Technical Report for the Jinfeng Gold Mine, China

Effective Date: March 15, 2011

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JINFENG GOLD MINE, CHINA

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Units of Measure

Annum (year)	a
Billion	B
Centimetre	cm
Coefficients of Variation	CVs
Cubic centimetre	cm^3
Cubic feet per minute	cfm
Cubic feet per second	ft^3/s
Cubic foot	ft^3
Cubic metre	m^3
Day	d
Days per year (annum)	d/a
Degree	°
Degrees Celsius	°C
Diameter	ø
Dollar (American)	US$
Dollar (Canadian)	C$
Dry metric ton	dmt
Foot	ft
Gram	g
Grams per tonne	g/t
Greater than	>
Hectare (10,000 m^2)	ha
Hour	h
Inch	"
Kilo (thousand)	k
Kilogram	kg
Kilograms per cubic metre	kg/m^3
Kilograms per hour	kg/h
Kilograms per square metre	kg/m^2
Kilometre	km
Kilometres per hour	km/h
Kilopascal	kPa
Kilotonne	kt
Kilovolt	kV

Kilovolts	kV
Kilowatt hour	kWh
Kilowatt hours per tonne (metric ton)	kWh/t
Kilowatt hours per year	kWh/a
Kilowatt	kW
Less than	<
Litre	L
Megawatt	MW
Metre	m
Metres reduced level	mRL
Metric ton (tonne)	t
Microns	µm
Milligram	mg
Milligrams per litre	mg/L
Millilitre	mL
Millimetre	mm
Million bank cubic metres	Mbm^3
Million ounces	Moz
Million tonnes per ounce	Mt/a
Million tonnes	Mt
Million	M
Minute (plane angle)	'
Minute (time)	min
Month	mo
Ounce	oz
Parts per million	ppm
Percent	%
Second (plane angle)	"
Second (time)	sec
Selective mining unit	SMU
Specific gravity	SG
Square centimetre	cm^2
Square foot	ft^2
Square inch	in^2
Square kilometre	km^2
Square metre	m^2
Thousand tonnes	kt
Three Dimensional	3D
Tonne (1,000 kg)	t
Tonnes per day	t/d
Tonnes per hour	t/h
Tonnes per year	t/a

Tonnes seconds per hour metre cubed	ts/hm^3
Total	T
Week	wk
Weight/weight	w/w
Wet metric ton	wmt

Abbreviations and Acronyms

Acid Base Accounting	ABA
Acid Neutralizing Capacity	ANC
Ammonia	NH_3
Arsenic Acid	AsO_4^{3-}
Arsenic	As
Carbon-in-leach	CIL
Chemical Oxygen Demand	COD
Chromium	Cr
Coefficient of Variation	CV
Copper	Cu
Counter-current DECANTATION	CCD
Effective Grinding Length	EGL
Ferric Sulphate	Fe^{3+}
Flocculant	floc
Front End Loader	FEL
Gold	Au
Hermite Plynomials	Herco
Indicator Kriging	IK
Life-of-mine	LOM
Load-haul-dump	LHD
Manganese	Mn
Maximum Potential Acid	MPA
Mercury	Hg
Methyl Isobutyl Carbinol	MIBC
National Instrument 43-101	NI 43-101
Nearest Neighbour	NN
Nitrogen	N
Ordinary Kriging	OK
Organic Carbon	org
People's Republic of China	China
Phosphorous	P
Potassium Amyl Xanthate	PAX
Potassium	K
Preliminary Assessment	PA

Probability Assisted Constrained Kriging	PACK
Programmable Logic Controllers	PLCs
Proportional Integral Derivative	PID
Qualified Persons	QPs
Quality assurance	QA
Quality control	QC
Renminbi (China currency)	RMB
Rhenium	Re
Rhenium-Osmium	Re-Os
Semi-autogenous Grinding	SAG
SRK Consulting (Australasia) Pty Ltd	SRK
Standard Reference Material	SRM
Sulphite	S^{2-}
Sulphuric Acid	SO^{2-}
Tailings storage facility	TSF
Thiocyanate	SCN
Total dissolved solids	TDS
Universal Transverse Mercador	UTM
WAD Cyanide	CN_{wad}
Weak Acid Dissociable	WAD
Zinc	Zn

SECTION • 1 SUMMARY

1.1 INTRODUCTION AND PROPERTY DESCRIPTION

Eldorado Gold Corporation (Eldorado), an international gold mining company based in Vancouver, British Columbia, owns and operates the Jinfeng Gold Mine in China through its 82% owned Chinese subsidiary, Guizhou Jinfeng Mining Limited (GJML). Eldorado has prepared this Technical Report of the Jinfeng Gold Mine to support a material change in mineral reserves and mineral resources relative to those quoted in previous Technical Report on Jinfeng titled *Jinfeng Gold Mine, Guizhuo Province, China,* with an effective date of October 10, 2007; prepared by SRK Consulting (Australasia) Pty Ltd on behalf of Sino Gold Mining Limited.

Information and data for this report was obtained from Jinfeng Gold Mine. The work entailed review of pertinent geological, mining, process and metallurgical data in sufficient detail to support the preparation of this Technical Report. The Qualified Persons responsible for preparing this Technical Report as defined in National Instrument 43-101 (NI 43-101), Standards of Disclosure for Mineral Projects and in compliance with 43-101F1 (the "Technical Report") are Stephen Juras, Ph.D., P.Geo., Richard Miller, P.Eng, Norm Pitcher, P.Geo., and Paul Skayman, FAusIMM. All are employees of Eldorado.

The Jinfeng Project is located in the south-west region, Guizhou Province, of the People's Republic of China (China). The Project area is approximately 180 km south-south-west of the provincial capital city Guiyang near Lannigou Village. The mining license for both the open pit and underground mine was granted in May 2005 and is valid until May 2017. It covers total area of 1.284 km^2.

The Jinfeng Gold Mine is located in an area of rugged karstic topopgraphy. The project site displays substantial topographic variations from about 400 mRL to 760 mRL with natural slopes ranging from 20° to 35°. Located in the subtropical humid monsoon zone, Guizhou Province enjoys a warm and humid climate with cool summers and mild winters. The average annual rainfall is 1,200 mm which falls primarily from May to August.

The Jinfeng mine is connected to the Provincial road system by sealed access roads. Electricity is provided via a 42 km long 110 kV power line from the Provincial electrical grid at Zhenfeng. A backup 1.2 MW diesel set is on site to provide power should the grid connection experience interruptions. Water for the operation is sourced from the Luofan River and pumped to the process plant via a 3 km pipeline.

1.2 GEOLOGY AND MINERALIZATION

The regional geology to the Jinfeng deposit consists of Permian to Triassic sedimentary rocks of the Youjian Basin, which are concentrated along the western margin of the Proterozoic Yangtze craton. Lowest stratigraphic levels of the Youjian Basin consist of Cambrian to Carboniferous massive limestones, overlain by Permian shelf limestones. The Paleozoic carbonates are overlain by Lower Triassic platy limestones, in turn overlain by Middle Triassic alternating mud and sandstones with classic turbidite sequences above. Most of the gold deposits in the region are found in clastic rocks within the latter sequence, and are spatially associated with faults zones and broad antiformal culminations.

Stratigraphic units in the Jinfeng mine area can be divided into two distinct sequences: a lower dominantly carbonate bearing sequence and an upper mudstone and sandstone lithology dominant sequence. The upper stratigraphic sequence is well exposed in the Jinfeng open pit, and is host to the gold mineralization at the deposit. The contact between upper and lower sequences is a regional unconformity, but near Jinfeng it is commonly faulted.

The Jinfeng deposit and surrounding area are characterized by complex fault and fold patterns that record a polyphase deformation history. These structural features represent principal controls on the geometry and distribution of ore zones within the deposit. Faults in the Jinfeng area include several major structures that can be traced over hundreds of meters to several kilometers in strike length. Mostly of the major faults strike either northeast or northwest and have moderate to subvertical dips. They vary from discrete fault surfaces to broader tectonized zones with widths of up to a few tens of metres.

Nearly all of the known gold resource occurs within or adjacent to major fault zones. Overall, the deposit occurs as a steeply-dipping tabular body, with a long axis plunging shallowly to moderately to the southeast. The deposit extends over 1,200 m along this long axis, with the steep intermediate axis defining a depth extent of over 1,000 m, and a thickness typically ranging from 10 m to 50 m.

High grade shoots within the deposit are spatially associated with intersections between the controlling fault zones and either secondary faults or lithologically favourable sandy beds in the upper stratigraphic sequence. Gold is commonly localized along east-west striking segments of either the main controlling faults or secondary structures. The ore shoots typically plunge moderately to the southeast, parallel to the overall deposit axis, to fold axes, and to fault intersections.

Gold mineralization is typically associated with highly carbonaceous, gouge material or cataclastic breccia. Quartz and sulphide (pyrite, arsenopyrite) veins are common, occurring as either steeply-dipping or shallowly-dipping sheeted sets preferentially within sandstone beds. Quartz rich veins contain trace amounts of dolomite, and become more carbonate rich distal to mineralization. Sulfides present in mineralized zones are pyrite, arsenopyrite, cinnabar, stibnite, orpiment, and realgar.

The Jinfeng deposit has many geological and geochemical characteristics in common with the renowned sediment-hosted deposits of the Carlin district in the Western United States, and is best classified as a Carlin-like gold deposit.

1.3 DRILLING, SAMPLING AND ANALYSES

Diamond drill holes are the principle source for geological and grade data for the Jinfeng Mine. Since the start of 2010 and Eldorado's acquisition of the Jinfeng mine, 8,600 m in 32 surface diamond drill holes and 50,000 m in 260 underground diamond drill holes have been drilled at Jinfeng. Diamond drilling in Jinfeng was done with wire line and standard core rigs and are mostly of HQ and NQ size. Drillers placed the core into hard plastic core boxes with each box holding about 4 m of core. Geology and geotechnical data are collected from the core and core is photographed (wet and dry) before sampling. Core recovery in the mineralized units is very good, averaging 93% to 95%. The entire lengths of the diamond drill holes were sampled (sawn in half by diamond saw). The core library for the Jinfeng deposit is kept in core storage facilities on site.

Samples are prepared at the mine laboratory facility in Shaping. A Standard Reference Material (SRM), a duplicate and a blank sample were inserted into the sample stream at regular intervals. All samples were assayed by widely practised Chinese procedures for gold assay. This comprises preheating to remove organic material and decompose sulphide minerals, dissolution in aqua regia solution and adsorption of gold onto active carbon. Solute for analysis is then prepared by either thiourea desorption or incinerating active carbon method. The solute is analyzed for gold concentration by Flame Atomic Absorption Spectroscopy or Graphite Furnace Atomic Absorption Spectroscopy.

Monitoring of the quality control samples showed all data were in control throughout the preparation and analytical processes. In Eldorado's opinion, the QA/QC results demonstrate that the Jinfeng deposit assay database, particularly for new data obtained from the start of 2010 to present, is sufficiently accurate and precise for resource estimation.

Also in 2010, checks to the entire drill hole database were undertaken. Checks were made to original assay certificates and survey data. Any discrepancies found were corrected and incorporated into the current resource database. Eldorado therefore concludes that the data supporting the Jinfeng Mine resource work are sufficiently free of error to be adequate for estimation.

1.4 MINERAL RESOURCES

Eldorado used a revised structural geology model to guide and control the grade estimate in the Jinfeng resource model. 3D mineralized envelopes, or shells were created for the gold mineralized or grade shapes. These were based on initial outlines derived by a method of Probability Assisted Constrained Kriging (PACK). A threshold value of 0.40 g/t Au was used.

The estimate used data from surface and underground diamond drill holes, surface and underground geologic mapping and mine grade control sampling.

The data analyses demonstrated that the F3 / F2 and F6 structural domains within the gold mineralized shell should be treated separately. Grades for blocks within the respective domains will be estimated with a hard boundary between them; only composites within the domain will be used to estimate blocks within the domain. The remaining F7 units will be treated as having "soft" boundaries. To mitigate risk of extreme gold grades to the estimate, a grade cap of 30 g/t Au was implemented in the assay data prior to compositing.

Block model cell size was 10 m east x 5 m north x 5m high. Modelling consisted of grade interpolation by ordinary kriging (OK) for all domains. A two-pass approach was instituted for interpolation. The first pass required a minimum of two holes from the same estimation domain whereas the second pass allowed a single hole to place a grade estimate in any uninterpolated block from the first pass. The model was validated by visual inspection, checked for bias and for appropriate grade smoothing.

The mineral resources of the Jinfeng deposit were classified using logic consistent with the CIM definitions referred to in NI 43-101. The mineralization of the project satisfies sufficient criteria to be classified into Measured, Indicated, and Inferred mineral resource categories. The Jinfeng mineral resources as of 31 December 2010 are shown in Table 1-1. The Jinfeng mineral resource is reported at a 0.7 g/t Au cutoff grade for open pit material and 2.0 g/t Au cutoff grade for underground mineralization, and calculated to end of 2010 mining limits.

Table 1-1: Jinfeng Mineral Resources, as of 31 December 2010

Mineral Resource Category	Tonnes (x '000)	Grade (Au g/t)	In Situ Gold (oz x '000)
Measured	11,240	3.42	1,235
Indicated	11,937	3.67	1,410
Measured+Indicated	23,177	3.55	2,645
Inferred	8,140	3.85	1,009

1.5 MINERAL RESERVES AND MINING METHODS

The Jinfeng deposit is mined by both open pit and underground methods. Both methods were designed using Surpac software. The open pit mining is by contractor utilizing standard drill and blast truck and shovel mining equipment. Key equipment comprises Komatsu hydraulic shovels loading a fleet of 65-ton Komatsu trucks. Underground mining utilizes an overhand mechanized cut and fill method and is owner operated. Both waste development and ore extraction uses the same equipment: Atlas Copco electric hydraulic 2-boom jumbos are used for drilling with the blasted ore extracted by Caterpillar LHD loaders into Caterpillar model AD45B trucks to be hauled to surface. The mine operates 24 hours a day seven days a week, which is also the schedule for the process plant.

The open pit design assumed a 5 m bench height in the mineralization, 10 to 20 m in waste rock. The basis for its design was an optimization done using Whittle software. Berm width, face angle and bench stack heights varied by sector and rock quality. Overall pit wall angle will range from 35.6 to 41.8 degrees. The final pit floor elevation will be 450 mRL, leaving a 300 m high wall to the east. Other key parameters for the open work are a strip ratio of 16 to 1, a mining dilution of 5% and a mining recovery of 95%.

Underground production headings are 4 m wide by 5 m high. Key parameters incorporated in the design are a mining dilution of 5% and a mining recovery of 95%. The mineral reserves estimate used conceptual mining stopes shaped along the geological interpretation and resource grade model.

The mineral reserves of the Jinfeng deposit were classified using logic consistent with the CIM definitions referred to in NI 43-101. The mineralization of the project satisfies sufficient criteria to be classified into Proven and Probable mineral reserve categories. The Jinfeng mineral reserves as of 31 December 2010 are shown in

Table 1-2. The Jinfeng mineral reserve is reported at a 0.8 g/t Au cutoff grade for open pit material and 2.5 g/t Au cutoff grade for underground mineralization, and calculated to end of 2010 mining limits. Gold price used was US$1,000/oz.

