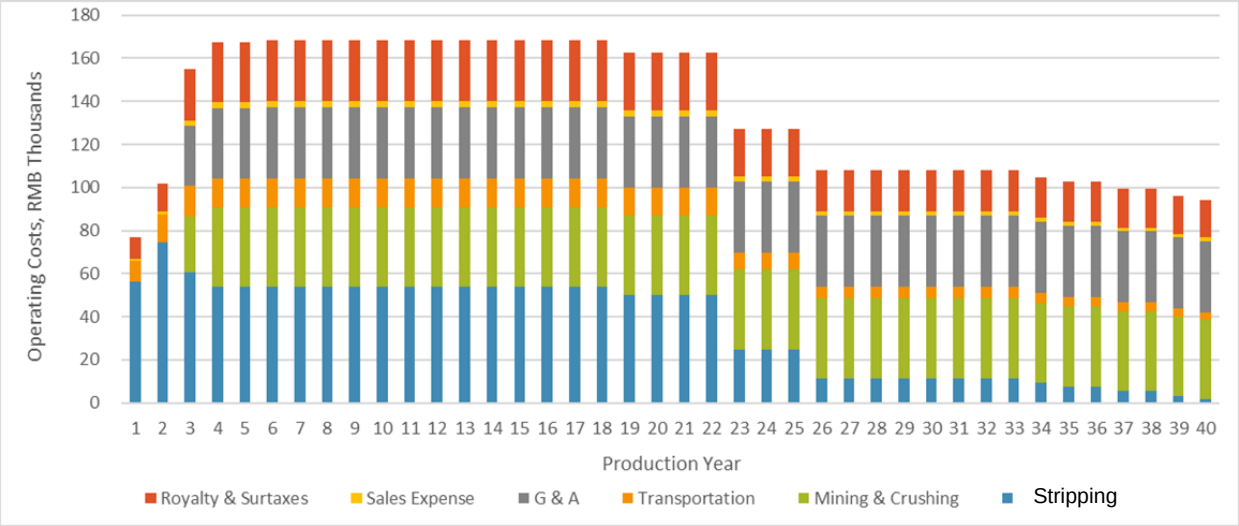


Figure 11-1: Operating Costs Composition over LOM

11.2.2 Mining and Crushing Cost

The stripping, mining and crushing will be carried out by contractors. The total unit cost for stripping is 7.69 CNY per tonne of wall-rock. The total unit cost for mining and crushing is 12.37 CNY per tonne of ore. The annual mining and crushing capacity is planned at 3Mt and normal annual stripping is planned at 7Mt. A unit costs breakdown is presented in Table 11-3.

Table 11-3: Mining and Crushing Costs (unit: CNY/ t)

Item	Stripping (CNY/t Rock)	Mining and Crushing (CNY/t Ore)
Stripping Material Consumption	5.14	5.14
Crushing Material Consumption		3.42
Power and Water	0.90	2.18
Salary and Welfare	0.77	0.76
Factory Overhead	0.88	0.87
Wages for Administration	0.04	0.03
Maintenance	0.42	0.42
Labor Protection	0.14	0.14
Others	0.28	0.28
Total Unit Operating Cost	**7.69**	**12.37**

11.2.3 On-Site Transportation

The stripped rock would be stockpiled prior to sale. The waste rock stockpile is 3km from the mine site and the open pit is 2km from the crushing plant. Transportation costs in the mine are 1.5 CNY per tonne of rock and 1.0 CNY per tonne of ore, which are calculated at a rate of 0.5 CNY per tonne per kilometre.

11.2.4 Administrative Expense

Administrative expenses refer to all expenses arising in business management and organization as carried out by the administrative department, whose management covers all business activities including mining, crushing and haulage. Details of the annual administrative expenses at full capacity are listed in Table 11-4. Administrative expenses excluding depreciation and amortization are estimated at 33.01 M'CNY per year.

Table 11-4: Administrative Expenses

Item	Annual Cost ('000 CNY)
Wages and welfares	3,455
Worker's union funds and education	255
Maintenance	76
Land Use Tax	1,353
Environmental Security Deposit	1,128
Forest Restoration and Compensation	20
Safety production （CNY 5 per tonne of ore）	15,000
Land Restoration (start from the 6th production year)	761
Others	10,959
Total Management Operating Costs	**33,007**

11.2.5 Financial and Sales Expenses

Financial expense refers to the loan interest of working capital. Working capital is budgeted at 46.64 M'CNY. 70% of the working capital is assumed to be loaned and the loan interest rate is 6%, the financial expense will be 1.96 M'CNY.

Sales expenses are related to product marketing and sales, which include loading and other costs, but not include product transportation from mine site to consumers. The feasibility study estimates the sales expenses at 1% of the total revenue. SRK opines that the capacity of the market and sales distance may to a large extent determine the economic benefits of the project.

11.2.6 Product Price and Sales Revenue

According to the Product Purchase and Sales Contracts ("PPSC") between Zhuangpeng and four customers, the qualified dolomite price is 78 CNY/t and a preferential price of 75 CNY/t if prepaid; the unqualified dolomite price is 38CNY/t with a preferential price 20 CNY/t; the wall rock price is 28 CNY/t with a preferential price 20 CNY/t.

SRK did not carry out any survey on the market prices and market capacities for dolomite. All information used in the report was sourced from Zhuangpeng Magnesium Industrial Co., Ltd. The prices of CNY 75/t for qualified dolomite and CNY 20/t for unqualified dolomite and wall rocks are used in the following sections of economic analysis. Figure 11-2 illustrates the sales revenue composition.

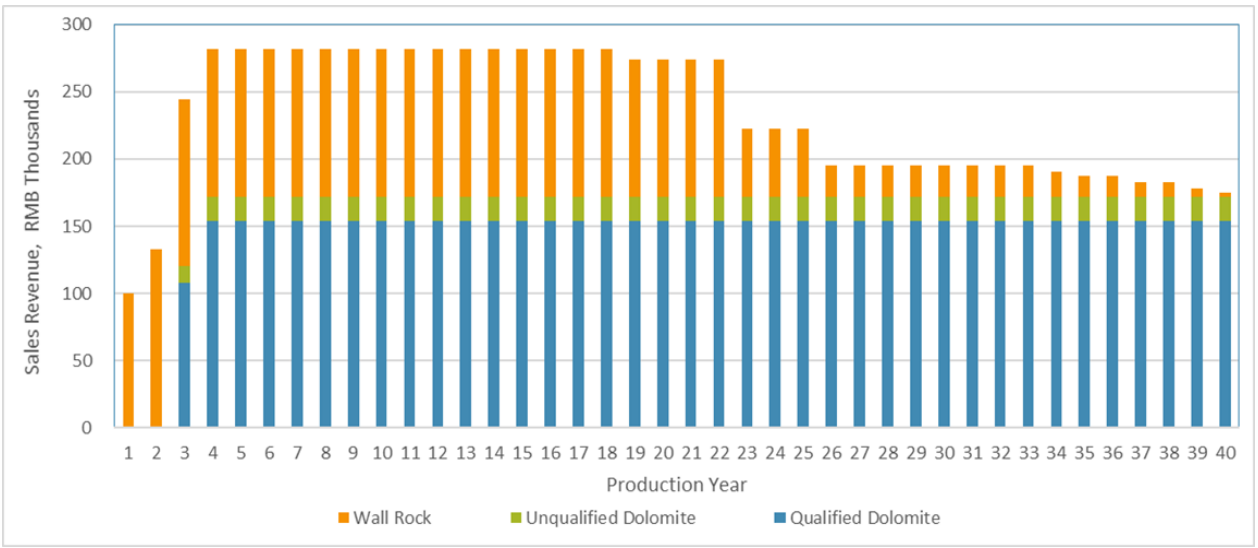


Figure 11-2: Sales Revenue Composition over LOM

11.2.7 Royalties and Taxes

Royalties and taxes include the resource tax, city maintenance and development tax, and educational surtaxes, all of which can be called sales taxes. The resource tax is levied based on the sales revenue and mining quantity. It is 5% of sales revenue. The city maintenance and development tax are paid on the payable VAT at rates of 7%. The educational surtaxes include educational surtax and local educational surtax which is paid on the payable VAT at the rate of 3% and 2% respectively. The payable VAT is sales VAT minus input VAT. The sales VAT is 13% of the sales revenue, while the base input tax is payable on purchased materials, fuel, power and fixed assets. Sales revenue and tax calculations are detailed in Table 11-5.

Table 11-5: Sales Revenue and Sales Taxes

Item	Unit Price or Tax Rate	Sales Volume or Taxable Base	Sales Revenue or Tax ('000 CNY)
Sales revenue (VAT excluded)			**383,894**
Sales revenue (VAT included)			**320,800**
Qualified dolomite	CNY 75/ t	2,400 kt	180,000
Unqualified dolomite	CNY 20/ t	600 kt	12,000
Stripping rocks	CNY 20/ t	6,440 kt	128,800
Value-added tax payable			**27,226**
Output VAT	13%	283,894 K CNY	36,906
Input VAT	13%	74,465 K CNY	9,680
Sales tax and surtax			**17,462**
City development/ maintenance tax	7%	27,226 K CNY	1,906
Educational surtaxes	5%	27,226 K CNY	1,361
Resource tax	5%	283,894 K CNY	14,195

12 Economic Analysis

12.1 Principal Assumptions

It should be emphasized that the economic analysis presented in this section is based purely on the results of the technical review provided in previous sections and is provided for the Mineral Resource to Ore Reserve conversion purposes not for the project valuation.