Table 1-2: Jinfeng Mineral Reserves, as of 31 December 2010

	Category	Tonnes ('000)	Grade (g/t Au)	Gold (oz '000)
Open Pit	Proven	2,300	3.71	274
(0.8 g/t Au cutoff)	Probable	1,425	2.78	127
	Proven + Probable	**3,725**	**3.35**	**401**
Underground	Proven	4,202	4.07	551
(2.5 g/t Au cutoff)	Probable	5,885	4.64	877
	Proven + Probable	**10,087**	**4.40**	**1,428**
Stockpile	Proven	**882**	**2.60**	**74**
Total Reserve	Proven	7,384	3.78	898
	Probable	7,310	4.27	1,005
	Proven + Probable	**14,694**	**4.03**	**1,903**

1.6 METALLURGICAL TESTWORK

The various testwork programmes have established that gravity concentration methods and direct cyanidation were not successful on the Jinfeng ores. Whole ore roasting, whole ore bio-oxidation and whole ore pressure oxidation have all been successful metallurgically but have cost implications due to either the components of the ore, requirement to capture effluent gases, or high acid or reagent considerations. Alkaline pressure oxidation was unsuccessful.

A substantial body of testwork was completed to demonstrate the effectiveness of sulphide flotation to concentrate the Jinfeng ores. Two-stage grinding and flotation with a primary grind of 80% passing 75 microns followed by rougher flotation with regrinding of the rougher tailing to 80% passing 45 microns and subsequent scavenging in two stages was demonstrated. Cleaning of the primary concentrates with recirculation of cleaner tailings through the secondary ball milling circuit has been shown to provide consistent results and was adopted for the Jinfeng plant design.

Biological leaching of Jinfeng concentrate was demonstrated by GoldFields in South Africa. After oxidation, CIL gold recoveries of 93% and 94% were achieved.

1.7 RECOVERY METHODS

The Jinfeng ore is processed in a 1.5 Mt/a process plant. The ore is dumped from the open pit and underground workings into numerous stockpiles organized primarily by gold grade and also hardness and sulphur grade. Blended ore is then put through a primary jaw crusher and forms a mill stockpile ahead of further crushing and grinding. The mill stockpiled material then is fed into a SAG mill leading into the primary and secondary ball mill units. The ore then proceeds though a flotation circuit where, after thickening, the concentrate is transferred to two bio-oxidation tanks using the patented BIOX® process. After 5 to 6 days residence time the oxidised pulp is pumped into a multiple stage thickener circuit for solids – liquid separation. The thickener over flow material is neutralized and discharged to tailings. The under flow material is pumped into a conventional CIL circuit with a 24 hour residence time.

The carbon is then removed from the adsorption circuits for gold removal by Zadra methods consisting of stripping, electrowinning and smelting. The final product is a gold doré bar suitable for final processing in domestic refineries.

Water for the process plant is sourced from the nearby Luofan River. Where possible, water is reclaimed before exiting into tailings impoundments.

1.8 MARKETS AND CONTRACTS

Key contracts and agreements for the operation of the Jinfeng mine are listed below:

- Jinfeng BIOX® License Agreement to permit ongoing usage of the BIOX® process in the Jinfeng process plant.
- Mining Contract with No.19 China Railway & Construction Company for continuation of the open pit mining at Jinfeng.
- Combined Infrastructure Deal with the local County for electrical power supply from the provincial electrical grid.
- Gold is sold to a local refiner at world spot prices.

1.9 ENVIRONMENTAL AND SOCIAL

An environmental monitoring plan has been developed to address the potential impacts of the mining operation. This plan was put in place prior to pre-production and has been maintained throughout the production phase. The scope of the monitoring program within this plan includes elements of air quality, surface water and ground water monitoring. Data collected during the monitoring program is reported to the relevant government agencies on a monthly and annual basis. Additional issues addressed in the Environmental Management Plan include noise and blast vibration monitoring as well as waste and hazardous waste storage and disposal.

A Preliminary Closure Plan is being updated and revised regularly during operation of the mine, culminating in the establishment of a Final Closure Plan prior to decommissioning.

Jinfeng mine and Eldorado have developed good relationships with the local communities which include four villages (Bai Ni Tian, Shi Zhu, Tingshan and Niluo) and one township (Shaping). Recent company sponsored construction improved local roads and electrical power infrastructure to the benefit of these communities. The Company constructed a joint community – company meeting hall adjacent to the entrance to the Jinfeng mine site. This building is used by Jinfeng mine personnel and the local community to meet and discuss community issues. Eldorado also established a Community Relations department which will to be staffed by throughout the life of the Jinfeng mine.

1.10 CAPITAL AND OPERATING COSTS

The operating costs per unit of production have been relatively constant since the start of the mine life. The cost for processing and mine support are expected to remain constant for the remainder of the mine life, except when they are changed due to inputs that affect the entire gold mining industry, including, but not limited to, changes in, fuel costs, reagent costs, exchange rates, labour costs and inflation. The unit costs for mining are expected to increase as the mining accesses deeper levels in the underground mine and they are also affected by the previously listed inputs.

In 2011, capital expenditures at Jinfeng are expected to total approximately US$37 million. Most of this will be due to mining costs including waste stripping from the open pit (US$3 million), underground development costs (US$6 million), and underground equipment (US$5 million). Land acquisition costs are also significant at US$5 million and construction costs of around US$5 million are also expected. Exploration in the immediate area surrounding Jinfeng will also account for US$5 million.

The capital expenditure costs are expected to reduce as the project gets more mature. Capitalised waste stripping will reduce after the current planned cutback. The open pit mine is expected to be depleted by 2017. Underground development is expected to continue for some time yet as the mine plan becomes more fully developed and the full depth extent prepared. Land acquisition costs and construction costs are significant one-offs that occurred in 2011 and are not expected to figure significantly moving forward.

1.11 CONCLUSIONS

The Jinfeng Gold Mine has been in operation for nearly four years. During the first year under Eldorado ownership, 2010, production tonnages and gold produced are matching forecasts. Eldorado believes that the mine will continue to perform as well in the near future but will face later challenges as the current open pit and underground operation becomes solely an underground operation.

SECTION • 2 INTRODUCTION

Eldorado Gold Corporation (Eldorado), an international gold mining company based in Vancouver, British Columbia, owns and operates the Jinfeng Gold Mine in (Jinfeng) China through its 82% owned Chinese subsidiary, Guizhou Jinfeng Mining Limited (GJML). Eldorado has prepared this Technical Report of the Jinfeng Gold Mine to support a material change in mineral reserves and mineral resources relative to those quoted in the previous Technical Report on Jinfeng titled *Jinfeng Gold Mine, Guizhuo Province, China,* with an effective date of October 10, 2007; prepared by SRK Consulting (Australasia) Pty Ltd on behalf of Sino Gold Mining Limited..

Information and data for this report were obtained from Jinfeng. The work entailed review of pertinent geological, mining, process and metallurgical data in sufficient detail to support the preparation of this Technical Report.

The Qualified Persons responsible for preparing this Technical Report as defined in National Instrument 43-101 (NI 43-101), Standards of Disclosure for Mineral Projects and in compliance with 43-101F1 (the "Technical Report") are Stephen Juras, Ph.D., P.Geo., Richard Miller, P.Eng, Norm Pitcher, P.Geo., and Paul Skayman, FAusIMM. All are employees of Eldorado.

Dr. Juras, Director, Technical Services for the Company, was responsible for the preparation of the sections in this report that concerned geological information, sample preparation and analyses and mineral resource estimation. He visited the Jinfeng Gold Mine on numerous occasions with the most recent being January 21 to 27, 2011.

Mr. Miller, Manager, Mining for the Company, was responsible for the preparation of the sections in this report that dealt with matters pertaining to open pit mining (mineral reserves estimation, mine operations and related costs). He most recently visited the Jinfeng Gold Mine on October 14 to 20, 2010.

Mr. Pitcher, Chief Operating Officer for the Company, was responsible for the preparation of the sections in this report that dealt with matters pertaining to underground mining (mineral reserve estimation, mine operations and related costs). He most recently visited the Jinfeng Gold Mine on July 23 - 30, 2010.

Mr. Skayman, Senior Vice President Operations for the Company, was responsible for the preparation of the sections in this report that dealt with the environment, metallurgy and process operations and related costs. He most recently visited the Jinfeng Gold Mine on February 3 to 6, 2010.

Re-evaluation of the geology and mineralized zones combined with the results of the drill programs executed in 2010 has contributed to a decrease in the resources and reserves at Jinfeng.

This document presents the revised geology and resource model, and a summary of the operations at the mine.

SECTION • 3 RELIANCE ON OTHER EXPERTS

Eldorado has prepared this document with input from Jinfeng staff. Third party experts have supplied some information, and the authors of this document have reasonable reliance on that information as coming from technical experts. This report therefore relies inherently on the conclusions and recommendations of the following third party consultants:

Peter O'Bryan & Associates, Australia

Information from numerous technical reports and memos on open pit geotechnical matters was used in Sections 15 and 16 of this document.

Sino Mining Consultants P/L, Australia

Information from numerous technical reports and memos on backfill and underground mining matters was used in Sections 15 and 16 of this document.

URS Australia Pty. Ltd.

Information from technical studies and memos on Geochemical Studies and Closure Plans was used in Chapter 20 of this document.

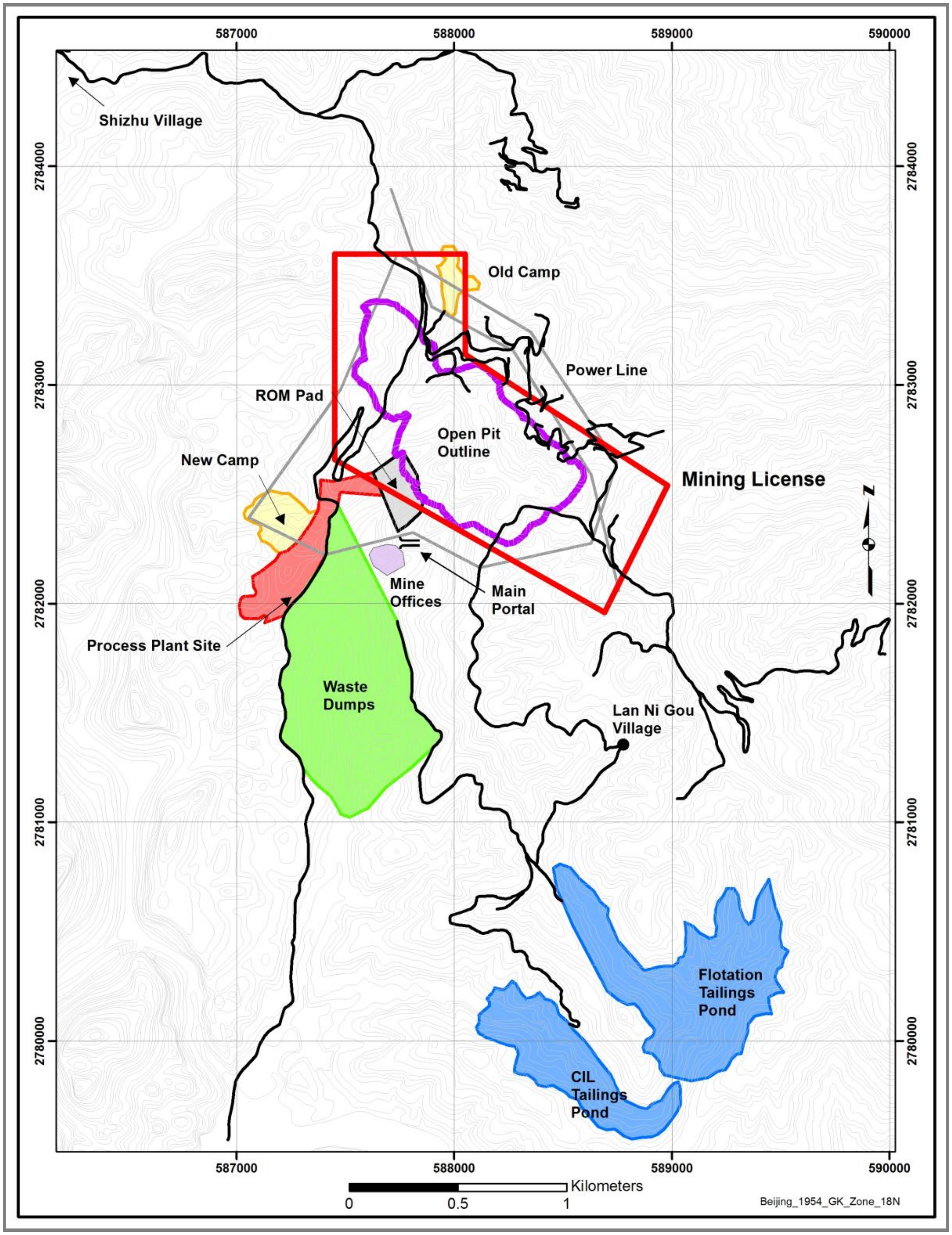
SECTION • 4 PROPERTY DESCRIPTION AND LOCATION

Jinfeng is located in the southwest region (Guizhou Province) of the People's Republic of China (China). The area (UTM coordinates 588,000 E and 2,783,000 N, Beijing 1954 GK Zone 18N) is approximately 180 km south-southwest of the provincial capital city Guiyang, near Lannigou Village, some 68 km southeast of Zhenfeng County centre, Qianxinan Prefecture, as shown in Figure 4-1 and Figure 4-2. Figure 4-2 also shows the project infrastructure in relation to the mining license boundaries.

Chinese authorities have legally surveyed the property and the mining licence includes corner points of the tenement defined by latitude and longitude.

Figure 4-1: Location Map – Jinfeng Gold Mine

Figure 4-2: Location and Infrastructure Plan Map, Jinfeng



4.1 MINING LICENSE

The mining license for both the open pit and underground mines was granted in May 2005 and is valid until May 2017(Table 4-1). In China, it is normal to include the vertical dimension as part of the mining license. The Jinfeng mining license currently states that Eldorado is licensed to mine between 750 mRL and -250 mRL. Eldorado will need to apply to mine deeper than these levels if additional ore is discovered.

Table 4-1: Jinfeng Mine License

Mine	Mining License No.	Mining Area (km^2)	Issue Date	Date for Renewal
Jinfeng	1000000510057	1.2843	May 2005	May 2017

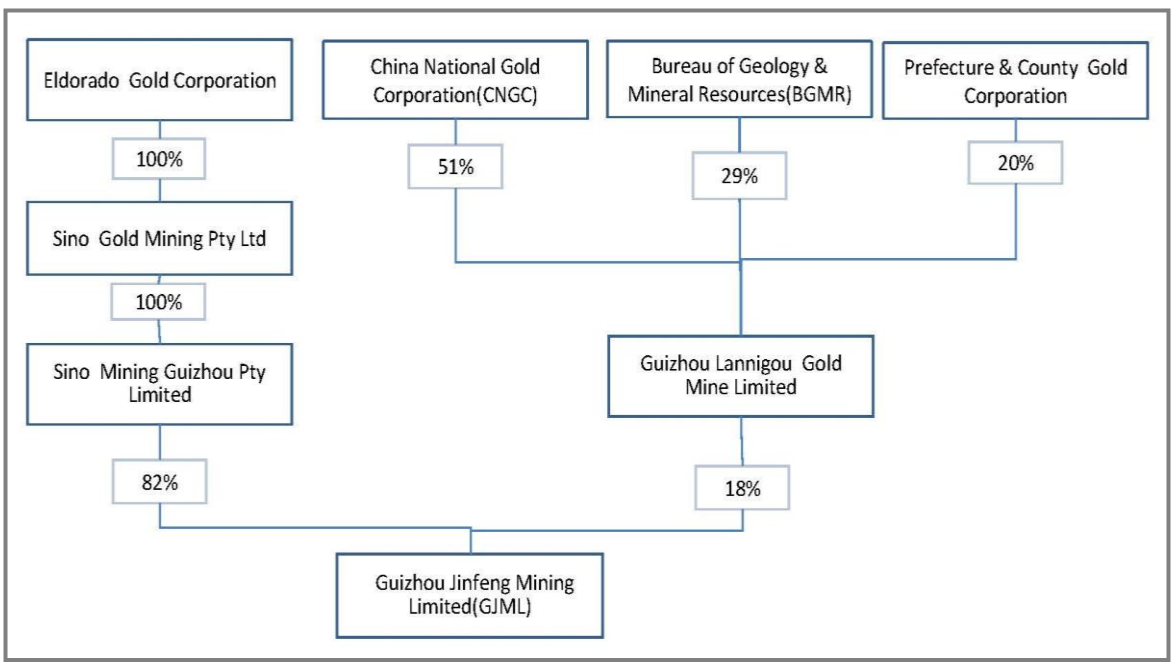
Eldorado also has an operating permit for the mine and processing plant, granted on 25 December 2006 and valid until 25 December 2016.

Jinfeng has applied and received the final environmental and safety permits required to continue operations. The Guizhou Province issued the final environmental approval in December 2008.

4.2 OWNERSHIP

Guizhou Jinfeng Mining Limited is the operator of the Jinfeng mine site, and is 82% owned by Eldorado; the remainder is owned by Chinese companies, as shown in Figure 4-3.

Figure 4-3: Ownership Chart for Guizhou Jinfeng Mining Limited



4.3 ROYALTIES AND ENCUMBRANCES

The following royalties are paid by the Jinfeng operation.

- **Partner Royalty**: the Jinfeng joint venture partner, Guizhou Lannigou Gold Mine Limited, is entitled to receive 3% of the net sales revenue of the gold produced each year
- **BIOX® Royalty**: A royalty (payable quarterly in arrears) is payable based on a dollar amount per ounce of gold. Under the Biox® Royalty Agreement, payments due are confidential, and the Company is not able to publicly disclose those amounts.
- **No Back-in Rights**: The Jinfeng project is not subject to any back-in rights.

Payments

There are no current outstanding payments.

No other agreements apply to the Jinfeng project.

Encumbrances

The project is fully mortgaged according to the terms of a RMB 680 million construction loan that was entered into in 2009. The loan was arranged through the China Construction Bank Corporation. At the end of 2010, the outstanding balance was RMB 500 million.

Environmental Liabilities

Jinfeng has committed to meet or exceed health, safety, and environment performance standards as required by:

- Chinese legislation and standards
- international standards and codes of the mining industry.
- Eldorado corporate policies.

Jinfeng has adopted the following pH and concentration limits for discharges from the water treatment plant into the Luofan River:

- 6 to 9 pH
- 20 ppm chemical oxygen demand
- World Bank Standards
  - 0.1 mg/L free cyanide (World Bank)
  - 0.5 mg/L WAD cyanide (World Bank)
  - 2 mg/L total iron (World Bank)
- Chinese Standard GB8978-1996 applying to Jinfeng Project
  - 0.5 mg/L total cyanide
  - 0.5 mg/L total arsenic
  - 0.1 mg/L total cadmium

  - 0.05 mg/L total mercury
  - 0.5 mg/L total copper
  - 1 mg/L total lead
  - 2 mg/L total zinc
  - 2 mg/L total manganese
  - 15 mg/L ammonia-N

- To ensure that the chemical oxygen demand requirements are met, a water treatment plant has been developed that uses bacterial methods to break down the thiocyanates present as a result of unoxidized sulphide reacting with cyanide in the CIL circuit. This pilot plant has been very successful, and a full-scale plant is currently under construction and expected to be commissioned at the end of 2011.

Jinfeng has committed to meeting Chinese National Class III receiving water standards. Standard concentration limits for sulphate, nitrate, iron, thallium, and manganese in drinking water quality standard at concentrative surface water source (GB3838-2002) are used. Fecal coliform, TDS and total hardness concentration limits set in sanitary standard for drinking water (GB5749-85) are used.

Based on the available dilution within the Luofan River, when the discharge standards are met, the water quality objectives are achieved.

Chinese air quality standards (GB3095-1996 Class 2 and TJ36-79 residential region for arsenic) are applied to the site. These standards are also being met.

SECTION • 5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 TOPOGRAPHY AND ACCESS

The topography of the region has two distinct styles that are influenced by the underlying geology. The Jinfeng mine area is located on the watershed between the Beipan River to the east and the Luofan River to the west.

To the west of Jinfeng mine, where the lithology is predominately Permian karstic limestone, the topography is rugged and has features that are typical of karst. The range of elevation is from approximately 350 mRL to nearly 1,150 mRL. Sinkholes are common, and commonly very large. Surface water is somewhat intermittent within this terrain, with many watercourses flowing in cave systems below surface. The topography at the Jinfeng mine site is not as rugged as it is within areas underlain by karst. There are, however, substantial topographic variations from about 400 mRL to 760 mRL, with natural slopes ranging from 20° to 35°.

Jinfeng is connected to the provincial road system by 12 km of paved access road.

5.2 NEAREST POPULATION CENTRE

There are four administrative villages in the Jinfeng area – Bai Ni Tian, Shi Zhu, Tingshan, and Niluo – with populations ranging from 500 to 1,200 people. The nearest larger population centre to Jinfeng by road is Lannigou Village which is a natural village, part of Bai Ni Tian, with a population estimated at 470. Lannigou village is approximately 1.6 km from the Jinfeng mine and 1.9 km from the flotation tailings storage facility.

5.3 CLIMATE

Located in the subtropical humid monsoon zone, Guizhou Province enjoys a warm and humid climate with warm summers and mild winters. Climatic conditions allow Jinfeng to operate all year; however, seasonal heavy rainfall may interrupt open-pit mining for several days per year. The average annual rainfall is 1,200 mm, which falls primarily from May to August. The yearly average temperature is 19°C, with daily temperatures ranging between 6°C and 30°C

5.4 SURFACE RIGHTS

Jinfeng has obtained a mining license which allows full surface rights for access and mining of the deposit.

5.5 INFRASTRUCTURE AND SERVICES

Electric power and water supply are discussed in Section 18.

5.5.1 Workforce

China has a well-established mining contractor skill base. The mining contractor at Jinfeng has experience at a wide range of civil construction and earthmoving projects, and is a subsidiary of one of the top-ranking construction companies in China. This mining contractor also operates at Eldorado's other Chinese mining operations. The underground mining workforce is based around experienced underground miners from Sino's previous mine at Jinchialing. The process plant operators have been drawn from a range of reasonably well experienced workers, many of whom have qualifications in chemical engineering and metallurgy. There are few operators in China with experience in BIOX®, but skills were initially transferred by experienced expatriates. After some operating time, the process plant, and particularly the Biox® portion, are now running without expatriate involvement. Maintenance skills are readily available in China, as are administrative and accounting skills.

As of March 2011, 765 of 769 permanent full-time employees are Chinese nationals; 157 are from the local community, 138 are from the county, 225 from the province, and 245 from other areas of the country. Jinfeng's stated policy is to give preference wherever possible to local employees for direct employment. Also, if the local community can supply any of the required services, then they also get preference over more distant bid

SECTION • 6 HISTORY

The discovery of Jinfeng occurred in the early 1980s during follow-up geological work on regional stream sediment anomalies. Subsequently, Guizhou 117 Brigade defined a 1.5 Moz deposit through mapping, surface trenching, development of a number of exploration adits, and drilling. Since 2002, Sino Gold Mining Limited ("Sino") further delineated the resource and incrementally added to the size of the deposit. Production, from open pit ore, was achieved in 2007. Underground mining reached full production in Q4 2009. In 2009, Eldorado and Sino agreed to combine businesses which culminated on 15 December. The history of the Jinfeng project is shown in Table 6-1.

Table 6-1: Jinfeng Timeline

Dates	Activity
1986	Discovery of the Jinfeng deposit
2001	Sino won Guizhou Government tender
April 2004	Bankable Feasibility Study completed
February 2005	Development commenced
May 2005	Mining Permit granted
December 2006	Gold Operating Permit Granted
May 2007	Production commenced (Open Pit)
September 2007	Commercial Production Announced.
August 2009	Eldorado and Sino announce business combination
December 2009	Eldorado completes its acquisition of Sino

SECTION • 7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

Jinfeng is located in the region of southern China known as the Golden Triangle, which hosts numerous disseminated sediment-hosted gold deposits, including the large Shuiyingdong and Zimudang deposits (Figure 7-1).

Deposits of the Golden Triangle are hosted in Permian to Triassic sedimentary strata of the Youjian Basin, and are concentrated along the western margin of the Proterozoic Yangtze craton. The lowest stratigraphic levels of the Youjian Basin consist of Cambrian to Carboniferous massive limestones, overlain by Permian shelf limestones. The Paleozoic carbonates are overlain by Lower Triassic platy limestones, in turn overlain by Middle Triassic alternating mud and sandstones, with classic turbidite sequences above. Most of the gold deposits in the region are found in clastic rocks within the sequence, and are spatially associated with fault zones and/or broad antiformal culminations (Lou, 1993).

Regional geological constraints indicate a number of extensional events occurred during the Carboniferous and Permian, repeating in the Early Triassic and Middle Triassic periods (Guangxi BGMR, 1985; Zhang and Jiang, 1994). Extensional faults generated during these events facilitated the formation of the Youjian Basin, and influenced sub-basin architecture and sedimentation patterns. Silurian to Late Triassic sedimentary rock strata in the basin were subsequently folded and uplifted to form a number of regional scale domes. The Jinfeng deposit lies on the northeastern margin of one such feature, the Laizhishan Dome (Figure 7-1).

7.2 PROPERTY GEOLOGY

Stratigraphic units in the Jinfeng area (Figure 7-2) can be divided into two distinct sequences (Luo, 1993):

- A lower sequence dominated by thick carbonate units ranging in age from Permian to Lower Triassic. These units consist of the Maokao, Dachangceng, Wujiaping, and Loulou formations. The lower sequence is exposed within the core of the Laizhishan Dome, and crops out just west and southwest of the Jinfeng deposit.
- An upper sequence consisting of mudstone to sandstone-dominated units ranging from Lower Triassic to Middle Triassic in age. These units consist of the Xuman, Niluo, and Bianyang formations. The contact between the upper and lower sequences is unconformable, and is often faulted. The Xuman and Bianyang Formations are the principal host rocks to the Jinfeng gold deposit.

Figure 7-1: Regional Geological Map Showing the Distribution of Major Sediment-Hosted Gold Deposits in the Central Part of China's Golden Triangle