The Project is currently 0.3Mtpa ore scale and the Company has conducted a feasibility study on expanding to 3Mtpa ore. Relevant Capex and operating costs have been estimated in the feasibility study report. An economic analysis of the Project using the discount cash flow ("DCF") model is based on the following assumptions gathered from the feasibility study and adjusted by SRK where necessary to match the principal assumptions (summarized in Table 12-1):

- It is assumed that the 3Mtpa dolomite ore mining and processing capacity can be realised, all the products can be sold at the assumed prices, and the mining licence can be upgraded to 3Mtpa from the current 300,000tpa on time;
- The estimated life of mine is 40 years, including a two-year construction period (2021 to 2024). A detailed production schedule is tabulated in Table 7-6;
- Within the construction capital cost, the depreciation period for on-site buildings is set at 30 years; machinery and equipment are depreciated at 10 years. The residual rate of fixed assets is set at 4% and will be reclaimed in the expiration year. Land, mining rights and exploration is amortized over 30 years; other expenses are amortized over 5 years;
- The DCF model assumes a budgeted working capital of 46.64 M'CNY based on the production rate and be totally reclaimed at year-end;
- The dolomite mined is crushed and sieved, eighty percent (80%) of it is sold for magnesium smelting and the rest is sold as building stone, 92% of the stripped wall rock is sold as road construction materials and all the production in each year is sold in that year;
- Product prices include VAT and are considered to remain stable during the life of the mining operation. Qualified dolomite is priced at 75 CNY per tonne, un-qualified dolomite is 20 CNY per tonne and wall rock is 20 CNY per tonne;
- The dolomite resource tax is levied at 5% of sales revenue. The wall rock resource tax is levied at 5% of sales revenue as well;
- Sustaining capital is estimated at 2.5% of the capital cost;
- Sales expense is assumed at 1% of sales revenue;
- CNY shall be the functional currency, regardless of price changing factors such as inflation and rising wages; and
- The discount rate is estimated at 9%.

Table 12-1: Assumption and Parameters Used in DCF Model

Item	Unit	Amount
Ore Reserve		
Proved + Probable Ore Reserves (JORC Code 2012)	Mt	113.40
Production Plan		
Dolomite Production Rate	Mtpa	3.0
Qualified Dolomite Yield	%	80
Unqualified Dolomite Yield	%	20
Saleable Wall Rock Yield	%	92
Construction Period Proposed	year	2
Life of Mine	year	38
Calculation period	year	40
Economy		
Construction Expenditure	M'CNY	286.50
Working Capital	M'CNY	46.64
Sustained Capital (Project Investment Base)	%	2.5

Stripping Cash Operating Cost	CNY/t	7.69
Mining and Crushing Cash Operating Cost	CNY/t	12.37
Dolomite Load and Haul Cost on Site	CNY/t	1.00
Wall Rock Load and Haul Cost on Site	CNY/t	1.50
Depreciation and Amortization	M'CNY/year	19.56
G&A	M'CNY/year	33.01
Financial Expenses	M'CNY/year	1.96
Sales Expenses (Sales Revenue Base)	%	1.00
Price of Qualified Dolomite (including VAT)	CNY/t	75.00
Price of Unqualified Dolomite (including VAT)	CNY/t	20.00
Price of Saleable Wall Rock (including VAT)	CNY/t	20.00
Resource Tax (sales revenue based)	%	5.00
Value-added Tax (VAT)	%	13.00
City Maintenance and Development Tax (payable VAT based)	%	7.00
Educational-surtax and Local Educational-surtax (payable VAT based)	%	5.00
Corporate Tax Rate (grass profit based)	%	25.00
Discount Rate	%	9

12.1.1 Discount Cash Flow Analysis

SRK analysed the Project cash-flow over the life of the mine. At a discount rate of 9%, the net present value ("NPV") of the Project is 487.47 M'CNY. The Project's internal rate of return ("IRR") is 28.55% and the static investment pay-back period is 5.26 years (counted from 2021 including the construction period).

Figure 12-1 shows the changes of the NPVs under different discount rates.

Figure 12-1: NPV vs Discount Rate

The reader is cautioned that the economic analysis herein is presented only to fulfil the requirements of the Ore Reserve statement and should not be misconstrued as a Valuation of the Project.

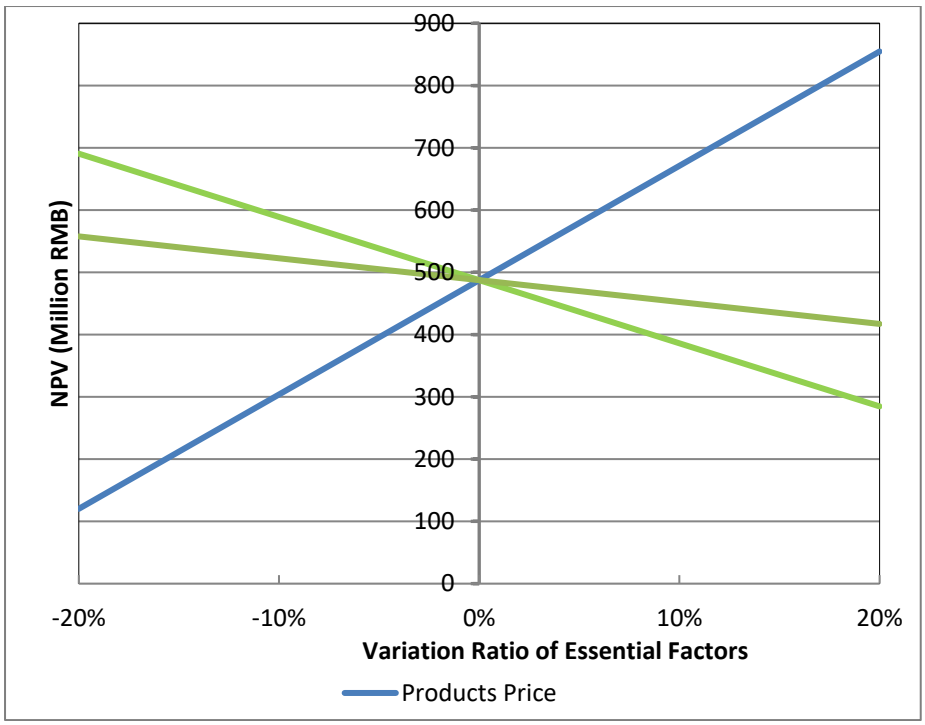
12.1.2 Sensitivity Analysis

Sales income or product price, cash operating costs and construction investment are selected as the sensitive variable factors for Project cash flow. The varying effects of these essential factors on IRR and NPV are analysed within a ±20% range. The results are shown in Table 12-2 and Figure 12-2 , which indicate that the sales price is the most sensitive factor to the Project, followed by production cost. Construction investment

is not a key sensitive factor for the Project. The critical value for the sales price is the current price dropping by 26.0%.

Table 12-2: Sensitive Coefficient of NPV (at a 9% discount rate)

Sensitive Factor	Variation Ratio	IRR	NPV(M'CNY)	Switch Value	NPV Sensitivity
Base		28.5%	487		
Price of Products	-20%	13.6%	120	-26.0%	3.8
	-10%	20.8%	304		
	10%	37.0%	671		
	20%	46.4%	855		
Cash Operating Cost	-20%	39.0%	691	46.8%	2.1
	-10%	33.6%	598		
	10%	23.9%	386		
	20%	19.6%	285		
Capital Expenditure	-20%	37.0%	543	134.3%	0.7
	-10%	32.2%	507		
	10%	25.6%	437		
	20%	23.1%	402		



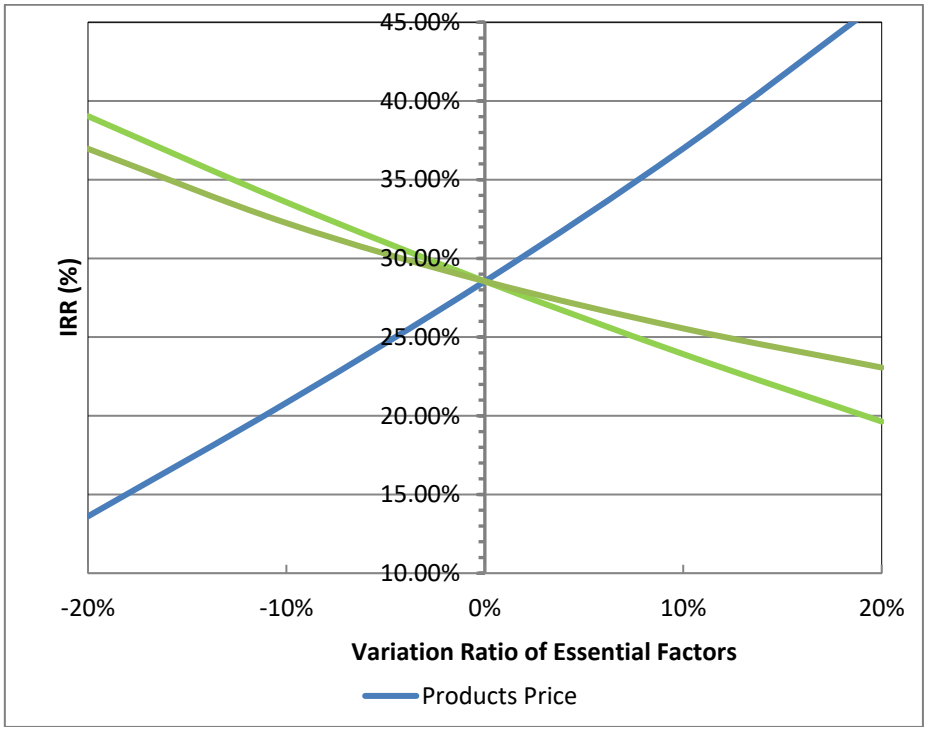


Figure 12-2: Univariate Sensitivity Analysis of IRR and NPV (9.69% Discount)

13 Infrastructure

13.1 Road Access

The mine is located north of National Highway #209 and the Hong-Yong Provincial Road, which passes from Yonghe County through Xi County to Hongdong County and which is connected to Shangzhuang Village in Huangtu Town by a 12.5km long county road. A local road has been built connecting Shangzhuang Village to Xi County, about 30km away.

The mine is 10 km from the Fen-Yong Provincial Road, connecting Fenxi County with Yonghe County and is 11 km from the Huozhou-Yonghe Highway. Generally, the area has convenient road access.

All of products are planned to be transported to customers by road truck. A 1km long mine road was built in 2020 to connect the open pit and the Junling County road to facilitate product's transportation.

13.2 Electrical Power Supply

A 6kV substation in the mine can supply the power for processing activities. A power supply contract signed with Power Supply Bureau of Xi County is in place now.

13.3 Water Supply

Water is supplied through pipelines from the Xiali Magnesium Industrial Park for both domestic and industrial needs. In the mining area, water towers are built to distribute water for domestic, production and fire prevention uses.

A 135m deep water well with high pressure pumps installed in it has been drilled in the mine area to supply domestic water and process water.

13.4 Heating System

Three suits of air energy DKFXRS-30II with each has a power rating of 8300 watts were installed in 2019 to supply heating for living in winter.

13.5 Office Buildings and Accommodation

Office and accommodation facilities are constructed at the mining areas, which are located approximately 250 m north of the mining area, at distances and locations convenient for internal and external connections. The office buildings, dormitories and cafeterias are all included in the construction plans.

13.6 Communication

The mine relies on China Mobile to communicate with the offsite office.

14 Environmental and Social Assessment

14.1 Environmental and Social Review Objective

The objective of this environmental review is to identify and or verify the existing and potential environmental liabilities and risks and assess any associated proposed remediation measures for the Zhuangpeng Project. Please note that the site visit was restricted due to the global Covid-19 pandemic, and instead a virtual site visit was conducted via video clips and pictures taken by the on-site staff. At the time this report was written, the Project site was not on operation because of wintertime shutdown. The site will resume the operation in this March.

14.2 Environmental and Social Review Process, Scope and Standards

The verification process for the Zhuangpeng Project's environmental compliance and conformance comprised a review and inspection of the project's environmental management performance against:

- Chinese national environmental regulatory requirements (Appendix 3);
- World Bank/ International Finance Corporation ("IFC") environmental and social standards and guidelines (Appendix 4); and
- Internationally recognised environmental management practices (Appendix 5).

14.3 Status of Environmental Approvals

The details of the Environmental Impact Assessment ("EIA") reports and approvals for each project are presented in Table 14-1.

Table 14-1: EIA Reports and Approvals

Project	Produced By	Production date	Approved By	Approval date
Linfen Zhuangpeng Dolomite Mine (300,000tpa)	Beijing Venture Environmental Science and Engineering Co., Ltd	Dec.2010	Shanxi Province Xi County Environmental Protection Bureau	30 Dec 2010

The details of the Water and Soil Conservation Plan ("WSCP") reports and approvals for each project site are presented in Table 14-2

Table 14-2: WSCP Reports and Approvals

Project	Produced By	Production date	Approved By	Approval date
Linfen Zhuangpeng Dolomite Mine (300,000tpa)	Shanxi Yatu Water Conservancy Consulting Ltd	January 2013	Shanxi Province Xi County Water Bureau	29 January 2013

SRK was provided with the newly prepared Environmental Final Check Acceptance report and the details of the report and related registration information are presented in Table 14-3.

Table 14-3: Final Check and Acceptance Report and Approval

Project	Produced By	Production date	Registration Organisation	Approval date
Linfen Zhuangpeng Dolomite Mine (300,000tpa)	Linfen Zhuangpeng Magnesium Industry Co., Ltd	2020	China Discharge Permit Database	25 January 2021

14.4 Environmental Compliance and Conformance

SRK notes that the EIA report has been compiled in accordance with relevant Chinese laws and regulations. SRK has reviewed this EIA report and the feasibility study and conducted an environmental site visit against recognized international industry environmental management standards, guidelines and practices. In the following sections, SRK provides comments in respect to the Project's proposed environmental management measures.

14.5 Land Disturbance

The WSCP approval defined a total Project land disturbance area of 116.82 ha for mining and crushing activities; no other documented, estimated and/ or current surveyed areas of land disturbance for Zhuangpeng Project have been sighted as part of this review. The Company regularly conducts surveys to record areas disturbed by the mining and crushing activities, as required by the newly released regulation promulgated in December 2012. SRK notes that progressive land surface revegetation on the industrial area was conducted in 2020.

14.6 Flora and Fauna

The EIA report makes the following statements with respect to flora and fauna:

- The Project is located in a forest area in a mountainous region with elevations above 1,500m ASL;
- Regional vegetation comprises mainly trees, shrubs and grasses;
- No protected flora or fauna species are recorded within the Project assessment area; and
- To protect local flora and fauna, the disturbed area shall be limited during mining and the Project site shall be rehabilitated by revegetation after mining is completed.

14.7 Waste Rock Management

The EIA report states that a waste rock storage area will be deposited in a valley adjacent to the mine. Waste rock will be filled into the valley and the waste rock dump area will be covered by topsoil with vegetation after the life of service. SRK notes that a tailings storage facility is not applicable for this Project since only crushing is involved on site, nor did SRK observe any such facility.

SRK noted that the south valley area was filled to the top of the valley with waste rock and mine products and other under-sized by-products were stockpiled on top. The Company states that mine products are transported to a dolomite refinery plant regularly and the remaining by-products, mostly fine to coarse gravels, are sold as raw construction materials.

SRK was not provided with a documented Acid Rock Drainage ("ARD")/ geochemical characterisation assessment of the waste rock to confirm the potential (if any) for significant leaching/ ARD impacts to the environment. However, according to the results of geological analysis on the ore, the majority component is dolomite (94%), the sulphur content is approximately 0.032% and pyrite, pyrrhotite and chalcopyrite contents are negligible. Therefore, the potential to release ARD to pollute environment is low. In addition, SRK did not observe any evidence of ARD from the waste rock dump area. SRK did not observe any waste rock storage area in the south valley, but the feasibility study proposes a waste rock storage area, stormwater swales and a brief rehabilitation plan for the waste rock dump area after the site expansion. The Company plans to build a waste rock storage area in the near future.

14.8 Water Aspects

Both domestic water and mining operation water are sourced from a local spring named Mapao, which is outside of the mining license area. During the rainy season, water from a creek within the mining license area is available as well for operational use. According to the EIA report, the water quality from Mapao

Spring meets Chinese drinking water standards. The mining operations' water use is limited to dust control only, since only mining and crushing actives are involved on site for this Project.

The mine site lacks a comprehensive stormwater management system and SRK was not provided with any stormwater management plans or designs. The Company plans to design such a stormwater management system. Domestic wastewater is treated in an underground septic tank on-site and the treated wastewater is discharged into a creek nearby.

14.9 Dust and Gas Emissions

Dust emissions for the Zhuangpeng Project are mainly from mining, crushing, blasting, waste rock storage and transportation. However, no significant fugitive dust emissions from these sources were, as the mine was not in commercial production at the time of the report compilation. SRK notes that the potential for significant off-site residential dust impacts is low, as the site is remote with few nearby residences/ settlements.

The EIA report states that the site's dust management primarily comprises regular water spraying on roads and open areas by water trucks, an enclosed belt conveyor system, a wind fence around the waste rock stockpiling area, dust collection systems in the crushers, covering fully loaded trucks with tarpaulin and vehicle speed limits. The Company implemented these measures, including warehouses to enclose the crushers, the belt conveyor system and final product stockpiling areas, and a bag dust collector to collect the dust from the crushers. Therefore, the dust emissions are controlled effectively.

Gas emissions for the project are from heavy equipment such as mining equipment, ancillary mining equipment and general operational vehicles. SRK has sighted background records of gas emission concentrations in the EIA report, and gas emission records of sulphur dioxide ("SO_2"), nitrogen dioxide ("NO_2"), and total suspended particles ("TSP") collected in September 2012 which showed no exceedances. SRK notes that the site utilizes geothermal heating system during the wintertime, and the old coal burning boiler has been de-commissioned. Therefore, the gas emissions of SO_2 and NOx can be reduced significantly.

14.10 Noise Emissions

The main sources of noise emissions for the Project are from blasting, mining, crushing and mobile equipment (mainly drilling, haulage and crushing activities). SRK notes that the potential for significant off-site residential noise impacts is low as the site is remote with no nearby residences/ settlements. The feasibility study proposes noise control measures to mitigate noise emissions, such as choosing low noise equipment and utilizing sound insulating boards. It should be noted that the crushing takes place within the warehouses, which can reduce the off-site noise emissions significantly.

14.11 Hazardous Materials Management

SRK has not sighted any documentation in relation to any hazardous materials management for this project. However, SRK observed (during a previous site visit) that some fuel drums were stored in a locked room with proper safety signage, but other empty drums were left in an open area near the site gate. The Company does not store any explosives on-site and all rock blasting work is handled by a certified explosive contractor.

SRK recommends that consideration be given to developing management measures for hazardous materials handling. The Company has stated that they plan to establish a hazardous material handling system.

14.12 Waste Management

14.12.1 Waste Oil

The EIA report does not specify where and how waste oil will be generated from the proposed maintenance of the mobile equipment, or how this will be collected and disposed of or recycled. As the mine has just started commercial production for only few months, very few pieces of mobile equipment were on-site. SRK suggests that consideration be given to developing a waste oil collection and recycling process.

14.12.2 Solid Wastes

The EIA report states that solid waste (municipal solid) will be taken off-site for reuse cycling or disposal (i.e., there will be no on-site disposal of solid wastes). The Company states that on-site municipal solid wastes are collected in various rubbish cans and sent to a collection point in the village nearby twice a week. Eventually, the Xi County garbage trucks will dispose of all these wases in a landfill. SRK opines that solid waste management for this project is in line with Chinese regulations.

14.13 Contaminated Sites Assessment

The Project has potential to generate contaminated areas through spillages/ releases of hydrocarbons. SRK observed (during a previous site visit) some minor oil spillage at the project site from uncontained 205 litre ("L") oil drums. The respective EIA reports do not describe a process for assessment and/ or remediation of this potential site contamination.