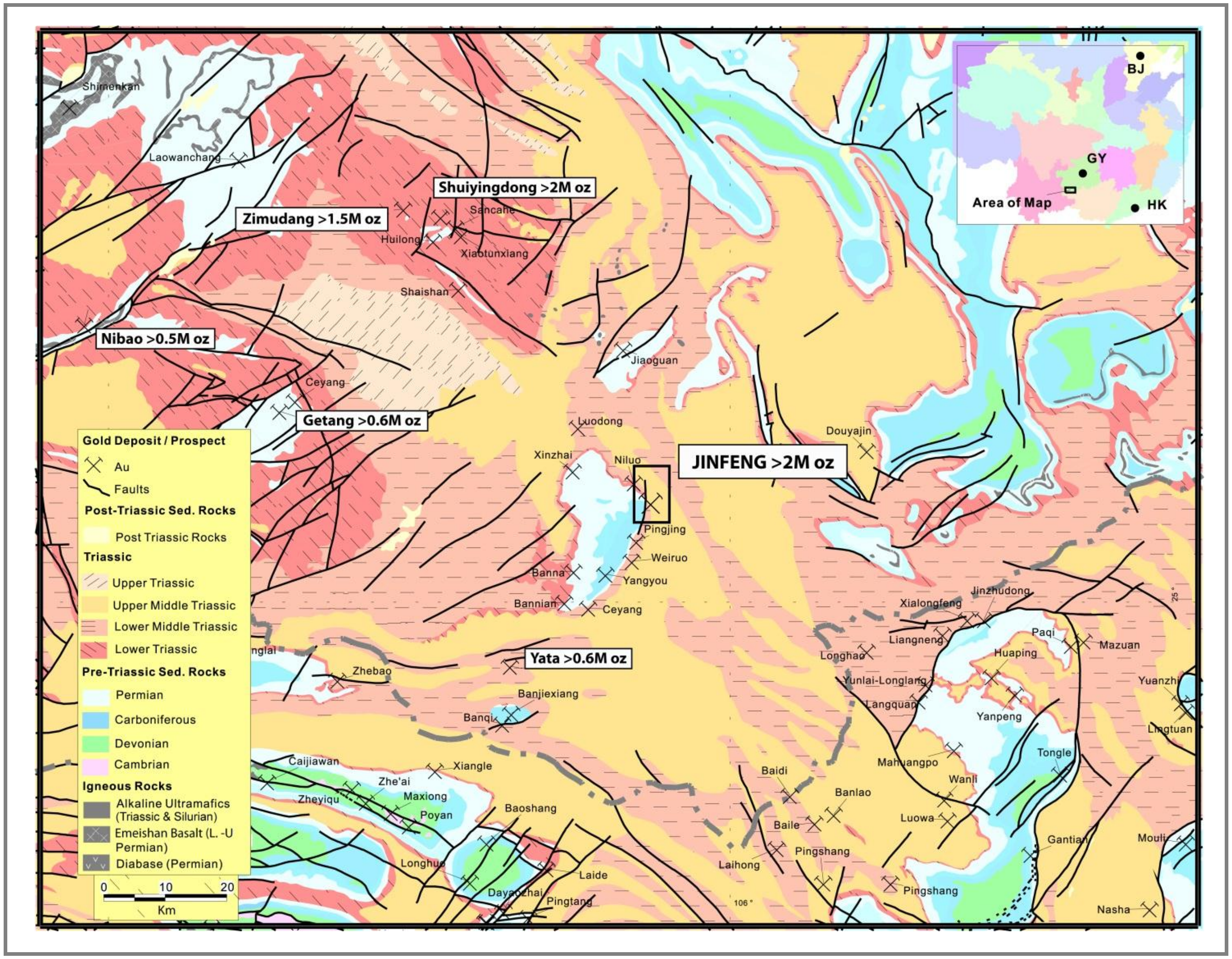
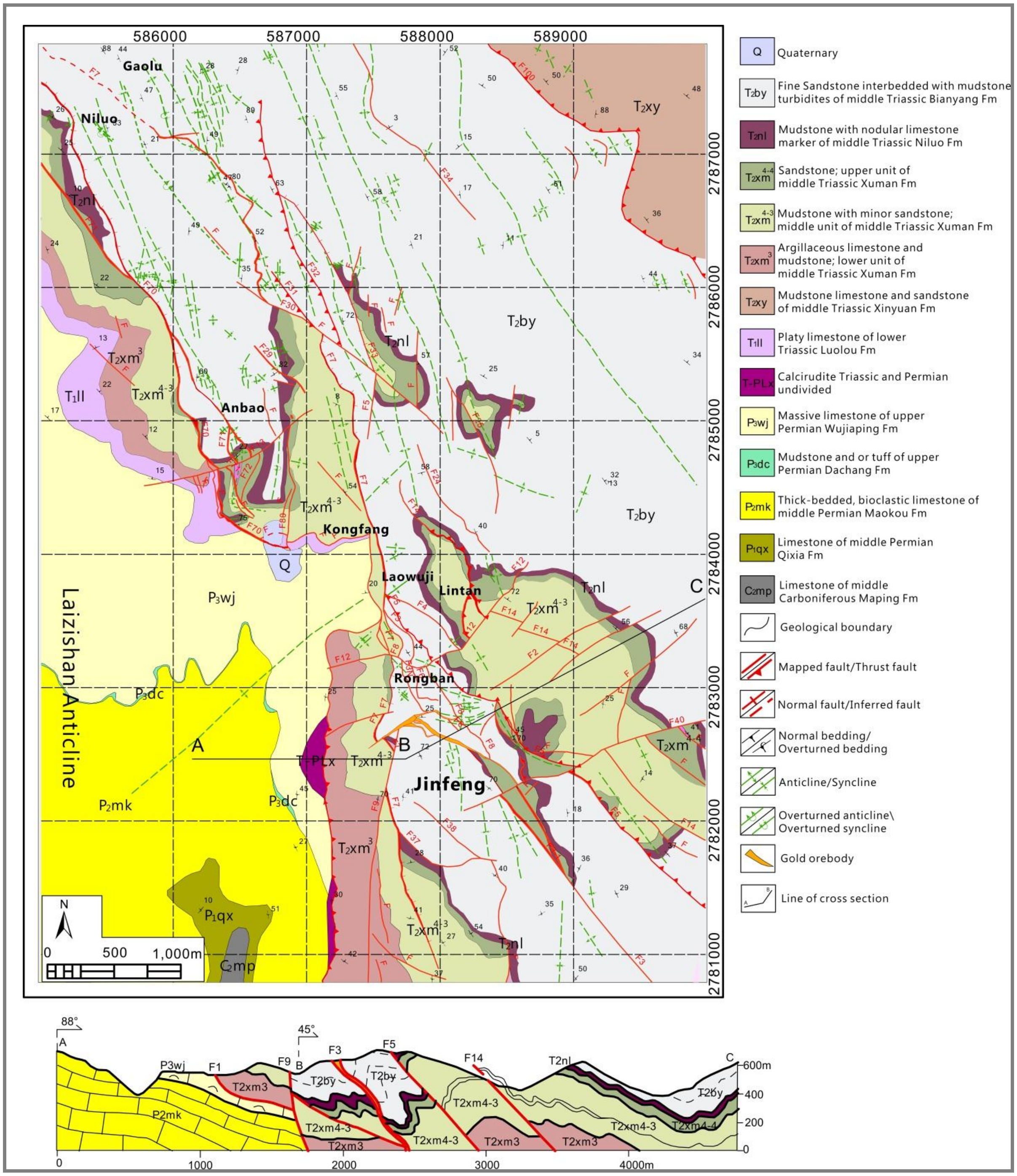


Figure 7-2: Geological Map and Cross-Section of Jinfeng (Lannigou) Deposit and Surrounding Area



In the Jinfeng area, stratigraphic trends are generally north-northwestly, but in detail are complex due to faulting and folding. Most of the contacts between the formations are conformable and sharp, with the exception of the gradational contact between the Niluo and Bianyang formations.

7.2.1 Lower Stratigraphic Sequence

The lower sequence (Figure 7-3) is well exposed in the deposit area as an easterly-younging, homoclinal sequence along the margin of the Laizhishan dome.

The Permian Maokou Formation is the lowest stratigraphic unit exposed in the vicinity of the Jinfeng deposit. The thickness of the Maokou Formation can exceed 400 m, and it forms large, resistant cliffs in the area. The Maokou Formation is composed of light grey, fine-grained limestone, with abundant colonial corals, gastropods, and fusulinids.

A sharp contact separates the Maokou Formation from the overlying Permian Dachangceng Formation. The Dachangceng Formation is a medium-grained, sericite-rich sandy unit that weathers to a distinctive tan-brown color, and is up to 20 m in thickness. Despite its relatively minor thickness, it is regionally extensive, and has been interpreted as a tuff.

The Upper Permian Wuijiaping Formation overlies the Dachangceng Formation along a sharp contact. The Wuijiaping Formation is a dark grey, fine-grained, thickly-bedded massive limestone with abundant bivalve fossils, and can exceed 400 m in thickness.

The Triassic Loulou Formation lies above the Wuijiaping Formation along a sharp contact that is locally a low-angle unconformity. The Loulou Formation can be up to 80 m thick. It consists of light grey, fine-grained limestone, interbedded with calcareous mudstone. Ammonoid and nautiloid fossils are common.

7.2.2 Upper Stratigraphic Sequence

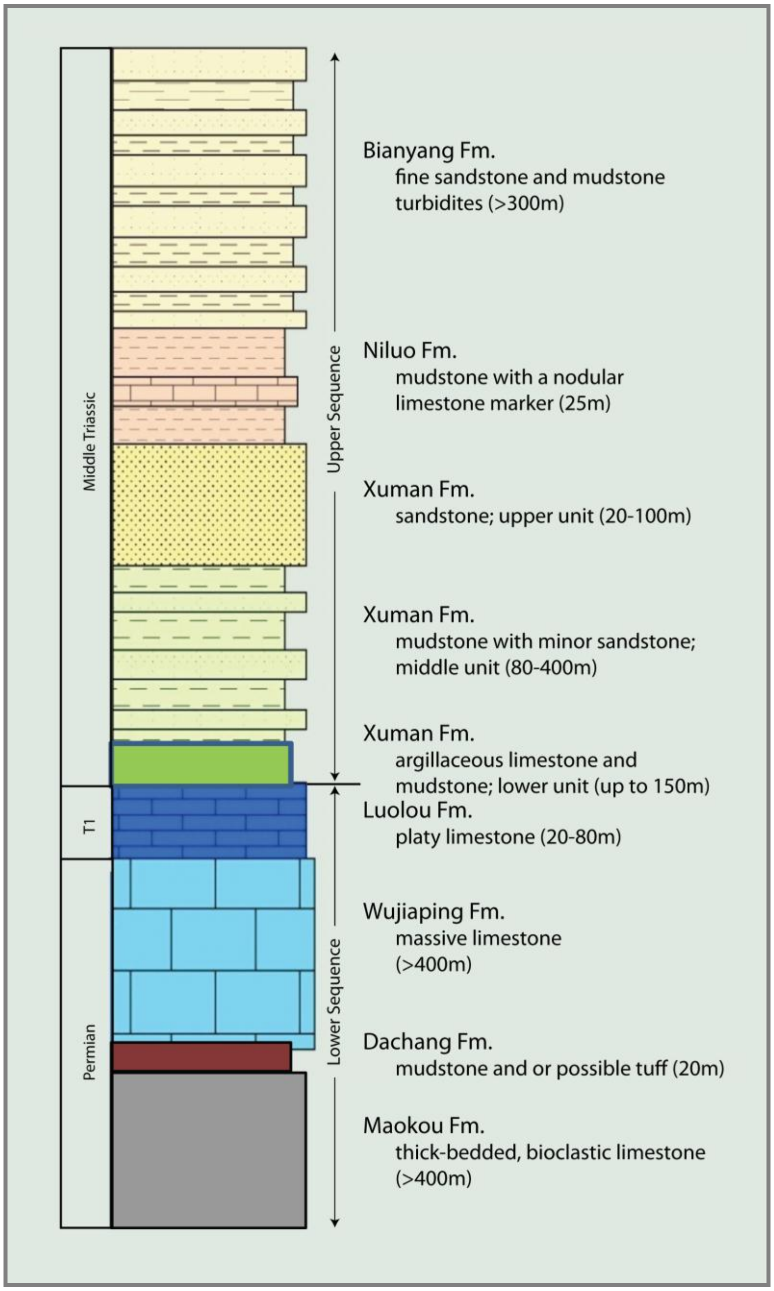
The upper stratigraphic sequence (Figure 7-3) is well exposed in the Jinfeng open pit, and is host to the gold mineralization at the deposit. The contact between upper and lower sequences is a regional unconformity, but near Jinfeng it is commonly faulted.

The Middle Triassic Xuman Formation forms the base of the upper sequence, and is subdivided into lower, middle, and upper units delineated by sharp contacts. The Xuman lower unit consists of light to pale grey limestone, often interbedded with dark grey to green mudstone, and can be up to 150 m thick. The middle Xuman unit consists of interbedded grey mudstone and sandstone, and varies in thickness from 80 m to 400 m. Abundant crossbedding and a higher mudstone-to-sandstone ratio serve to distinguish the unit from the lithologically similar Bianyang Formation. The upper Xuman unit is dominated by pale grey to tan, medium-grained, thickly-bedded sandstone, and varies in thickness from 20 m to 100 m.

The Middle Triassic Nilou Formation consists of interbedded green-grey mudstone and siltstone, with finer grained sandy beds near the bottom of the unit. It has a gradational contact with the underlying Xuman Formation and is up to 25 m thick. The upper part of the formation often contains a characteristic 2–4 m thick nodular limestone layer. The Niluo Formation tends to be a poor host to gold mineralization.

The Middle Triassic Bianyang Formation forms the top of the upper stratigraphic sequence. It consists of turbiditic sandstone, siltstone, and mudstone overlying the Niluo Formation along a gradational contact. The Bianyang Formation can exceed 300 m in thickness. Graded bedding and distinctive lode casts are common throughout the unit.

Figure 7-3: Stratigraphic Sequence through the Jinfeng Area



7.3 STRUCTURAL GEOLOGY

The Jinfeng deposit and surrounding area are characterized by complex fault and fold patterns that record a polyphase deformation history. These structural features represent principal controls on the geometry and distribution of ore zones within the deposit, with favourably oriented faults, fault intersections, and intersections between faults, and favourable lithologic units providing preferential sites localizing mineralization.

Faults in the Jinfeng area include several major structures that can be traced over hundreds of metres to several kilometres along strike, and numerous less continuous minor faults. Most of the major faults strike either northeast or northwest, and have moderate to subvertical dips. They vary from discrete fault surfaces to broader tectonized zones with widths of up to a few tens of metres. Major faults and fault zones that are constrained by surface mapping and drill hole intersections include F2, F3, F5, F6, F7, and F8 (Figure 7-4). Minor faults with tens of metres strike length are ubiquitous in the pit and underground exposures. These secondary faults vary widely in orientation, although many parallel the major fault zones.

F2: The F2 fault zone strikes northeast and dips steeply to the southeast. It ranges in width from ten to 50 m and is well exposed on the southwest pit wall. The F2 fault zone typically contains a significant amount of gouge material, and quartz-carbonate-pyrite veins are common. The apparent offset appears to be minimal. The F2 fault zone hosts a large portion of the Jinfeng deposit.

F3: The F3 fault zone strikes west to northwest and dips steeply to the northeast. It is characterized by a zone of breccia, gouge, and anastomosing fault surfaces up to 60 m wide. Quartz veins, disseminated pyrite, and orpiment are common in the fault zone. Kinematic indicators in the fault zone, including extensional veins, Riedel shear fractures, oblique cleavage, and drag folding, all indicate oblique dextral+normal displacement. Stratographic offset is up to hundreds of metres across this fault; apparent movement is normal. A majority of the gold mineralization at Jinfeng lies either within or immediately adjacent to the F3 fault zone.

F5, F8: F5 and F8 are both northwest-striking, moderately northeast-dipping fault zones exposed on the north wall of the open pit. The two faults merge in the pit wall, and likely represent splays of the same fault system. They both occur as zones of carbonaceous gouge and cataclastic breccia, ranging in thickness from ten to fifty metres. F5 locally juxtaposes Niluo Formation over turbiditic Bianyang Formation rocks; based on the amount of stratigraphic repetition and the relative orientations of the fault surface and stratification, thrust offset is up to a kilometre. Kinematic indicators have not been documented on either fault.

F6: The F6 fault zone, well exposed in the northwest (Rongban) portion of the Jinfeng open pit, strikes north-northwest and dips moderately to the northeast. Near the northern limit of the pit, F6 forms a deformation zone over a hundred metres wide, characterized by anastomosing internal fault strands, disrupted bedding, and gouge zones. The deformation zone narrows to around 10 m to the southeast, near its intersection with F2. In this same area, the fault bends sharply to a north-northeast strike orientation. The apparent stratigraphic offset across the entire fault zone is normal; however, individual minor faults within the zone commonly show apparent thrust displacement of marker beds. The F6 fault zone hosts the Rongban portion of the Jinfeng deposit.

F7: F7 is a major, north-south-striking fault zone with a surface trace just west of the Jinfeng deposit, and has been mapped over a 5 km strike length. The fault zone has a listric geometry with a shallow to moderate easterly dip, and projects beneath the deposit. It measures up to tens of metres in thickness, and commonly contains gouge material with minor amounts of quartz veins. Near the Jinfeng deposit, the fault juxtaposes hanging wall Bianyang Formation rocks against footwall Xuman Formation, with stratigraphic omissions of up to a few hundred metres.

Secondary Faults

Minor faults are abundant in the pit and underground exposures. These faults lack the continuity of the major faults (limited to 1–2 benches), and typically occur as discrete surfaces or deformation zones less than a metre thick. Apparent offsets are at most a few metres. The most prominent minor faults are shallowly-dipping faults showing apparent thrust displacement. These are preferentially developed within and adjacent to the major fault corridors, in particular F3, F2, and F6.

Folds

At least two generations of folds are present within the Jinfeng deposit. The fold generations can be differentiated by their orientation, style, and overprinting relationships.

The earliest folds are dominated by upright chevron forms with steep to subvertical, northwest-striking axial surfaces, and moderately southeast-plunging axes. They are commonly pit-scale, with amplitudes of tens to a few hundred of metres. Interlimb angles are tight to open, and hinges are subangular to angular.