SRK suggests that consideration be given to developing a contaminated sites assessment and management process. The Company plans to put more efforts to prevent spills and leakages of oil to minimize the contamination.

14.14 Environmental Protection and Management Plan

The EIA report provides the structure and scope for an operational Environmental Protection and Management Plan ("EPMP"), which is inclusive of the site's proposed environmental monitoring program and is in line with Chinese requirements. However, a fully functioning and documented operational EPMP in line with these EIA specifications has yet to be implemented at the project site. In particular, SRK has not sighted, as part of this review, any documented contractual agreement with the local environmental monitoring station/ bureau for the site's environmental monitoring program.

No such plan has been developed for the Project operations that cover the above mentioned components. However, the project EIA reports reviewed by SRK describe the various components of a comprehensive operational EPMP for each of the respective sites, such as environmental protection objective, control strategies, environmental administration, regular air/ water/ noise monitoring to be conducted by the local environmental protection bureau monitoring stations, environmental inspection during site construction, and site environmental management.

14.15 Site Closure Planning and Rehabilitation

The Chinese national requirements for mine closure are covered under Article 21 of the *Mineral Resources Law* (effective on October 1, 1986 and amended on August 29, 1996), the *Rules for Implementation of the Mineral Resources Law of the People's Republic of China* (1994), *Mine Site Geological Environment Protection Regulations (effective on May 1, 2009),* and *the Land Rehabilitation Regulation (2011)* issued by the State Council. In summary, these legislative requirements cover the need to conduct land rehabilitation, to prepare a site closure report and to submit a site closure application for assessment and approval.

The recognised international industry practice for managing site closure is to develop and implement an operational site closure planning process and document this through an operational Closure Plan. While this

site closure planning process is not specified within the Chinese national requirements for mine closure, the implementation of this process for a Chinese mining project will:

- Facilitate achieving compliance with these Chinese national legislative requirements; and
- Demonstrate conformance to a recognised international industry management practice.

SRK was provided with two plans, both prepared by Shanxi No. 5 Geology Engineering Exploration Institute in 2013: a site geological environmental protection and rehabilitation plan and a land reclamation plan. In addition, Mine Site Ecological Environment Protection and Restoration Plan prepared by Shanxi Taixin Geological Survey Technical Service Co., Ltd was provided to SRK for review. These plans generally provide the following in respect to the proposed site closure and rehabilitation measures:

- Site rehabilitation/ reclamation objective – a program aimed at rehabilitating land disturbed by mining operations to control the negative impacts and improve ecological environment;
- Geological hazard mitigation – open pit slope areas with poor stability will be cut into less steep slopes and a diverting swale will be installed in the upper slope area to route stormwater away from the slope;
- Industrial area rehabilitation – at the time of the Project completion, the disturbed area including the camp, open pit and waste dump will be capped with topsoil where possible and will be replanted with trees and grass; however the open pit slopes will not be replanted as it comprises bare rock and steep slopes;
- Rehabilitation monitoring – regular rehabilitation monitoring and associated surveys will be carried out throughout the rehabilitation/ reclamation stage;
- Site geological rehabilitation costs were estimated at 1,434,300 CNY, but SRK was not provided with any deposit receipts for this amount of money into a designated account set up by the local government. The Company stated that such a deposit was not required by the local government at the time of writing this report; and
- Approximately 28.828ha area land will be reclaimed with an estimated construction budget of 1,720,000 CNY. The local government requires the full payment has to be finished within four years, with each payment of 430,000 CNY to a designated bank account. SRK was provided with the first payment receipt dated 21st December 2017.

SRK opines that the proposed measures mentioned in these two plans should be implemented to mitigate the impact to the ecological system; additional measures, such as a topsoil salvage plan, should be considered as well.

14.16 Social Aspects

The Zhuangpeng Mine is located in a mountain area within Huangtu Township, approximately 25 km east of Xi County, Shanxi Province. There are no reported nature reserves or significant cultural heritage sites within the Project site. The nearest residence is reported as being 0.5 km away from the mine. The Company states that it has acquired all proper land access needed to carry out mining activities for this project through obtaining land compensation agreements and it also obtained a pre-approval for forest area usage.

A public participation project was undertaken as part of the Project's EIA report. The survey results showed 98.3% support for the project and a predominant view that the development of the Project will contribute to improvements in the local economy. The potential for waste rock pollution was raised as the key environmental concerns for the plant's development.

As part of this review, SRK has not sighted any documentation in relation to any actual or potential impacts of non-governmental organisations on the sustainability of the Zhuangpeng Project.

14.17 Evaluation of Environmental and Social Risks

The sources of inherent environmental risk are project activities that may result in potential environmental impacts. These project activities have been previously described within this report.

The inherent environmental risks for the project are:

- Waste rock stockpiling/ waste rock dump impacts;
- Poor land rehabilitation and site closure;
- Poor stormwater management; and
- Land contamination due to inadequate hydrocarbon storage and handling.

The above environmental risks are categorised as moderate/ tolerable risks (i.e., requiring risk management measures). In addition, the Company is of the view that the environment issues identified above will be under consideration and resolved in the foreseeable future.

Based on the review of the information provided and the virtual site visit observations, it is SRK's opinion that the environmental risks for this Project are generally being managed in accordance with Chinese national requirements.

15 Project Risk Assessment

Mining is a relatively high-risk industry and risk generally decreases from exploration, development, through to the production stage. SRK considers the Zhuangpeng Project to be at production stage.

SRK considered various technical aspects which may affect the feasibility and future cash flow of the project and conducted a qualitative risk analysis which has been summarised in Table 15-1. In this risk analysis, various risk sources/ issues have been assessed for Likelihood and Consequence and then a Risk Rating has been assigned. The qualitative risk analysis uses the following definitions for likelihood and consequence:

- **Likelihood:**

  - Certain: The event is expected to occur in most circumstances.
  - Likely: The event probably will occur in most circumstances (or may occur on a regular basis such as weekly or monthly).
  - Possible: The event should occur at some time (i.e., once in a while).
  - Unlikely: The event could occur at some time.
  - Rarely: The event may occur only in exceptional circumstances.

- **Consequence:**

  - Catastrophic: Disaster with potential to lead to business failure.
  - Major: Critical event/ impact which, if uncorrected, will have a material effect on the project cash flow and performance and could lead a project failure; but with proper remedial management, will be endured.
  - Moderate: Significant event/ impact which, if uncorrected, will have a significant effect on the project cash flow and performance, but may be managed under normal procedures.
  - Minor: Consequences/ impacts that may be readily absorbed and will have little or no effect on the project cash flow and performance, but some remedial management effort is still required.
  - Insignificant: No additional/ remedial management required.

The subsequent risk ratings are defined as:

- **Extreme/ high risks –** unacceptable risks to the project, which if uncorrected, may result in business failure or critical impacts to business.
- **Medium risks** – tolerable risks to the project, which require the application of specific risk management measures so as to not develop into high risks.
- **Low/ negligible risks** – acceptable risks to the project, which generally comprise low probability/ low impact events that do not require additional specific risk management measures.

The full qualitative risk analysis process is described in Appendix 5.

Table 15-1: Project Risk Assessment of the Zhuangpeng Dolomite Mine

Risk Issue	Likelihood	Consequence	Overall
Geology and Resource			
Lack of Significant Mineral Resource	Unlikely	Minor	Low
Lack of Significant Ore Reserve	Unlikely	Minor	Low
Significant Unexpected Faulting	Unlikely	Moderate	Low
Significant Unexpected Karst Cave	Possible	Moderate	Medium
Unexpected Groundwater Ingress	Unlikely	Moderate	Low
Mining			
Significant Production Shortfalls	Unlikely	Minor	Low
Production Pumping System Inadequacy	Unlikely	Moderate	Low
Significant Geological Structure	Possible	Moderate	Medium
Excessive Surface Subsidence	Unlikely	Minor	Low

Poor Mine Plan	Unlikely	Moderate	Low
Poor Road Transportation/ safety	Unlikely	Moderate	Low
Ore Processing			
Lower Technical Flowsheet Reliability	Unlikely	Moderate	Low
Lower Equipment Reliability	Unlikely	Moderate	Low
Lower Production output	Unlikely	Moderate	Low
Environmental			
Poor dust control	Possible	Moderate	Medium
Waste rock stockpiling/ waste rock dump impact	Possible	Moderate	Medium
Poor land rehabilitation and site closure	Possible	Minor	Medium
Poor stormwater management.	Likely	Minor	Medium
Land contamination (i.e. hydrocarbon storage and handling)	Likely	Minor	Medium
Capital and Operating Costs			
Project Timing Delay	Possible	Moderate	Medium
Poor Mine Management Plan	Possible	Minor	Low
Higher Capital Costs- Sustaining Ongoing	Unlikely	Minor	Low
Operating Cost Underestimated	Possible	Moderate	Medium

16 References

1. No. 3 Geological Exploration Institute of China Metallurgical Geology Bureau, *Geological Exploration Report of Xinwangda Iron Mine in Chengde County of Hebei Province*, June 2012.

2. Beijing Venture Environmental Science and Engineering Co., Ltd, *Environmental Impact Assessment Report for Linfen Zhuangpeng Dolomite Mine (300,000tpa)*, December 2010.

3. Shanxi Province Xi County Environmental Protection Bureau, *Approval of Environmental Impact Assessment Report for Linfen Zhuangpeng Dolomite Mine (300,000tpa)*, 30 December 2010.

4. Shanxi Province Xi County Environmental Monitoring Station, *Environmental Final Check Acceptance report for Linfen Zhuangpeng Dolomite Mine (300,000tpa)*, September 2012.

5. Shanxi Province Xi County Environmental Protection Bureau, *Approval of Environmental Impact Assessment Report for Linfen Zhuangpeng Dolomite Mine (300,000tpa)*, 30 December 2010.