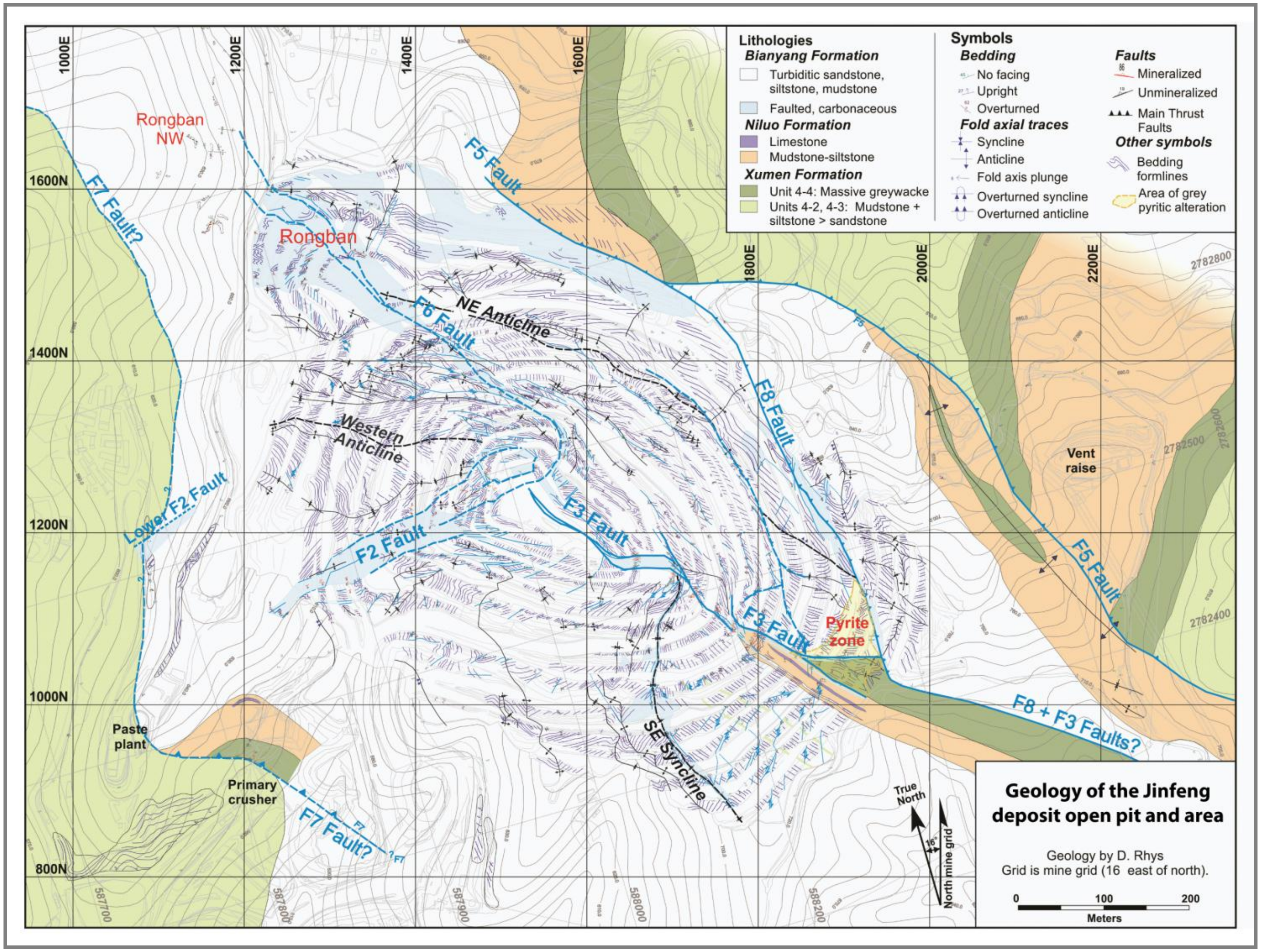
Later folds are recumbent folds with shallowly-dipping, northwest-striking axial surfaces, and moderately north-plunging axes. They are outcrop to pit scale, with amplitudes of tens to a hundred metres, and commonly refold the earlier upright folds. Interlimb angles are tight to isoclinal, hinges are subangular, and fold forms are symmetric to southwest-verging. Weak axial-planar spaced cleavage is locally associated with the recumbent folds. The F3 Zone truncates both, early and late folds.

Deformation Sequence

Fault and fold geometry and kinematics, together with cross-cutting relationships between structural features, constrain a deformation sequence involving multiple periods of shortening and extension:

- Earliest deformation consisted of roughly east-west shortening, accommodated by the development of the prominent north-northwest-trending upright megascopic folds common to the deposit area.

Figure 7-4: Geology Map of the Jinfeng Deposit Open Pit Area



- Major faults F3, F6, and possibly F2, formed originally as large-displacement, listric normal faults during a period of northeast-southwest extension superimposed on the early folds. Early fold axes were cut and offset by faults formed during this period of extension.
- A second period of shortening along a northeast-southwest axis modified the existing fold forms, and led to the development of southwest-verging thrust faults and recumbent folds. Favourably-oriented extensional faults, including the F3 and F6 fault zones, were likely reactivated as reverse faults during this event.
- Latest deformation, constrained by kinematic indicators preserved within fault zones, was a further reactivation of the F3 and F6 fault zones. This youngest event was dominated by oblique normal+dextral movement, consistent with northwest-southeast extension.

7.4 MINERALIZATION

The Jinfeng Deposit is a sediment-hosted disseminated gold deposit showing strong elements of structural and stratigraphic control. Nearly all of the known gold resource occurs within or adjacent to major fault zones (F2, F3, and F6), or secondary faults either splaying from or linking with these structures. Overall, the deposit occurs as a steeply-dipping tabular body, with a long axis plunging shallowly to moderately to the east-southeast. The deposit extends over 1,200 m along this axis, has a vertical extent of up to 1,100 m, and a thickness typically ranging from 10 m to 50 m.

High-grade shoots within the deposit are spatially associated with intersections between the controlling fault zones and either secondary faults or lithologically favourable sandy beds in the Bianyang and Xuman Formations. Gold is commonly localized along east-west striking segments of either the main controlling faults or secondary structures. The ore shoots typically plunge moderately to the east-southeast, parallel to the overall deposit axis, to fold axes, and to fault intersections. Within the F3 fault zone, high grade pods often show a right-stepping en-echelon geometry in plan view, with well mineralized associated older fault segments linked and offset by northeast-dipping minor thrust faults.

Gold mineralization is typically associated with highly carbonaceous gouge material or cataclastic breccia, but is also concentrated within more intact sandstone layers adjacent to structurally disrupted zones. Quartz and sulphide (pyrite, arsenopyrite) veins are common, occurring as either steeply-dipping or shallowly-dipping sheeted sets preferentially within sandstone beds. Quartz-rich veins contain trace amounts of dolomite, and become more carbonate-rich distal to mineralization.

Sulphides present in mineralized zones are pyrite, arsenopyrite, cinnabar, stibnite, orpiment, and realgar. Petrographic analyses document arsenic-pyrite overgrowths common on pyrite cores in mineralized zones. Trace amounts of cinnabar, stibnite, orpiment, arsenopyrite, and galena are also associated with pyrite overgrowths.

In mineralized areas, alteration is typically weak, and includes dolomitization of calcite, sericite+clay alteration of matrix material, and minor introduction of secondary quartz.

Mineralized zones also have elevated arsenic, mercury, and antimony concentrations, with arsenic commonly forming broad halos surrounding ore zones.

Gold is introduced late in the deformation sequence at Jinfeng, as evidenced by mineralization localized along minor thrust faults formed during the latest period of contractional deformation. The major fault network (F2, F3, F6) was well established at this time, and the fault zones served as primary hydrothermal conduits during mineralization, due to their high degree of structural permeability. This permeability may also have been enhanced by syn-mineral fault reactivation. The age of the mineralization is constrained by rhenium-osmium (Re-Os) dating of arsenian pyrites to be 193+/-13 Ma (Chen et al., 2007).

SECTION • 8 DEPOSIT TYPES

The Jinfeng deposit has many geological and geochemical characteristics in common with the renowned sediment-hosted deposits of the Carlin district in the western United States, and is best classified as a Carlin-like gold deposit.

Similarities between the Jinfeng deposit and the classic Carlin deposits include:

- a variety of structural and stratigraphical controls on gold distribution
- the presence of sulphide phases arsenian pyrite, pyrite, arsenopyrite, orpiment, realgar, cinnabar, and stibnite
- an association between gold and elevated arsenic, mercury, antimony, thallium, and barium
- zoned arsenian pyrite with arsenic-mercury and gold bearing refractory rims
- paragenetically late orpiment, realgar, and stibnite with calcite, as well as pervasive silicification commonly associated with faulting.

In contrast to the Carlin deposits, zones of quartz veins spatially associated with mineralization are common at Jinfeng. In addition, the Jinfeng deposits (and other sediment-hosted deposits in the region) lack any evidence for spatially or genetically associated intrusions.

SECTION • 9 EXPLORATION

Exploration for additional gold mineralization at the Jinfeng mine is wholly conducted by drilling from underground and, to a lesser extent, surface platforms. These activities are described in subsequent sections of this document.

SECTION • 10 DRILLING

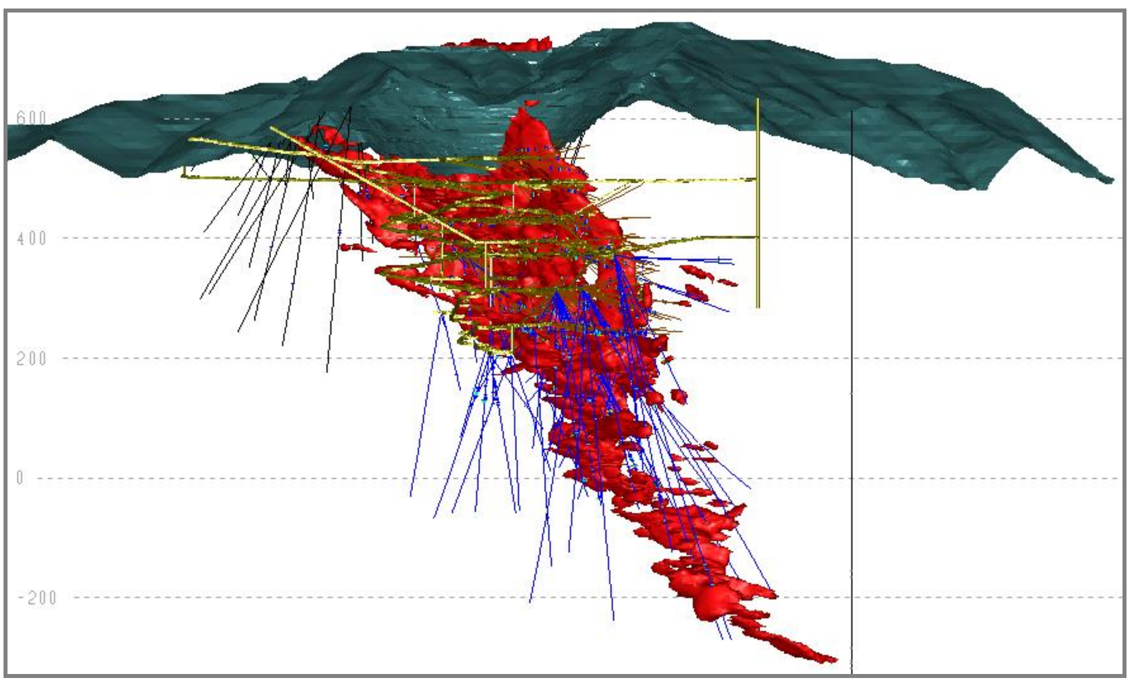
Diamond drill holes have been the principal source of the geological and grade controls for the Jinfeng Gold Mine since the start of mining in 2007. Drilling totals are organized in two groups: those from 1989–2009 (drilled by Sino Gold Mining Limited) and those from 2010 to present (drilled by Eldorado) (Table 10-1). The remainder of this section focuses on the drilling conducted by Eldorado.

Table 10-1: Summary of Drilling at Jinfeng

	Diamond Drilling				Reverse Circulation	
	Surface		Underground		Drilling	
Period	No. of Holes	m	No. of holes	m	No. of Holes	m
Up to 2009	407	181,600	337	36,300	60	4,000
2010 to present	32	8,600	264	50,700	25	2,500
Total	**439**	**190,200**	**601**	**87,000**	**85**	**6,500**

Holes drilled from surface were 81 m to 1,100 m long, averaging 270 m. Underground holes were 49 m to 678 m in length, averaging 190 m. The reverse circulation holes were the shortest, averaging 100 m in length. The locations of these holes are shown in Figure 10-1.

Figure 10-1: Location of Jinfeng Drill Holes (2010 to present), 3D Perspective Facing West



Drilling was done by wireline and standard methods, with H-size (HQ, 64 mm nominal core diameter) and N-size (NQ, 47 mm nominal core diameter) equipment, using up to seven drill rigs. Upon completion, the collar and anchor rods were removed and a PVC pipe inserted into the hole. All holes were also grouted around likely intervals of mining. Drill hole collars were located respective to the property grid. Proposed hole collars and completed collars were surveyed by the mine survey department.

Surface drill holes were drilled at inclinations between 50° and 90°, averaging 60°. Underground drill holes were drilled at inclinations between -90° and +60°. Holes were drilled along variable azimuths. Down-hole surveys were taken at 15 m, then in increments of approximately 30 m down the hole. Measurements were taken by a single-shot measurement system (Reflex EZ-Shot survey instrument).

Standard logging and sampling conventions are used to capture information from the drill core. The core is logged in detail onto paper logging sheets, and the data then entered into the project database. Data captured included unit formations, rock types, faulting, alteration types and intensity, sulphide type and content, veining type and frequency, and facing directions. The core is photographed (both wet and dry) before being sampled.

Eldorado reviewed the core logging procedures at site, and the drill core was found to be well handled and maintained. The majority of the core is stored in an organized “core farm.” Core recovery was high, ranging from 93–95% over mineralized intervals. Overall, the Jinfeng drill program and data collection were conducted in an efficient and competent manner.

SECTION • 11 SAMPLE PREPARATION, ANALYSES AND SECURITY

The data collected since the start of 2010 mostly comprised diamond drill core. Exploration and delineation core are generally sampled on 1.0 m intervals. Exploration core is sawn in half with a rock saw, with one-half of the sample placed in a plastic bag and the other returned to the core tray. Delineation core is sampled whole.

11.1 SAMPLE PREPARATION AND ASSAYING

The core samples are prepared and assayed at the Zhenfeng Rock and Mineral Testing Company laboratory, situated in the town of Shaping, approximately 27 km by road from the mine site. The facility was set up in 2006 by the China Northwest Geological Institute of Nonferrous Metals in Xi'an to service analytical requirements of Jinfeng.

Samples are prepared according to the following protocol:

- the entire sample is crushed to 90% minus 2 mm
- a 0.5 kg subsample is riffle split from the crushed minus 2 mm sample and pulverized to 90% minus 75 µm (200 mesh)
- a 200 g subsample is split off by mechanical rotary splitter
- the 200 g subsample is placed in a kraft envelope and delivered to the assay department
- the remaining crushed and pulverized samples are stored in separate plastic bags, with the former returned to the mine site for storage and the latter temporarily stored at the lab.

All equipment is flushed with barren material and blasted with compressed air between each sampling procedure. Regular screen tests are done on the crushed and pulverized material to ensure that sample preparation specifications are being met.

All samples are assayed for Au, As, Hg, and Sb. Gold assaying follows widely-practiced Chinese procedures. These consist of preheating to remove organic material and decompose sulphide minerals, dissolution in aqua regia solution, and adsorption of gold onto active carbon. Solute for analyses is then prepared by either thiourea desorption or incinerating active carbon methods. Flame atomic absorption spectroscopy or graphite furnace atomic absorption spectroscopy analyzes the solute for gold concentration. A hydride generation atomic fluorescence spectrometer is used to analyze the samples for As, Hg, and Sb.

The sample batches are arranged to contain regularly inserted control samples. Two standard reference material (SRM) samples, two duplicate samples, and a blank sample are inserted into the sample stream within a 35–40 sample batch. The duplicates are used to monitor precision, the blank sample can indicate sample contamination or sample mix-ups, and the SRM is used to monitor accuracy of the assay results.

11.2 QA/QC PROGRAM

Assay results are provided to Eldorado in electronic format and as paper certificates. Upon receipt of assay results, values for standard reference materials (SRMs) and field blanks are tabulated and compared to the established SRM pass-fail criteria:

- automatic batch failure if the SRM result is greater than the round-robin limit of three standard deviations
- automatic batch failure if two consecutive SRM results are greater than two standard deviations on the same side of the mean
- automatic batch failure if the field blank result is over 0.3 g/t Au.

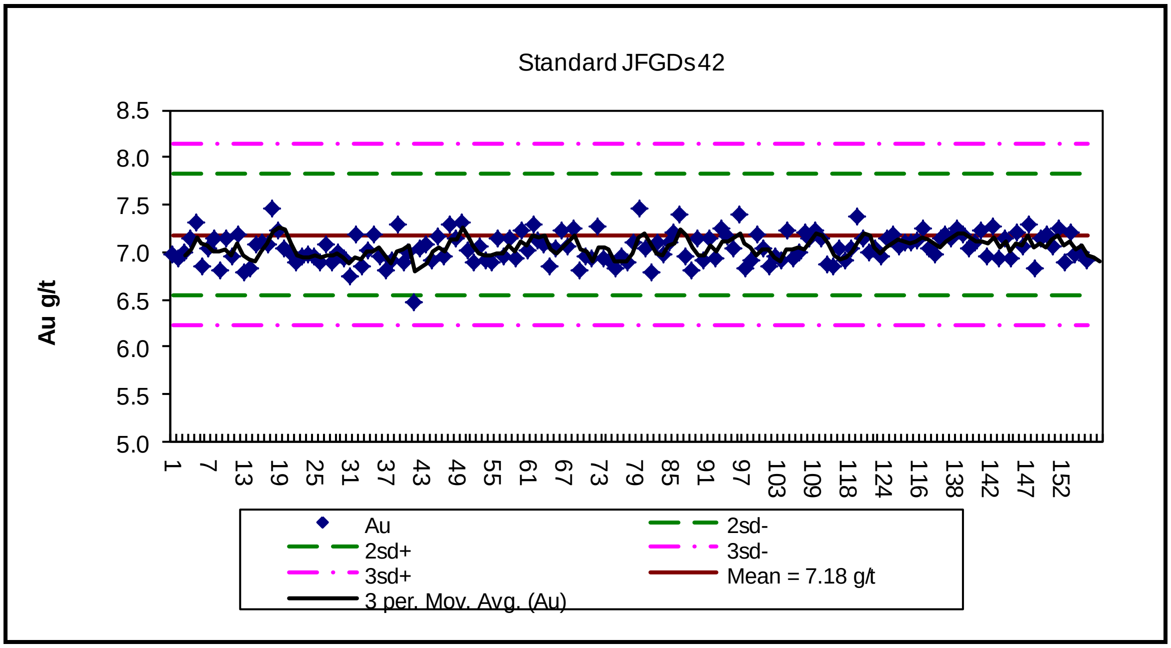
If a batch fails, it is re-assayed until it passes. Override allowances are made for barren batches. Batch pass/failure data are tabulated on an ongoing basis, and charts of individual reference material values with respect to round-robin tolerance limits are maintained.

Eldorado Gold strictly monitors the performance of the SRM samples as the assay results arrive at site. Nine SRM samples are used, covering a grade range between 0.88 g/t to 10.50 g/t. Two examples of charts of the individual SRMs are shown in Figure 11-1. All samples are given a “fail” flag as a default entry in the project database. Each sample is re-assigned a date-based “pass” flag when assays have passed acceptance criteria. At the resource data cutoff date of December 31, 2010, all samples had passed acceptance criteria.

Assay performance of field blanks showed no non-compliant results. The results therefore show no evidence of contamination.

Eldorado implemented and monitored regularly-submitted coarse reject or field duplicates. Pulp replicates or duplicates were also regularly submitted. These data reproduced well. The duplicate data are shown in percentile rank charts in Figure 11-2. For the 90th percentile of the population as shown on the percentile rank plot, a maximum difference of 20% is recommended for the coarse reject duplicates, as these duplicate types can be controlled by the subsampling protocol. Similarly, a maximum difference of 10% is recommended for pulp duplicates. The Jinfeng data shows 18% difference in the field duplicate data, and just under 10% difference in the pulp duplicate data.

Figure 11-1: Standard Reference Material Charts, 2010 Jinfeng



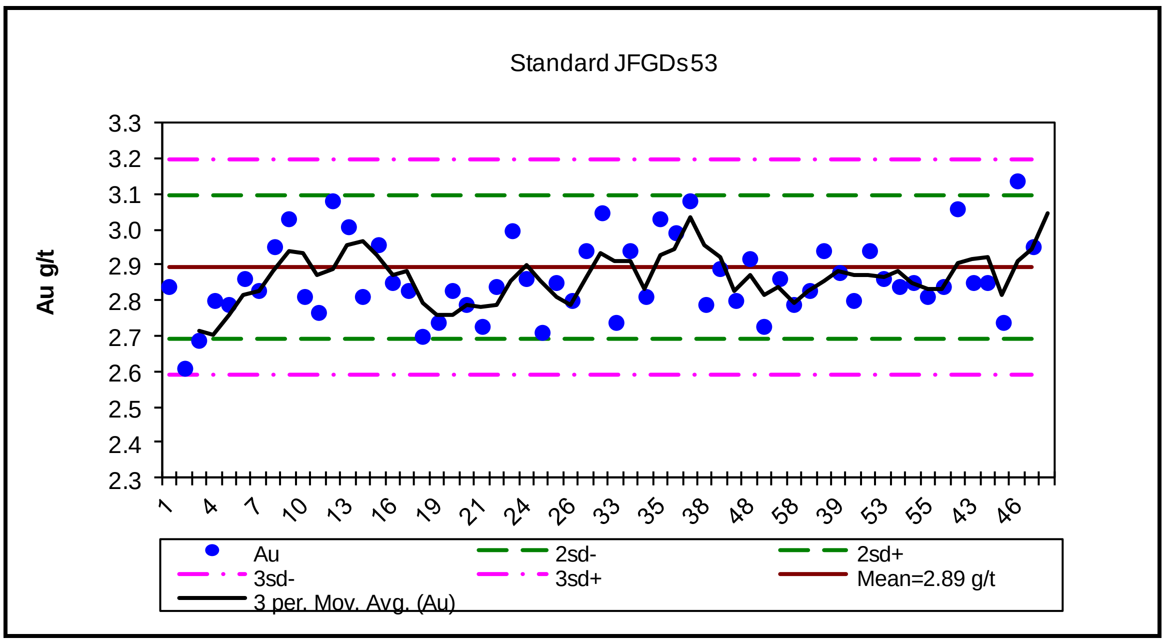
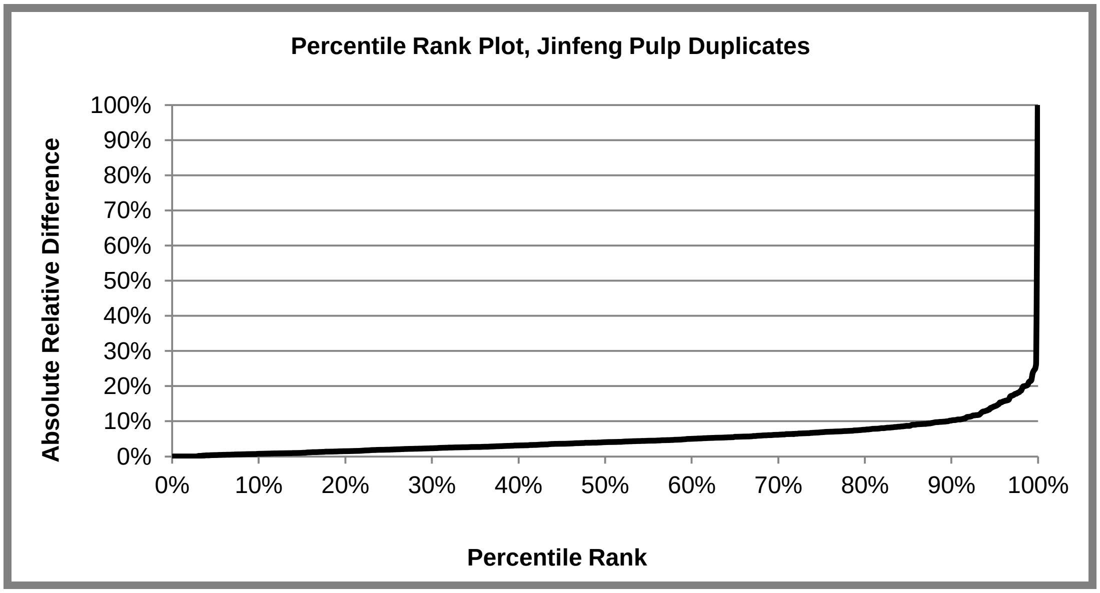
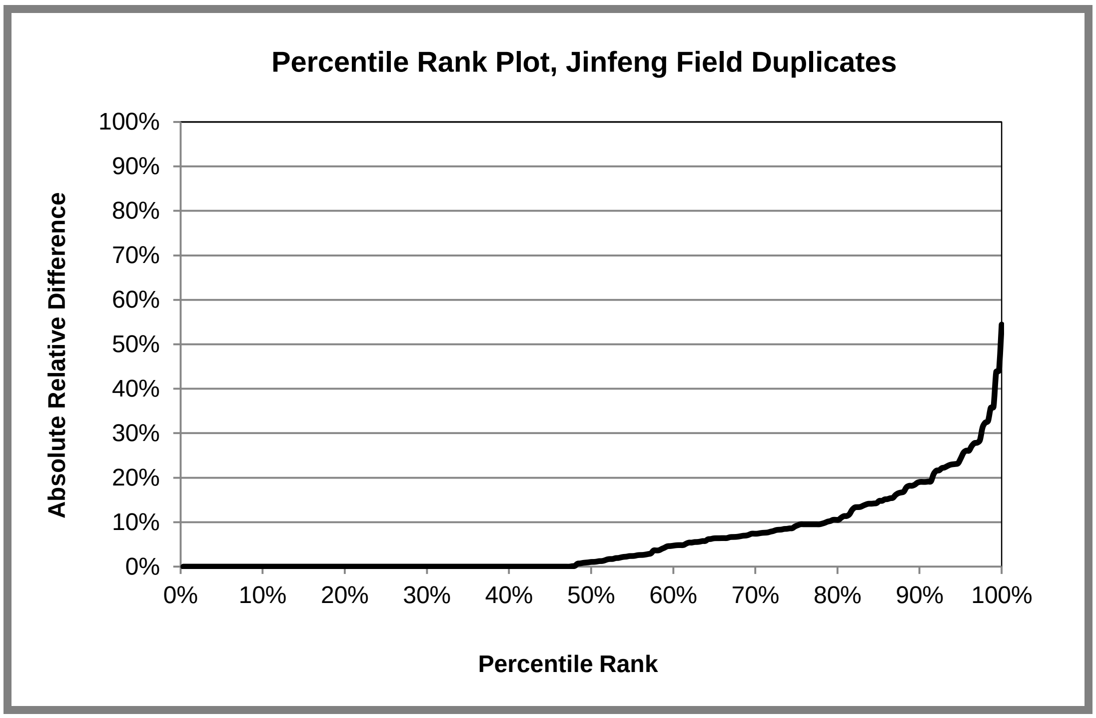


Figure 11-2: Percentile Rank Plots, Jinfeng Duplicate Samples, 2010





11.3 SPECIFIC GRAVITY

Specific gravity (SG) values from mineralized and unmineralized material were checked in 2010 to update the pre-mining analyses that established the value of 2.70 for all rock types at Jinfeng. Mineralized and unmineralized samples were gathered from high and low gold-grading open pit and underground locations. All values, regardless whether from mineralized or unmineralized samples, were tightly distributed around a narrow range of 2.68 to 2.76, with an average SG of 2.72. This review supports the continued usage of an SG of 2.70 for resource and reserve estimation at Jinfeng.

11.4 CONCLUDING STATEMENT

Monitoring of the quality control samples showed all data were in control throughout the preparation and analytical processes. In Eldorado's opinion, the QA/QC results demonstrate that the Jinfeng gold mine assay database, particularly for new data obtained in 2010, is sufficiently accurate and precise for resource and reserve estimation.

SECTION • 12 DATA VERIFICATION

Monitoring of the quality control samples showed all data were in control throughout the preparation and analytical processes. In Eldorado's opinion, the QA/QC results demonstrate that the Jinfeng deposit assay database, particularly for new data obtained from the start of 2010 to present, is sufficiently accurate and precise for resource estimation and grade control work.

Also in 2010, checks to the entire drill hole database were undertaken. Checks were made to original assay certificates and survey data. Any discrepancies found were corrected and incorporated into the current resource database. Eldorado therefore concluded that the data supporting the Jinfeng gold mine resource work is sufficiently free of error to be adequate for estimation.

Another form of verification is the reconciliation to production of mined portions of the resource model. Results to date have shown very good agreement between mined and milled production and the long-term mineral resource model. This is discussed in Section 24.

Taken all together, these observations demonstrate that the data gathered and measured for the purposes of estimating the gold grades at the Jinfeng gold mine are verified.

SECTION • 13 MINERAL PROCESSING

13.1 TESTWORK METHODOLOGY

The chronology of mineralogical and/or metallurgical testwork is shown in Table 13-1.

Table 13-1: Jinfeng Mineralogical and or Metallurgical Testwork Chronology

	Date and Company or Institute
China	March 1989 Changchun Gold Research Institute
	April 1990 Guizhou Province Metallurgical Design and Research Institute
	1991 Changchun Gold Research Institute
International	1992, 1993 Hazen Research, Denver, Colorado, for Davy International
	1995 BHP
	1995 Newmont
	1996 Gencor
	2002 Roger Townend and Associates
	2002 Terry Leach
	2003 Pontifex and Associates
Sino	2001–2003 Channel samples for Changchun, Ammtec, Lakefield, AMDEL, and BGRIMM
	2003 Core samples for variability testing (Pontifex, AMDEL, and BGRIMM) and for BIOX® compatibility (Lakefield)

A bulk sample was collected using channel sampling techniques in 2003. This sample was to produce at least one tonne of flotation concentrate for pilot testing of roasting or biological leaching. The concentrate was prepared at the Beijing General Research Institute of Mining and Metallurgy (BGRIMM).