6. Xi'an Non-ferrous Metallurgy Design and Research Institute, *Feasibility Study on Mining of 5Mtpa Dolomite (3Mt in the First Stage), Metallurgy of 50ktpa Dolomite, and Further Processing of 100ktpa Dolomite (50kt in the First Stage)*, September 2012.

Appendices

Appendix 1: JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	• Diamond drilling was used in the project. Representative split samples were collected using specific core cutting device with majority of length of 2 m. • Geological logging was completed, and mineralized intervals were determined by experienced geologists before submission for analysis. Samples were taken from drill cores by splitting along core axis which were marked by on-site geologist to make sure the mineralisation on both sides is similar. In logged non-mineralized zones (upper and lower wall rocks), two samples were submitted together with the mineralized intervals to the laboratory for analysis. • Mineralisation was determined by lithology. • Diamond drilling was used to produce drill cores with NQ diameters.
Drilling techniques	• Standard tube core drilling rigs were used in the project. Drill core were NQ size. • Down-hole surveys were conducted using digital compass inclinometers every 100 m.
Drill sample recovery	• Drilling footage and the length of recovered core of each run were measured by on-site geologist and reviewed by SRK personnel. Core recovery was calculated by dividing drilling footage by core length. • To ensure good core recovery, drilling footage of each run was limited to a maximum of 3 m, while in fracture zone the maximum drilling footage was set at 1 m. • The mineralisation of dolomite is relatively homogeneous and no relationship between sample recovery and grade was observed by SRK.
Logging	• Geological logging was carried out by a geologist to record various aspects including weathering, texture, lithology, alteration and structure. • All cores in the project have been well logged and the logs were recorded in a standard logging sheet. • SRK geologist performed QA/QC on site, drill cores were photographed after logging. • By the end of May 2012, a total of 23 drillholes as well as 25 trenches had been drilled and properly logged at the deposit.
Sub-sampling techniques and sample preparation	• Drill cores were split, and half core samples were taken. • All samples were submitted to certified laboratories for multi-element analyses. The sample preparation involved: – Samples were crushed to less than 1 mm, – Samples were then split into four portions via a splitter, – Two portions diagonally opposite each other were taken and then were pulverized to -200 mesh (0.076mm) and 100 g was used for the analytical pulp – Chichette formula ($Q = k*d^2$) was applied to determine the minimum allowable weight of sample, where: Q is the weight of sample (kg), k is the coefficient, it is determined by the type of ore and 0.2 is applied for this type of rock and d is the maximum diameter of sample grain (mm)
Quality of assay data and laboratory tests	• All samples were assayed by certified laboratories in China with their internal QC procedures, including the insertion of blanks, standards and duplicates. • Each 100-sample batch includes 2 blanks, 2 standards, 2 core duplicates, 2 coarse rejects and 2 pulp duplicates.
Verification of sampling and assaying	• The drilling campaign from 2011 to 2012 was closely supervised by SRK on-site personnel. • The CP visited the project fifth in September 2011, September 2012, June 2013, March 2014 and January-March 2018 and inspected the exploration ground, mineralisation, drill cores and sealed borehole collar. • SRK implemented strict procedures for data capture, flow and data storage and validation.

Location of data points	• Drill collars were surveyed by certified survey department from geological brigades using RTK receivers. • The Xi'an 1980 coordinate system were used for the project. • Detailed topographic surveys were supplied by certified survey personnel from contract geological brigades. The level of topographic detail is adequate for modelling and Mineral Resource estimation purposes.
Data spacing and distribution	• The drilling grid is set from 200 m × 200 m to 400 m × 400 m. Sample length was generally at 2 m. Samples were continuously taken over all mineralised zones and their direct host walls. • The spacing of drillholes is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedures and for the classifications applied. • All samples were composite to 2 m within the geological model.
Orientation of data in relation to geological structure	• Considering the type of the deposit and style of mineralisation, the drilling orientation and subsequent sampling is considered to be unbiased in its representation of reported material for estimation purposes.
Sample security	• Samples were taken and secured by the Company. Samples were transported to laboratory with the Company's own vehicles. • The remaining coarse rejects and pulps were stored by the laboratories. • The remaining drill cores were secured in a core shed on-site by the Company personnel.
Audits or reviews	• Site visits and on-site supervision have been performed by SRK geologists. Exploration, sampling techniques, QA/ QC protocols and data collection have been reviewed to ensure correct procedures and protocols were followed and that the data collected was reliable and accurate for Mineral Resource estimation and reporting to the JORC Code 2012 edition standards (best practice).

Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	• SRK has sighted the original mining licenses and the details are stated in Section 5 of this report.
Exploration done by other parties	• No drilling exploration was carried out before 2011.
Geology	• Detailed in Section 6 of this report.
Drill hole Information	• All drillhole information was input into the database and used for Mineral Resource estimation.
Data aggregation methods	• No grade cap was applied in the project. • No metal-equivalent approaches were applied.
Relationship between mineralisation widths and intercept lengths	• The vertical drilling has adequately intersected and tested the dolomite sequence (mineralisation). • The geometry of the mineralisation with respect to the drill hole angle is well known.
Diagrams	• Geological maps and section with drillholes are shown in Section 6.
Balanced reporting	• No other exploration results for the project.
Other substantive exploration data	• SRK is not aware of any other material or substantive exploration data that has not been reported.
Further work	• Exploration potential has been discussed in this report.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	• The data provided by the Company in Excel format was imported into a Surpac database after validation. • Data validation steps included:

	– Validation through constraints and libraries set in the database, e.g., overlapping/ missing intervals, intervals exceeding maximum depth, valid geology codes, missing assays; – Validation through 3D visualization in 3D software to check for any obvious collar, down-hole survey, or assay import errors
Site visits	• SRK Competent Person visited the project several times during the drilling campaign from 2011 to 2012 and is satisfied that the on-site geological working followed SRK's QA/QC procedures.
Geological interpretation	• The geological interpretation was based on lithology, assays, structure and geotechnical information. • The data used in the resource estimation was from the approved exploration reports or laboratory assay results.
Dimensions	• The detailed descriptions for mineralized zones are presented in Section 6.
Estimation and modelling techniques	• The Mineral Resource was estimated using Inverse Distance interpolation in Surpac. • Search parameters were based on attitudes of mineralised zones and supported by geological knowledge gained from surface geological mapping, drillhole data and modelling analysis. • The parent cell size and estimation parameters were based on the drillhole spacing and the nature of the mineralization style at the project. • Besides MgO, K_2O, Na_2O, SiO_2 and CaO were also modelled in the Mineral Resource estimate. • The geological interpretation was used to help building a mineralised wireframe model and the resource estimate was conducted within the model. • Validation of the Mineral Resource estimate has been conducted by: – Visual drillhole section data comparisons with the block model and – Swath plots of major elements in three orthogonal directions.
Moisture	• Tonnages are estimated on a dry basis.
Cut-off parameters	• Details of cut-off grade chosen are stated in Section 6.5.2 of this report.
Mining factors or assumptions	• The mining method assumed is open pit mining. • Mining factors such as mining dilution shown above have been incorporated into the Mineral Resource estimate.
Metallurgical factors or assumptions	• Simple studies of ore properties and processing tests were conducted and the file was provided by the Company. • Processing recovery rates presented above were incorporated into the Mineral Resource estimate.
Environmental factors or assumptions	• No assumptions have been made regarding possible waste or process residue disposal options or environmental surveys.
Bulk density	• Bulk density was measured using a pycnometer and wax by qualified laboratories. • 92 small volumetric (4 cm by 5 cm) mineralised samples from drill cores were measured for dry basis bulk density.
Classification	• Mineral Resources have been classified in the Measured, Indicated and Inferred categories in accordance with the JORC Code 2012 guidelines. • A range of criteria was considered in determining the classification for the project, including: – geological confidence in the interpretations, – sample data density, – sample/ assay confidence, – grade continuity of the mineralization, – estimation method. • The Competent Persons endorse the final results and classification for the project.
Audits or reviews	• Mr Alexander Thin, FAusIMM, has undertaken external peer review, • Dr Anshun Xu, FAusIMM, internally reviewed the report including Mineral Resource estimates, and • There are no outstanding issues arising from these reviews.
Discussion of relative accuracy/ confidence	• Relative accuracy and confidence has been assessed through validation of the model as outlined above. • The Mineral Resource estimate comprises material categorized as Measured, Indicated and Inferred Mineral Resource. The Mineral Resource categories reflect the assumed accuracy and confidence as a global

estimate.