A suite of lump samples were collected for comminution testing at Amdel's laboratory using Julius Kruttschnitt Mineral Research Centre (JKMRC) drop testing and advanced media competency testing for mill selection modelling.

The various testwork programs have established that gravity concentration methods and direct cyanidation were not successful on the Jinfeng ores. Whole ore roasting, whole ore bio-oxidation, and whole ore pressure oxidation have all been metallurgically successful, but have cost implications due to either the components of the ore, capture of effluent gases, or high acid or reagent considerations. Alkaline pressure oxidation was unsuccessful.

Concentration by flotation, which removes the naturally high carbonate levels of the ore, and subsequent concentrate processing offered the best possibility of economic recovery of gold.

Biological leaching of Jinfeng concentrate was demonstrated by Gencor (now called GoldFields) in South Africa. After oxidation, CIL gold recoveries of 93% and 94% were achieved.

Comminution testwork was completed and data was generated to assist in mill selection.

A substantial body of testwork was completed to demonstrate the effectiveness of sulphide flotation to concentrate the Jinfeng ores. Two-stage grinding and flotation with a primary grind of 80% passing 75 µm followed by rougher flotation with regrinding of the rougher tailings to a 80% passing 45 µm and subsequent scavenging in two stages was demonstrated. Cleaning of the primary concentrates with recirculation of cleaner tailings through the secondary ball milling circuit has been shown to provide consistent results and was adopted for the Jinfeng plant design.

In view of the graphite/pyrobitumen content of the ores, a prefloat to remove the bulk of these carbonaceous materials was also included in the plant design.

13.2 METALLURGICAL PERFORMANCE

13.2.1 Throughput

The design throughput of the Jinfeng plant is 1.2 Mt/a ore. The plant has since consistently achieved 1.5 Mt/a without issues. The original plan involved a crushing plant for 3,285 hours of operating time per annum, a milling circuit for 8,000 hours of operating time per annum at 91.3% availability, and the BIOX®, CCD, acid liquor neutralization, CIL, and detoxification circuits each for 8,320 hours of operating time per annum at an availability of 95%. All of these availabilities have been met or exceeded in the subsequent years of operation.

The bioleaching section was designed to oxidize 74.0 tonnes of sulphide sulphur per day, with the expected mean daily sulphur intake being around 65.8 tonnes, which equates to a daily throughput of 790 tonnes of concentrate at an 8.32% sulphide content. In a typical operating day, the plant treats about 600 tonnes of flotation concentrate, containing approximately 10% sulphide and 30 g/t Au.

13.2.2 Head Grade

The plant gold head grade for 2011 is expected to be 4.1 g/t Au, with reasonably consistent grades over the year. This is very similar to the current life of mine reserve grade of 4.03 g/t Au. The plant sulphur head grade for flotation design purposes is 1.57%, and the average grade for 2011 will be around 1.5%

13.2.3 Tails Grade

The grades of composited gold tailings have varied between 0.5 and 0.7 g/t Au, depending on the plant head grade. Recovery has improved with continued operations and the 2011 budgeted overall recovery was 85.4%, which had been exceeded at the time of writing this report. Sulphur grade in the composited tailings will similarly vary between 0.1 and 0.2% S.

13.2.4 Concentrate Grade and Sulphur Grade

Gold grades for flotation concentrate range between 25 g/t and 35 g/t, and depend on the mass pull to concentrate, which for design purposes has been calculated at 19%. In current operations, the concentrate mass pull averages 13%. Similarly, for sulphur a design value of 10% has been used, with an operating range of 8.3–12.5%, and an average grade from the latest operating data of 10.9%.

In determining the mass of concentrate the bioleach section can accommodate, this equates to 790 t/day for a sulphide grade of 8.3%, or 526 t/day of concentrate with a 12.5% sulphide grade. During the first quarter of 2011, the bioleach section treated around 600 t/day at an average sulphide grade of 10%.

13.2.5 Deleterious Elements in Concentrates

The presence of sulphide minerals such as stibnite, realgar, orpiment, and cinnabar, plus native arsenic in the Jinfeng ore, means that after concentrating in the flotation section these minerals have the potential to dissolve during bioleaching.

In the case of mercury, the values in Table 13-2 are predicted from laboratory testwork or by predictions from technical literature. During plant operations since commissioning in 2007, a negligible amount of mercury was found to dissolve and load onto activated carbon during CIL cyanide leach.

Table 13-2: Process Behaviour of Mercury

Item	Value
Grade in ore	133 g/t
Recovery into Concentrate	94%
Solubilized in BIOX®	2%
Solubilized in CIL	2–4%
Adsorbed onto Carbon	95%
Eluted from the Loaded Carbon	80%
Recovered in Calcine oven	99.9%
Volatilized in the Furnace	99%
Volatilized in the Regeneration Kiln	100%
Precipitated in Detox	99%

Arsenic in the form of arsenopyrite, realgar, and orpiment is recovered to the flotation concentrate, and some of the arsenic is solubilized in the bio-oxidation process.

The iron to arsenic ratio in solution dictates the stability of the arsenic precipitates formed during neutralization of the leaching waste liquor. Providing that the molar ratio of iron to arsenic in solution is greater than three a stable ferric arsenate precipitate is formed. For Jinfeng, the ratio of iron to arsenic in the concentrate is greater than eight, and environmentally acceptable effluents are produced.

The Jinfeng concentrate contains relatively low antimony, and no toxicity effect from antimony is expected.

Lead sulphide minerals form insoluble $PbSO_4$ precipitates during bio-oxidation. Levels in Jinfeng ores are low and do not cause process problems. Gold Fields/Gencor recommends that the lead concentration in solution should be occasionally monitored to give an early warning of any threat to bacterial activity. No evidence of increasing lead levels has been noticed to date.

13.2.6 Metallurgical Recoveries

The designed plant recoveries are as follows:

- Flotation – Sulphur recovery – 95% into concentrate
- CIL – Gold recovery – 93.1% from concentrate
- CIL – Silver recovery – 80% from concentrate.

During first quarter 2011 operations, flotation gold recovery was 92.7%, and CIL cyanide leach gold recovery from the resulting concentrate after bio-oxidation was 94.5%. Thus, an overall recovery of 87.6% was achieved for gold.

SECTION • 14 MINERAL RESOURCE ESTIMATES

The mineral resource estimate for the Jinfeng deposit used data from surface and underground diamond drill holes, and surface and underground geologic mapping and mine grade control sampling. The resource estimate was made from a 3D block model created utilizing commercial mine planning software. The block model cell size was 10 m east x 5 m north x 5 m high.

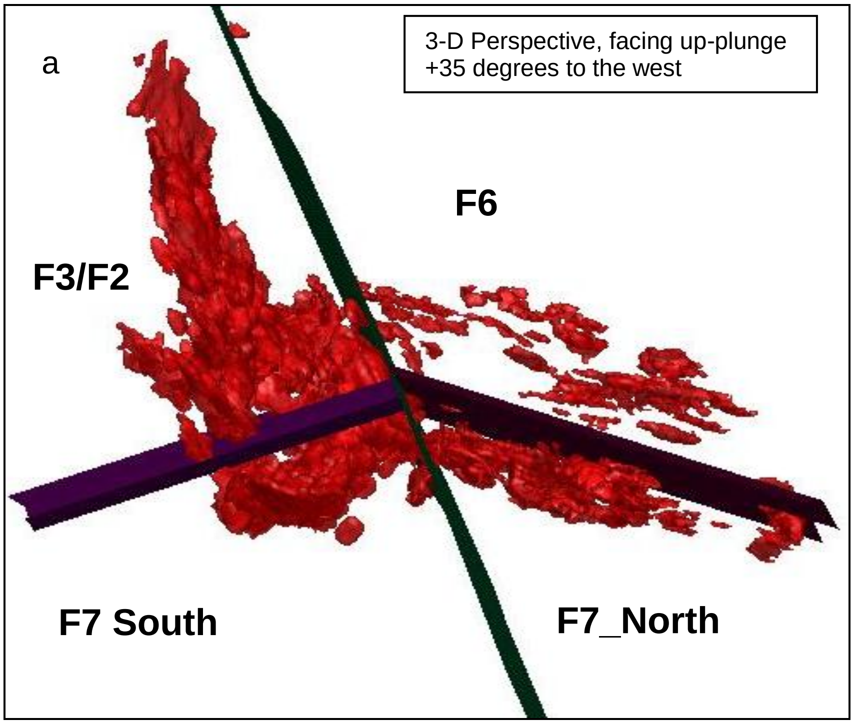
14.1 GEOLOGIC MODELS

Eldorado used a revised structural geology model to guide and control the grade estimate in the Jinfeng resource model. Generalized structural corridor shapes were constructed in 3D for the main F3/F2 fault system, with its alternating steeply and gently dipping domains. The steeply dipping domains predominate at shallower elevations. More generalized corridor shapes were made for the F6 fault, present at shallower elevations in the northwest part of the deposit and termed the Rongban Zone, and the deeper F7 fault zones.

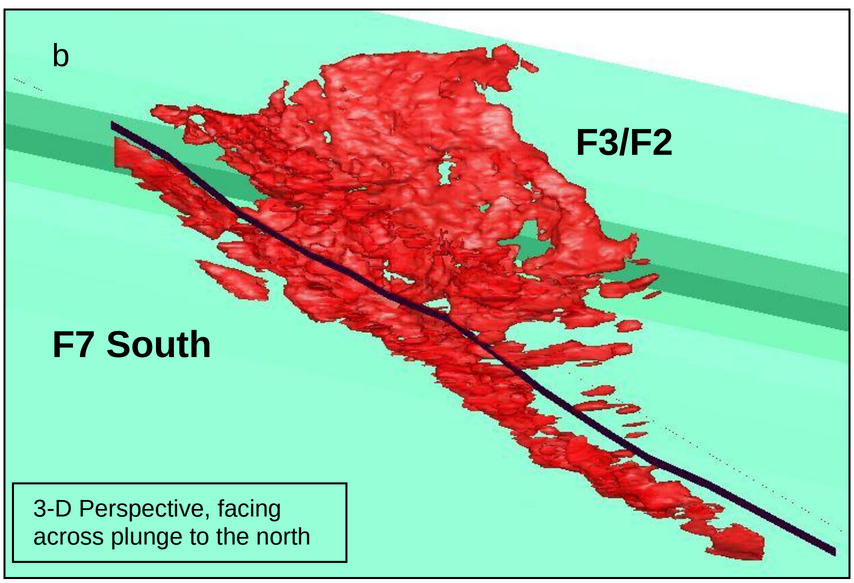
Eldorado created 3D mineralized envelopes, or shells, for the gold mineralized or grade shapes. These were based on initial outlines derived by a method of probability-assisted constrained kriging (PACK). The threshold value of 0.40 g/t Au was determined by inspection of histograms, probability curves, and indicator variography. Shell outline selection was done by inspecting contoured probability values. These shapes were then edited on plan and section views to be consistent with the structural model and the drill hole data, such that the boundaries did not violate data or current geologic understanding of mineralization controls. Figure 14-1 shows an example of the relationship between the PACK or mineralized shell and the structural geological model.

All generated 3D shapes were checked for interpretational consistency on section and plan, and found to have been properly constructed. The shapes honoured the drill data and appear well constructed.

Figure 14-1: Relationship between the PACK or Mineralized Shell and Structural Model, Jinfeng



a) up-plunge view



b) across plunge view

14.2 DATA ANALYSIS

The mineralized domains were reviewed to determine appropriate estimation or grade interpolation parameters. Several different procedures were applied to the data to discover whether statistically distinct domains could be defined using the available geological objects. The domains were investigated within and outside the mineralized shell.

Descriptive statistics, histograms and cumulative probability plots, box plots, and contact plots have been completed for gold in the Jinfeng deposit. Results obtained were used to guide the construction of the block model and the development of estimation plans. The data analyses were conducted on 2.5 m down-hole composited assay data. The statistical properties from this analysis are summarized in Table 14-1.

Table 14-1: Jinfeng Deposit Statistics for 2.5 m Drill Hole Composites – Au g/t Data

Domain	Mean	CV	Q25	q50	q75	Max	No. of Composites
{Within PACK Shell}							
F3/F2	3.28	1.36	0.51	1.59	4.34	46.64	7,233
F6	2.56	1.31	0.40	1.27	3.26	24.09	338
F7 south	3.04	1.44	0.62	1.54	3.69	53.92	2,787
F7 north	1.64	1.23	0.57	1.00	2.02	16.88	410

Gold grades are highest and most prevalent in the F3/F2 domains. F7 south also contains high gold grades. The remaining domains, F6 and F7 north, contain distinctly lower mean gold grades, and fewer high to very high individual grading samples. All domains show similar coefficient of variance (CV) values of 1.2 to 1.4. These are moderate, and reflect the sediment replacement and structural style mineralization of the Jinfeng deposit.

Contact profiles or plots, generated to explore the relationship between grade and structural domains, allow for a graphical representation of the grade trends away from a contact. Most contact relationships show a small transitional zone of about 20 m along the respective contacts. More than 20 m from a contact, though, the relationships become distinct and support treating each unit as separate domains for grade interpolation. An exception exists for the contact between F7 south and F7 north. Here the relationships are indistinct around the contact, and support no separation with respect to grade interpolation.

14.2.1 Estimation Domains

The data analyses demonstrated that the F3/F2 and F6 structural domains within the mineralized shell should be treated separately. Grades for blocks within the respective domains will be estimated with a hard boundary between them; only composites within the domain will be used to estimate blocks within the domain. The remaining F7 units will be treated as having soft boundaries.

14.2.2 Evaluation of Extreme Grades

Extreme grades were examined for gold by histograms and cumulative probability plots, and by a risk-to-production simulation. The examination showed a small risk does exist with respect to extreme gold grades at Jinfeng. To mitigate this risk, a grade cap of 30 g/t Au was implemented in the assay data prior to compositing.

14.2.3 Variography

Variography, a continuation of data analysis, is the study of the spatial variability of an attribute. Eldorado prefers to use a correlogram, rather than the traditional variogram, because it is less sensitive to outliers and is normalized to the variance of data used for a given lag. Correlograms were calculated for gold in the main domains, F3/F2, F7, and F6. Gold in the F3/F2 and F7 south domains display two structures: a longer-ranged, E-W trending, near vertically-dipping and moderately SE-plunging structure, and a more cylindrical, NE-SW trending, moderately steeply SW-plunging, shorter-ranged structure. The nugget effect is moderate. Gold in the F6 domain contains a high nugget value, reflecting the more dispersed nature of the mineralization within this zone. Its modelled structures contain small ranges that plunge moderately steeply to the NW.

14.3 MODEL SETUP

The block size for the Jinfeng model was selected based on mining selectivity considerations (open pit mining and underground drift and fill methods). It was assumed that the smallest block size that could be selectively mined as ore or waste, referred to as the selective mining unit (SMU), was approximately 10 m x 5 m x 5 m. In this case, the SMU grade-tonnage curves predicted by the restricted estimation process adequately represented the likely grade-tonnage distribution.