Section 4 Estimation and Reporting of Ore Reserves

Criteria	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• The block models prepared by SRK were used as the basis of Ore Reserve estimate. • The Mineral Resources are reported inclusive of Ore Reserves.
Site visits	• SRK's due diligence team, including Mr Yonggang Wu, a principal mining engineer (MAusIMM) and other personnel regard to mining, environmental and social, conducted four site visits on the Project sites in 2012, 2013, 2014, 2015 and 2018. SRK personnel interviewed Project's technical personnel, inspected the site mining aspects, environmental conditions and further collected and reviewed related data and documents in regard to the Project.
Study status	• The latest feasibility study reports conducted by Xi'an Nonferrous Metallurgy Design and Research Institute was provided to SRK. • The feasibility study report was used as the basis of the Ore Reserve estimate.
Cut-off parameters	• The latest feasibility study reports conducted by Xi'an Nonferrous Metallurgy Design and Research Institute was provided to SRK. • The feasibility study report was used as the basis of the Ore Reserve estimate. • Details of cut-off grade chosen are stated in Section 7.2 of this report.
Mining factors or assumptions	• The conversion of Resources to Ore Reserves is based on an open pit design stated in Xi'an NMDRI. Details of mining factors or assumptions are described in Section 7.4.2.
Metallurgical factors or assumptions	• The processing flowsheet is simple and mature, which is suitable for dolomite ore. • There is no need for processing test as the processing only includes simple crushing and screening. • The harmful elements to Mg smelting include Fe_2O_3, SiO2, K_2O and Na_2O, which are currently without unified standard, commercial negotiation is normally required between buyer and seller. According to the sales contracts signed between the Company and its major clients (Shandong Dongyi Coal Aluminum Group and Shanxi Meijin Magnesium Alloy Science & Technology Co., Ltd), the qualified dolomites are to meet the following standards: MgO≥20%, CaO≥29%, Mole Ratio MgO/ CaO=1.035~1.065, $K_2O+Na_2O\leq0.25\%$, $SiO_2\leq3\%$, $Fe_2O_3\leq0.5\%$ • For the ore from initial mining section, industrial processing test has been conducted in Dongyi Mg plant which proved that the dolomite ore can be used for Mg smelting. The test sample from initial mining section is representative as it is of the same character to the whole deposit. The average content of harmful elements is below the terms and requirements by sales agreement which indicate that the ore can be used for Mg smelting. Dolomite ore using for producing smelting flux requires lower quality standard than for Mg smelting indicates that the ore can be used for producing smelting flux.
Environmental	• An Environmental Impact Assessment (EIA) report and a Water and Soil Conservation Plan (WSCP) for the Project have been compiled in accordance with relevant Chinese laws and regulations and approvals have been obtained by the government. • All waste rocks are sold as construction material or for on-site construction work. No comprehensive waste rock geochemical characterizations are conducted for this project. The waste rocks may not generate Acid Rock Drainage (ARD) since the majority component of the ore is dolomite. In addition, no tailings are generated in this project.
Infrastructure	• The infrastructure meets the basic requirements of production and transportation.
Costs	• The investment cost is estimated based on the production capacity, processing method and projects composition, also according to national engineering budget quota, equipment supplier's enquiry estimate. • The material and energy cost and wages are estimated based on the material consumption and local material price, energy price and labor cost level; the ore transportation cost is based on CNY 1.0/t; the marketing and sales cost is

	estimated at 1% of sales price. • The mineral resource compensation fee, resource tax and land use tax is estimated based on the national standard of; the forest compensation and rehabilitation fees are according to the local actual condition. • No fine and penalty relate to the project's fluxing, smelting and harmful elements. • Chinese Renminbi is the base currency of this project, currency exchange is not involved.
Revenue factors	• The qualified dolomite ore price is Zhuangpeng's sales price; the unqualified ore and waste rock's prices are according to the data provided by Zhuangpeng as well as designed by FS. Production scheduling is based on 3 Mtpa ore capacity.
Market assessment	• Mg smelter, Fe and Fe ferrous plants are the main market of qualified dolomite; local construction market is the target of unqualified dolomite. • Zhuangpeng's dolomite ore is qualified as the material for Mg smelting and smelting flux; no need for metallurgical test.
Economic	• The input data to calculate NPV is described in Chapter 14 which mainly include the production plan, investment plan, sales revenue, production cost, administration cost, taxes. Such data is mainly from FS by Xiaan Non-ferrous Institute and provide by Zhuangpeng. The NPV discount rate used is 9.69%. The project has no debt and doesn't consider inflation. • Discount rates were varied between 7.69% and 11.69% and the NPV value varied between 575.04 and 305.08 million CNY. Sensitivity analysis was conducted on product price, operating cost and capital cost. The NPV is most sensitive to product price. The NPV will become zero if the product price drops by 24.52%. For details refer to Chapter 14.
Social	• Multiple public consultations and public announcements for the development of the Project were undertaken as part of the Project's EIA in accordance with related regulations and a majority of the local people showed strong support to the Project.
Other	• None.
Classification	• The mineable Measured Resources, including diluting materials and allowances of losses, were classified as Proved Ore Reserves. • The mineable Indicated Resources, including diluting materials and allowances of losses, were classified as Probable Ore Reserves. • The results appropriately reflect the Competent Person's view of the deposit.
Audits or reviews	• Mr Alexander Thin, FAusIMM, has undertaken external peer review on this report, • Dr Anshun Xu, FAusIMM, internally reviewed the report including the Ore Reserve estimates, and • There are no outstanding issues arising from these reviews.
Discussion of relative accuracy/ confidence	• Usually, the Ore Reserve estimate is reported on the basis of some technical and economic assumptions which have been understood well to date. These assumptions would change as time goes on, so different Ore Reserve can be estimated / calculated. • The Ore Reserves were reported as global estimates.

Appendix 2: Mining License

中华人民共和国

采矿许可证

（副本）

证号：C1410002010097130074911

采矿权人：临汾庄朋镁业有限公司

地　　址：临汾市隰县

矿山名称：临汾庄朋镁业有限公司

经济类型：有限责任公司

开采矿种：白云岩

开采方式：露天开采

生产规模：30.00万吨/年

矿区面积：2.3063平方公里

有效期限：叁年 自 2020年3月13日 至 2023年3月13日

发证机关

（采矿登记专用章）

二〇二〇年 月 二日

中华人民共和国自然资源部印制

(2000国家大地坐标系)

矿区范围拐点坐标：

1, 4070956.36, 37516785.94
2, 4070956.37, 37518165.96
3, 4070376.36, 37518045.96
4, 4070146.36, 37518335.96
5, 4069556.35, 37518365.97
6, 4069556.35, 37518145.96
7, 4068956.35, 37518145.97
8, 4068956.34, 37517310.96
9, 4069556.35, 37517310.96
10, 4069556.35, 37517725.96
11, 4069776.35, 37517725.96
12, 4069776.35, 37516785.95

开采深度：由1700米至1400米标高 共由12个拐点圈定

Appendix 3: Chinese Environmental Legislative Background

The *Mineral Resources Law of the People's Republic of China (1996)* and *Environmental Protection Law (1989)* provide the main legislative framework for the regulation and administration of mining projects within China. The *Environmental Protection Law (1989)* provides the main legislative framework for the regulation and administration of mining projects environmental impacts.

The following articles of the *Mineral Resources Law of the People's Republic of China (1996)* summarise the specific provisions in relation to environmental protection:

- ***Article 15 Qualification & Approval*** *– Anyone who wishes to establish a mining enterprise must meet the qualifications prescribed by the State, and the department in charge of examination and approval shall, in accordance with law and relevant State regulations examine the enterprise's mining area, its mining design or mining plan, production and technological conditions and safety and environmental protection measures. Only those that pass the examination shall be granted approval.*
- ***Article 21 Closure Requirements*** *– If a mine is to be closed down, a report must be prepared with information about the mining operations, hidden dangers, land reclamation and utilisation, and environmental protection, and an application for examination and approval must be filed in accordance with relevant State regulations.*
- ***Article 32 Environmental Protection Obligations of Mining License Holders*** *– In mining mineral resources, a mining enterprise or individual must observe the legal provisions on environmental protection to prevent pollution of the environment. In mining mineral resources, a mining enterprise or individual must economise on the use of land. In case cultivated land, grassland or forest land is damaged due to mining, the mining enterprise concerned shall take measures to utilize the land affected, such as by reclamation, tree and grass planting, as appropriate to the local conditions. Anyone who, in mining mineral resources, causes losses to the production and well-being of other persons shall be liable for compensation and shall adopt necessary remedial measures.*

The following articles of the *Environmental Protection Law of the People's Republic of China (1989)* summarise the specific provisions for environmental protection in relation to mining:

- ***Article 13 Environmental Protection*** *– Units constructing projects that cause pollution to the environment must observe the state provisions concerning environmental protection for such construction projects. The environmental impact statement on a construction project must assess the pollution the project is likely to produce and its impact on the environment and stipulate the preventive and curative measures; the statement shall, after initial examination by the authorities in charge of the construction project, be submitted by specified procedure to the competent department of environmental protection administration for approval. The department of planning shall not ratify the design plan descriptions of the construction project until after the environmental impact statement on the construction project is approved.*
- ***Article 19 Statement of Requirement for Environmental Protection*** *– Measures must be taken to protect the ecological environment while natural resources are being developed or utilised.*
- ***Article 24 Responsibility for Environmental Protection*** *– Units that cause environmental pollution and other public hazards shall incorporate the work of environmental protection into their plans and establish a responsibility system for environmental protection, and must adopt effective measures to prevent and control the pollution and harms caused to the environment by waste gas, waste water, waste residues, dust, malodorous gases, radioactive substances, noise, vibration and electromagnetic radiation generated in the course of production, construction or other activities.*
- ***Article 26 Pollution Prevention & Control*** *– Installations for the prevention and control of pollution at a construction project must be designed, built and commissioned together with*

the principal part of the project. No permission shall be given for a construction project to be commissioned or used, until its installations for the prevention and control of pollution are examined and considered up to the standard by the competent department of environmental protection administration that examined and approved the environmental impact statement.

- ***Article 27 Report on Pollution Discharge*** *– Enterprises and institutions discharging pollutants must report to and register with the relevant authorities in accordance with the provisions of the competent department of environmental protection administration under the State Council.*
- ***Article 38 Violation Consequences*** *– An enterprise or institution which violates this Law, thereby causing an environmental pollution accident, shall be fined by the competent department of environmental protection administration or another department invested by law with power to conduct environmental supervision and management in accordance with the consequent damage; in a serious case, the persons responsible shall be subject to administrative sanction by the unit to which they belong or by the competent department of the government.*

In addition to the above articles, the following article in the *Environmental Impact Assessment (EIA) Law (2002)* summarises the provisions in relation to the approval of EIA reports of construction projects and the commencement of construction:

- ***Article 25*** *– If the environmental impact assessment documents of construction projects are not examined by the law-stipulated examining and approving department or are not approved after being examined, the examining and approving department of the construction project must not approve its construction and the construction unit must not start construction.*

The following articles of the *Regulations on the Administration of Construction Project Environmental Protection (November 1998)* summarise the specific provisions for undertaking a project's Environmental Final Checking and Acceptance process:

- ***Article 20*** *– The construction unit should, upon completion of a construction project, file an application with the competent department of environmental protection administration that examined and approved the said construction project environmental impact report, environmental impact statement or environmental impact registration form for acceptance checks on completion of matching construction of environmental protection facilities required for the said construction project. Acceptance checks for completion of construction of environmental protection facilities should be conducted simultaneously with the acceptance checks for completion of construction of the main body project. Where trial production is required for the construction project, the construction unit should, within 3 months starting from the date of the said construction project going into trial production, file an application with the competent department of environmental protection administration that examined and approved the said construction project environmental impact report, environmental impact statement or environmental impact registration form for acceptance checks on completion of matching construction of environmental protection facilities required for the said construction project.*
- ***Article 21*** *– For construction projects that are built in phases, go into production or are delivered for use in phases, acceptance checks for their corresponding environmental protection facilities should be conducted in phases.*
- ***Article 22*** *– Competent departments of environmental protection administration should, within 30 days starting from the date of receipt of the application for acceptance checks on completion of construction of the environmental protection facilities, complete the acceptance checks.*
- ***Article 23*** *– The said construction project may only formally go into production or be delivered for use when the matching construction of the environmental protection facilities required for the construction project has passed acceptance checks.*

The following article of the *Water & Soil Conservation Law of the People's Republic of China (2011)* summarises the provisions for the preparation and approval of Water and Soil Conservation Plans:

- ***Article 25 and Article 27*** *– When a construction is carried out in a mountainous, hilly or sandstorm area, a water and soil conservation programme must be prepared by a certified organization and approved by the department of water administration. Water and soil conservation facilities in a construction project must be designed, constructed and put into operation simultaneously with the principal part of the project. When a construction project is completed and checked for acceptance, the water and soi1 conservation facilities shal1 be checked for acceptance at the same time, with personnel from the department of water administration participating.*

The following are other Chinese laws that provide environmental legislative support to the *Minerals Resources Law of the People's Republic of China (1996)* and the *Environmental Protection Law of the People's Republic of China (1989)*:

- *Environmental Impact Assessment (EIA) Law (2002).*
- *Law on Prevention & Control of Atmospheric Pollution (2000).*
- *Law on Prevention & Control of Noise Pollution (1996).*
- *Law on Prevention & Control of Water Pollution (2008).*
- *Law on Prevention & Control Environmental Pollution by Solid Waste (2004).*
- *Forestry Law (1998).*
- *Water Law (2002).*
- *Water Conservancy Industrial Policy (1997).*
- *Land Administration Law (2004).*
- *Protection of Wildlife Law (2004).*
- *Energy Conservation Law (2007).*
- *Management Regulations of Prevention & Cure of Tailings Pollution (1999).*
- *Management Regulations of Dangerous Chemical Materials (2011).*

The relevant environmental protection related Chinese legislation that are required to be utilised for project's design are a combination of the following National design regulations and emissions standards:

- *Environment Protection Design Regulations of Construction Project by Environment Protection Committee of State Council of PRC and State Development Planning Committee (1987).*
- *Regulations on the Administration of Construction Project Environmental Protection (1998).*
- *Regulations for Quality Control of Construction Projects (2000).*
- *Regulations for Environmental Monitoring (2007).*
- *Regulations on Nature Reserves (1994).*
- *Environment Protection Design Regulations of Metallurgical Industry (YB9066-55).*
- *Emission standard of pollutants for mining and mineral processing industry (GB 28661-2012)*
- *Emisson standard for industrial enterprises noise at boundary (GB 12348—2008)*
- *Emission standard of environment noise for boundary of construction site (GB 12523—2011)*
- *Comprehensive Emission Standard of Wastewater (GB8978-1996).*
- *Environmental Quality Standard for Surface Water (GB3838-2002).*
- *Environmental Quality Standard for Groundwater (GB/ T14848-1993).*
- *Ambient Air Quality Standard (GB3095-1996).*
- *Comprehensive Emission Standard of Atmospheric Pollutants (GB16297-1996).*
- *Emission Standard of Atmospheric Pollutants from Industrial Kiln (GB9078-1996).*

- *Emission Standard of Atmospheric Pollutants from Boiler (GB13271-2001) ---- II – stage coal-fired boiler.*
- *Emission Standard for Pollutants from Coal Industry (GB 20426—2006)*
- *Environmental Quality Standard for Soils (GB15618-1995).*
- *Standard of Boundary Noise of Industrial Enterprise (GB12348-90).*
- *Emissions Standard for Pollution from Heavy Industry; Non-Ferrous Metals (GB4913-1985).*
- *Control Standard on PCB's for Wastes (GB13015-1991).*
- *Control Standard on Cyanide for Waste Slugs (GB12502-1990).*
- *Standard for Pollution Control on Hazardous Waste Storage (GB18597-2001).*
- *Standards for pollution control on the storage and disposal site for general industrial solid wastes (GB 18599-2001)*
- *Identification Standard for Hazardous Wastes-Identification for Extraction Procedure Toxicity (GB5085.3-1996).*
- *Standard of Landfill and Pollution Control of Hazardous Waste (GB 18598-2001).*

Appendix 4: Equator Principles and Internationally Recognised Environmental Management Practices

In seeking to obtain project financing or to list on a stock exchange, these institutions require the proponent to comply with such documents as the Equator Principles and the International Finance Corporation (IFC) Performance Standards and Guidelines. This is exemplified by the following preamble from the *Equator Principles (July 2013)*:

Large infrastructure and industrial Projects can have adverse impacts on people and on the environment. As financiers and advisors, we work in partnership with our clients to identify, assess and manage environmental and social risks and impacts in a structured way, on an ongoing basis. Such collaboration promotes sustainable environmental and social performance and can lead to improved financial, environmental and social outcomes.

We, the Equator Principles Financial Institutions (EPFIs), have adopted the Equator Principles in order to ensure that the Projects we finance and advise on are developed in a manner that is socially responsible and reflects sound environmental management practices. We recognise the importance of climate change, biodiversity, and human rights, and believe negative impacts on project-affected ecosystems, communities, and the climate should be avoided where possible. If these impacts are unavoidable they should be minimised, mitigated, and/ or offset.

We believe that adoption of and adherence to the Equator Principles offers significant benefits to us, our clients, and local stakeholders through our clients' engagement with locally Affected Communities. We therefore recognise that our role as financiers affords us opportunities to promote responsible environmental stewardship and socially responsible development, including fulfilling our responsibility to respect human rights by undertaking due diligence1 in accordance with the Equator Principles.

The Equator Principles are intended to serve as a common baseline and framework. We commit to implementing the Equator Principles in our internal environmental and social policies, procedures and standards for financing Projects. We will not provide Project Finance or Project-Related Corporate Loans to Projects where the client will not, or is unable to, comply with the Equator Principles. As Bridge Loans and Project Finance Advisory Services are provided earlier in the Project timeline, we request the client explicitly communicates their intention to comply with the Equator Principles.

The following Tables provide a brief summary of the Equator Principles and the IFC Performance Standards respectively. These documents are used by the EPFI's and stock exchanges in their review of the social and environmental performance of proponent companies.

Table A4-1: Equator Principles

Equator Principles	Title	Key Aspects (Summary)
1	Review and Categorisation	Categorise such project based on the magnitude of its potential impacts and risks
2	Social and Environmental Assessment	Conduct a Social and Environmental Assessment ("Assessment"). The Assessment should also propose mitigation and management measures appropriate to the nature and scale of the proposed project.
3	Applicable Social and Environmental Standards	The Assessment will refer to the applicable IFC Performance Standards, and applicable Industry Specific EHS Guidelines ("EHS Guidelines") and overall compliance with same.
4	Action Plan and Management System	Prepare an Action Plan (AP) which addresses the relevant findings of the Assessment. The AP will describe and prioritise the actions, mitigation measures, corrective actions and monitoring to manage the impacts and risks identified in the Assessment. Maintain a Social and Environmental Management System that addresses the management of these impacts, risks, and corrective actions required to comply with host country laws and regulations, and requirements of the applicable Standards and Guidelines, as defined in the AP.
5	Consultation and Disclosure	Consult with project affected communities. Adequately incorporate affected communities' concerns.
6	Grievance Mechanism	Establish a grievance mechanism as part of the management system. to receive and resolve concerns about the project by individuals or groups from among project-affected communities. Inform the affected communities about the grievance mechanism in the course of the community engagement process and ensure that the mechanism addresses concerns promptly and transparently, and is readily accessible to all segments of the affected communities.
7	Independent Review	Independent social or environmental expert will review the Assessment, AP and consultation process to assess Equator Principles compliance.
8	Covenants	Covenant in financing documentation: a) to comply with all relevant host country social and environmental laws, regulations and permits; b) to comply with the AP during the construction and operation of the project; c) to provide periodic reports not less than annually, prepared by in-house staff or third party experts, that (i) document compliance with the AP, and (ii) provide compliance with relevant local, state and host country social and environmental laws, regulations and permits; and d) to decommission the facilities, where applicable and appropriate, in accordance with an agreed decommissioning plan.
9	Independent Monitoring and Reporting	Appoint an independent environmental and/or social expert, or require that the borrower retain qualified and experienced external experts to verify its monitoring information.
10	EPFI Reporting	Each EPFI adopting the Equator Principles commits to report publicly at least annually about its Equator Principles implementation processes and experience, taking into account appropriate confidentiality considerations.

Table A4-2: IFC Performance Standards

IFC Performance Standard	Title	Objective (Summary)	Key Aspects (Summary)
1	Social and Environmental Assessment and Management Systems	Social and EIA and improved performance through use of management systems.	Social & Environmental Management System (S&EMS). Social & Environmental Impact Assessment (S&EIA). Risks and impacts. Management Plans. Monitoring. Reporting. Training. Community Consultation
2	Labour and Working Conditions	EEO. Safety and Health	Implement through the S&EMS. HR policy. Working condition. EEO. Forced & child labour. OH&S.
3	Pollution Prevention and Abatement	Avoid pollution. Reduce Emissions.	Prevent pollution. Conserve resources. Energy efficiency. Reduce waste. Hazardous materials. EPR. Greenhouse Gases
4	Community Health, Safety and Security	Avoid or minimise risks to community.	Implement through the S&EMS. Do risk assessment. Hazardous materials safety. Community exposure. ERP
5	Land Acquisition and Involuntary Resettlement	Avoid or minimise resettlement. Mitigate adverse social impacts	Implement through the S&EMS. Consultation. Compensation. Resettlement planning. Economic displacement
6	Biodiversity Conservation and Sustainable Natural Resource Management	Protect and conserve biodiversity	Implement through the S&EMS. Assessment. Habitat. Protected areas. Invasive species.
7	Indigenous Peoples	Respect. Avoid and minimise impacts. Foster good faith	Avoid adverse impacts. Consultation. Development benefits. Impacts to traditional land use. Relocation.
8	Cultural Heritage	Protect cultural heritage	Heritage Survey. Site avoidances. Consultation.

Summary Background Information on Some Key Internationally Recognised Environmental Management Practices.

The following provides background information on some key internationally recognised environmental management practices:

- **Land disturbance** – The main impact on the surrounding ecological environment is due to disturbance and contamination caused by surface stripping, waste rock and tailings storage, processing plant drainage, processing wastewater, explosions, transportation and associated buildings that are erected. If effective measures are not taken to manage and rehabilitate the disturbed areas, the surrounding land can become polluted and the land utilization function will be changed, causing an increase in land degradation, water loss and soil erosion.
- **Flora and fauna** – Land disturbance from the development of mining and mineral processing projects may also result in impacts to or loss of flora and fauna habitat. The project development EIA should determine the extent and significance of any potential impacts to flora and fauna habitat. Where these potential impacts to flora and fauna habitat are determined to be significant, the EIA should also propose effective measures to reduce and manage these potential impacts.
- **Contaminated Sites Assessment** – The assessment, recording and management of contaminated sites within mining or mineral processing operations, is a recognised international industry practice (i.e. forms part of the IFC Guidelines) and in some cases a National regulatory requirement (e.g. an Australian environmental regulatory

requirement). The purpose of this process is to minimise the level of site contamination that may be generated throughout a project's operation while also minimising the level and extent of site contamination that will need to be addressed at site closure.

- A contaminated site or area can be defined as; 'An area that has substances present at above background concentrations that presents or has the potential to present a risk of harm to human health, the environment or any environmental value'.
- Contamination may be present in soil, surface water or groundwater and also may affect air quality through releases of vapours or dust. Examples of typical contaminated areas within a mining/ mineral processing project are spillages to soil/ water of hydrocarbons and chemicals, and uncontained storage and spillages to soil/ water of ores and concentrates. The process to assess and record the level of contamination basically involves a combination of visual (i.e. suspected contamination observed from spillages/ releases) and soil/ water/ air sampling and testing (i.e. to confirm contaminant levels). Once the level of contamination is defined, the area's location and contamination details are then recorded within a site register.
- Remediation/ clean-up of contamination areas involves the collection and removal of the contaminated materials for treatment and appropriate disposal, or in some cases the in-situ treatment of the contaminated (e.g. use of bioremediation absorbents on hydrocarbon spillage). The other key component to the management of contaminated areas is to also remove or remedy the source of the contamination (e.g. place hydrocarbon storage and handling within secondary containment).

- **Environmental Protection and Management Plan** – The purpose of an operational Environmental Protection and Management Plan (EPMP) is to direct and coordinate the management of the project's environmental risks. The EPMP documents the establishment, resourcing and implementation of the project's environmental management programs. The site environmental performance is monitored and feedback from this monitoring is then utilised to revise and streamline the implementation of the EPMP.
- **Emergency Response Plan** - The IFC describes an emergency as 'an unplanned event when a project operation loses control, or could lose control, of a situation that may result in risks to human health, property, or the environment, either within the facility or in the local community'. Emergencies are of a scale that have operational wide impacts, and do not include small scale localised incidents that are covered under operational area specific management measures. Examples of an emergency for a mining/ mineral processing project are events such as pit wall collapse, underground mine explosion, the failure of a TSF or a large scale spillage/ discharge of hydrocarbons or chemicals. The recognised international industry practice for managing emergencies is for a project to develop and implement an Emergency Response Plan (ERP). The general elements of an ERP are:

  - Administration – policy, purpose, distribution, definitions of potential site emergencies and organisational resources (including setting of roles and responsibilities).
  - Emergency response areas – command centres, medical stations, muster and evacuation points.
  - Communication systems – both internal and external communications.
  - Emergency response procedures – work area specific procedures (including area specific training).
  - Checking and updating – prepare checklists (role and action list and equipment checklist) and undertake regular reviews of the plan.
  - Business continuity and contingency – options and processes for business recovery from an emergency.

- **Site Closure Planning and Rehabilitation** – The recognised international industry practice for managing site closure is to develop and implement an operational site closure planning process and document this through an operational Closure Plan. This operational closure planning process should include the following components:

  - Identify all site closure stakeholders (e.g. government, employees, community etc.).
  - Undertake stakeholder consultation to develop agreed site closure criteria and post operational land use.
  - Maintain records of stakeholder consultation.
  - Establish a site rehabilitation objective in line with the agreed post operational land use.
  - Describe/ define the site closure liabilities (i.e. determined against agreed closure criteria).
  - Establish site closure management strategies and cost estimates (i.e. to address/ reduce site closure liabilities).
  - Establish a cost estimate and financial accrual process for site closure.
  - Describe the post site closure monitoring activities/ program (i.e. to demonstrate compliance with the rehabilitation objective/ closure criteria).

Appendix 5: Project Technical Review - Qualitative Risk Analysis

To ensure the technical integrity of the risk analysis process as applied in the project technical review process, the following Australian Standards for risk analysis and risk management have been utilised for overall guidance:

- *AS/ NZS 3931:1998 Risk Analysis of Technological Systems – Application Guide;*
- *AS/ NZS 4360:1999 Risk Management; and*
- *HB 203:2004 Environmental Risk Management – Principles and Process.*

These Australian Standards have been developed in line with comparable international standards.

A risk is generally described in terms of the severity/ consequence and likelihood of an undesirable occurrence or incident. The greater the potential severity and likelihood of an undesirable occurrence, the higher the level of risk associated with the related activity.

The generic approach for this project technical review qualitative risk analysis has the following three steps:

1. Establish the context/ define the scope of the analysis – goals/ objectives, the analysis strategy and evaluation criteria.
2. Identify and analyse the risks in terms of consequence and likelihood.
3. Evaluate and rank the risks.

Qualitative Risk Analysis - Scope

The scope definition and context for the qualitative risk analysis can be summarised as follows:

- **Goals/ Objectives** – The primary objective is to analyse the qualitative risks associated with the project's development, operational and closure aspects.
- **Strategy** – The strategy employed comprises the application of a qualitative risk analysis where the 'relative magnitude' of risks associated with the project are estimated. Inclusive within this process are also the concepts of inherent and residual risks. Inherent risks being those hazards that are present within the project without any remedial management, and residual risks are defined as those hazards remaining after the application of remedial risk management measures. The risks analysed are those considered as the 'inherent risks' for the project at the time of the technical review.

This qualitative risk analysis strategy has the following key steps:

- **Step 1** – Develop a qualitative risk matrix. This has relative significance rankings for the potential consequences/ impacts, levels of event likelihood and the corresponding risk rankings from negligible to extreme.
- **Step 2** – Define the inherent risks (i.e. at the time of the technical review). List the sources of risks and apply the qualitative risk analysis to define the level of risk.

Qualitative Risk Analysis Matrix

The proposed qualitative risk matrix uses the following definitions for consequence and likelihood:

- Likelihood:
  - **Certain**: The event is expected to occur in most circumstances.
  - **Likely**: The event probably will occur in most circumstances (i.e. also could be on a regular basis such as weekly or monthly).
  - **Possible**: The event should occur at some time (i.e. once in a while).
  - **Unlikely**: The event could occur at some time.
  - **Rarely**: The event may occur only in exceptional circumstances.

- Consequence:
  - **Catastrophic**: Disaster with potential to lead to business failure.

- **Major**: Critical event/ impact which, if uncorrected, will have a material effect on the project cash flow and performance and could lead a project failure; but with proper remedial management, will be endured.
- **Moderate**: Significant event/ impact which, if uncorrected, will have a significant effect on the project cash flow and performance, but may be managed under normal procedures.
- **Minor**: Consequences/ impacts that may be readily absorbed and will have little or no effect on the project cash flow and performance, but some remedial management effort is still required.
- **Insignificant**: No additional/ remedial management required.

Based on these definitions the Qualitative Risk Matrix is presented below.

Likelihood	Consequences				
	Insignificant	**Minor**	**Moderate**	**Major**	**Catastrophic**
Certain	Low risk	Moderate risk	Moderate risk	High risk	Extreme risk
Likely	Low risk	Moderate risk	Moderate risk	High risk	High risk
Possible	Negligible risk	Low risk	Moderate risk	Moderate risk	High risk
Unlikely	Negligible risk	Low risk	Low risk	Moderate risk	Moderate risk
Rarely	Negligible risk	Negligible risk	Negligible risk	Low risk	Moderate risk

The subsequent risk ratings are defined as:

- **Extreme/ high risks** – unacceptable risks to the project, which if uncorrected, may result in business failure or critical impacts to business.
- **Medium risks** – tolerable risks to the project, which require the application of specific risk management measures so as to not develop into high risks.
- **Low/ negligible risks** – acceptable risks to the project, which generally comprise low probability/ low impact events that do not require additional specific risk management measures.

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