The assays were composited into 2.5 m fixed-length down-hole composites. The composite data were back-tagged by the mineralized shell and structural domains on a majority code basis. The compositing process and subsequent back-tagging was reviewed and found to have performed as expected.

Various coding was done on the block model in preparation for grade interpolation. The block model was coded according to structural domain and mineralized shell on a majority code basis. Percent below topography was also calculated into the model blocks.

14.4 ESTIMATION

Modelling consisted of grade interpolation by ordinary kriging (OK) for all domains. Nearest-neighbour (NN) grades were also interpolated for validation purposes. Blocks and composites were matched on estimation domain.

The search ellipsoids were oriented preferentially to the orientation of the respective domain, as defined by the attitude of the gold grade shell and structures defined in the spatial analysis. Searches had the longest ranges for F3/F2 (20 m X by 110 m Y by 70 m Z) and shortest for F6 (40 m X by 80 m y by 20 m z). Block discretization was 4 m x 2 m x 2 m.

A two-pass approach was instituted for interpolation. The first pass required a minimum of two holes from the same estimation domain, while the second pass allowed a single hole to place a grade estimate in any uninterpolated block from the first pass. This approach was used to enable most blocks to receive a grade estimate within the domains, including the background domains. Blocks received a minimum of 2 or 3 and a maximum of 3 or 4 composites from a single drill hole (for the two-hole minimum pass). Maximum composite limits ranged from 9 to 18.

These parameters were based on the geological interpretation, data analyses, and variogram analyses. The number of composites ultimately used in estimating grade into a model block followed a philosophy of restricting the number of samples for local estimation. Eldorado has found this to be an effective method of reducing smoothing and producing estimates that match the Discrete Gaussian or Hermitian polynomial change-of-support model (see below), and ultimately the actual recovered grade-tonnage distributions.

14.5 VALIDATION

14.5.1 Visual Inspection

Eldorado completed a detailed visual validation of the Jinfeng resource model. The model was checked for proper coding of drill hole intervals and block model cells in both section and plan. Coding was found to be properly done. Grade interpolation was examined relative to drill hole composite values by inspecting sections and plans. The checks showed good agreement between drill hole composite values and model cell values. The hard boundaries appear to have constrained grades to their respective estimation domains. Examples of representative sections containing block model grades, drill hole composite values, and domain outlines are shown in Figure 14-2 through Figure 14-4.

14.5.2 Model Check for Change-of-Support

An independent check on the smoothing in the estimates was made using the Discrete Gaussian or Hermitian polynominal change-of-support method. This method uses the declustered distribution of composite grades from a NN or polygonal model to predict the distribution of grades in blocks. The histogram for the blocks is derived from two calculations:

- the block-to-block, or .
- between-block variance.

Figure 14-2: Jinfeng Section 1480 East showing Gold Grade Block Model and Drill Hole Traces

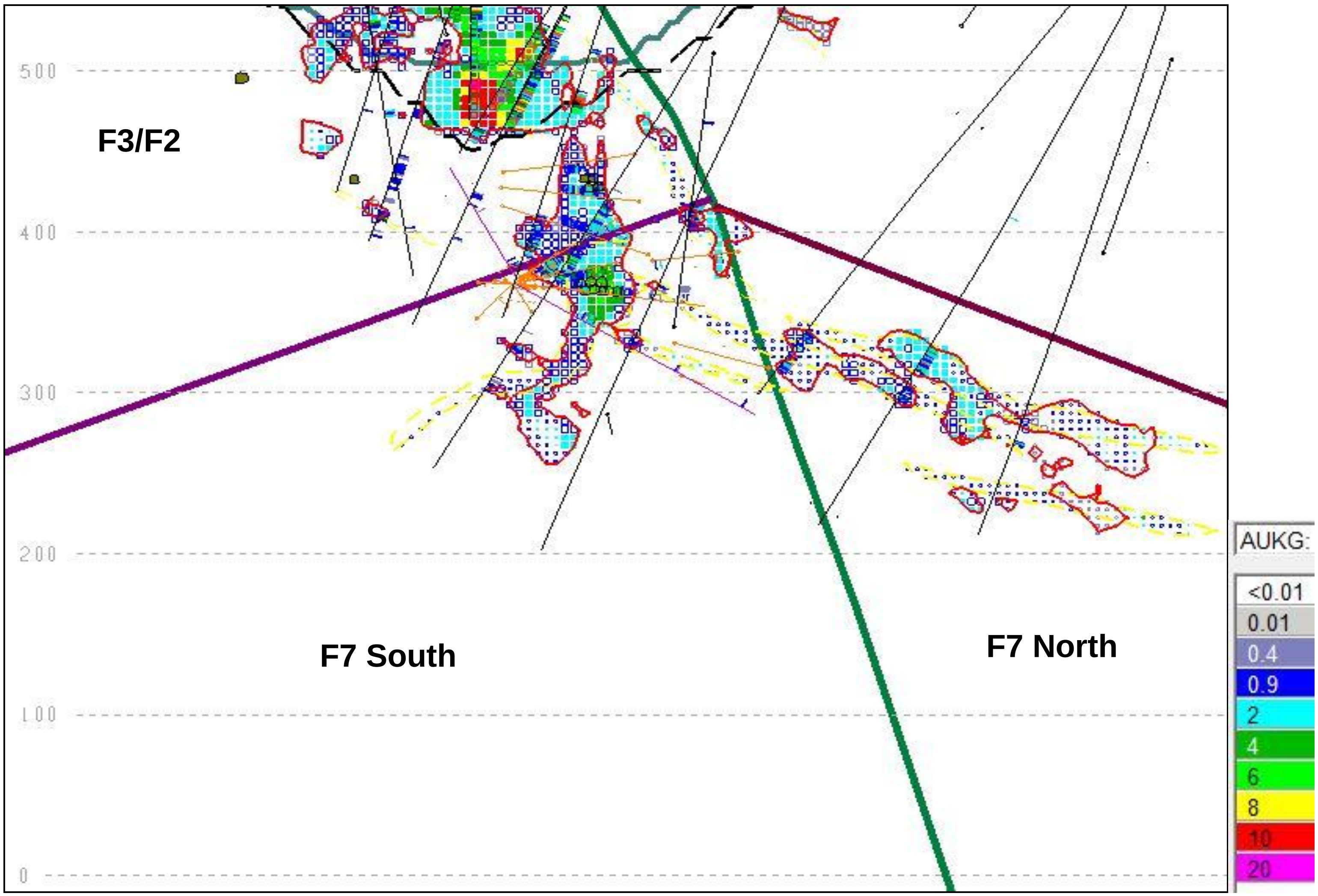


Figure 14-3: Jinfeng Section 1680 East showing Gold Grade Block Model and Drill Hole Traces

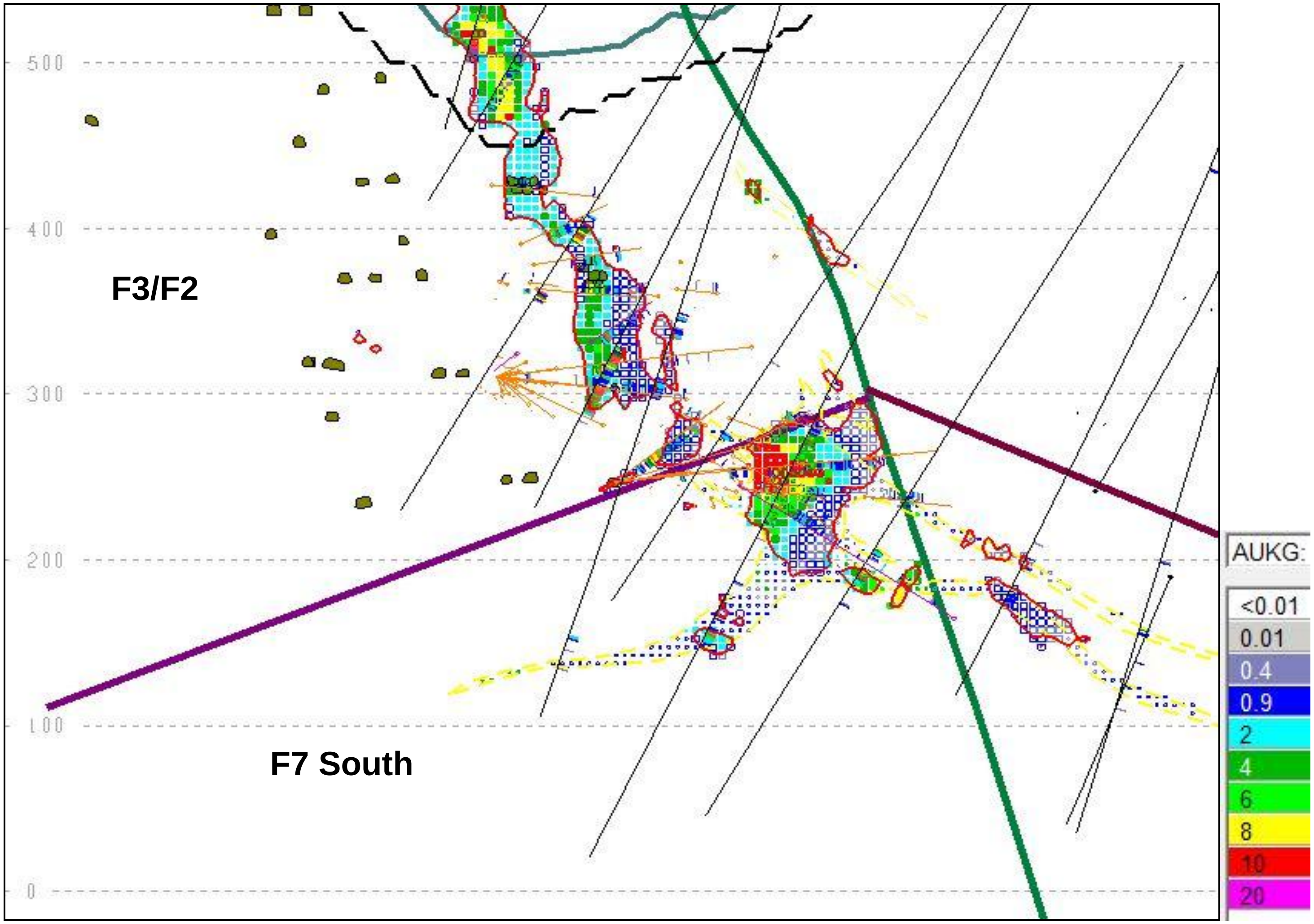
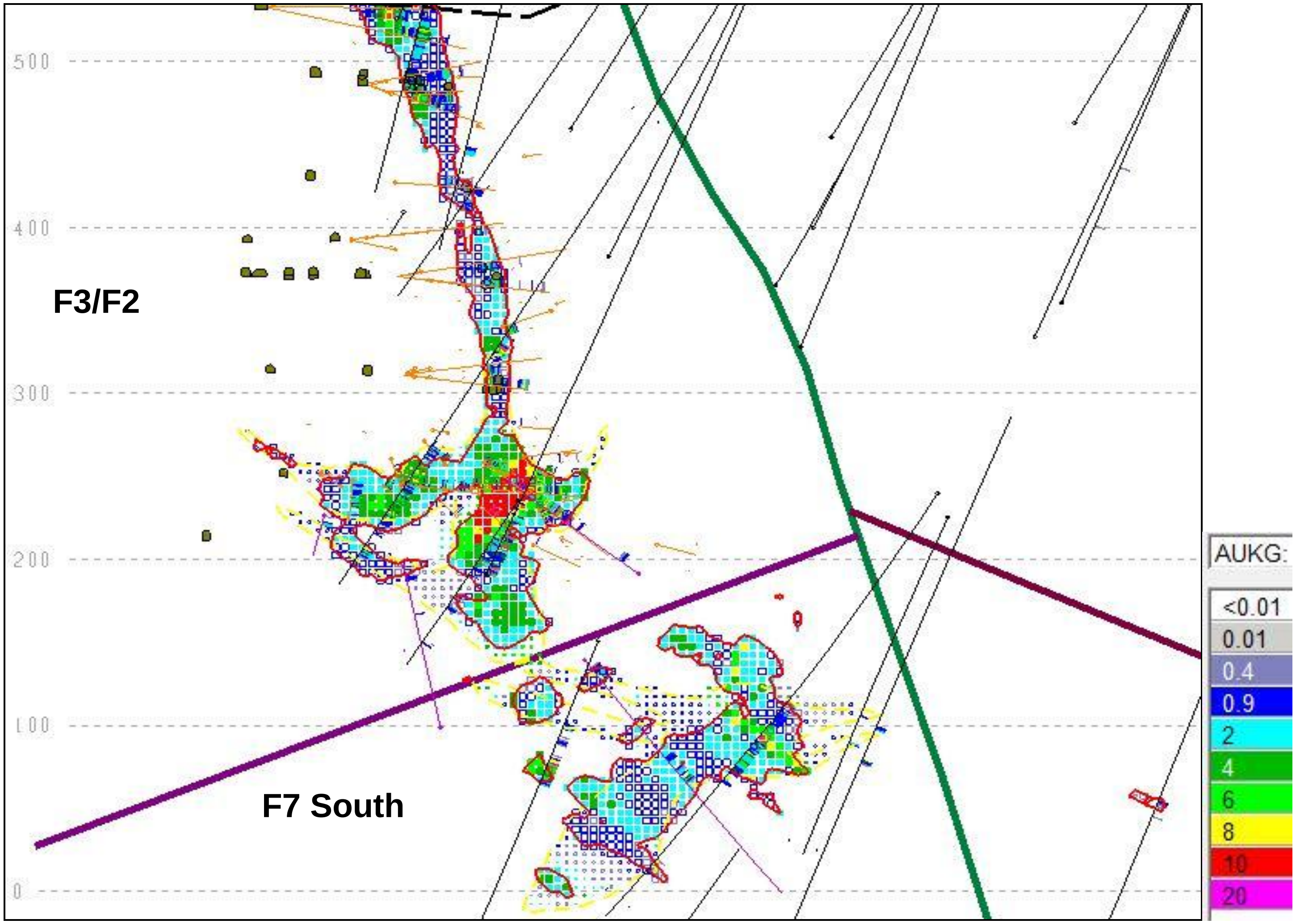


Figure 14-4: Jinfeng Section 1820 East showing Gold Grade Block Model and Drill Hole Traces



The frequency distribution for the composite grades transformed by means of Hermite polynomials (Herco) into a less skewed distribution with the same mean as the declustered grade distribution and with the block-to-block variance of the grades.

The distribution of hypothetical block grades derived by the Herco method is then compared to the estimated grade distribution to be validated by means of grade-tonnage curves.

The grade-tonnage predictions produced for the model show that grade and tonnage estimates are validated by the change-of-support calculations over the range of mining grade cutoff values, which are 0.7 g/t Au for open pit ore (all of F6 and a portion of F3/F2), and 2.0 g/t Au for underground ore (the majority of F3/F2 and both F7 domains).

14.5.3 Model Checks for Bias

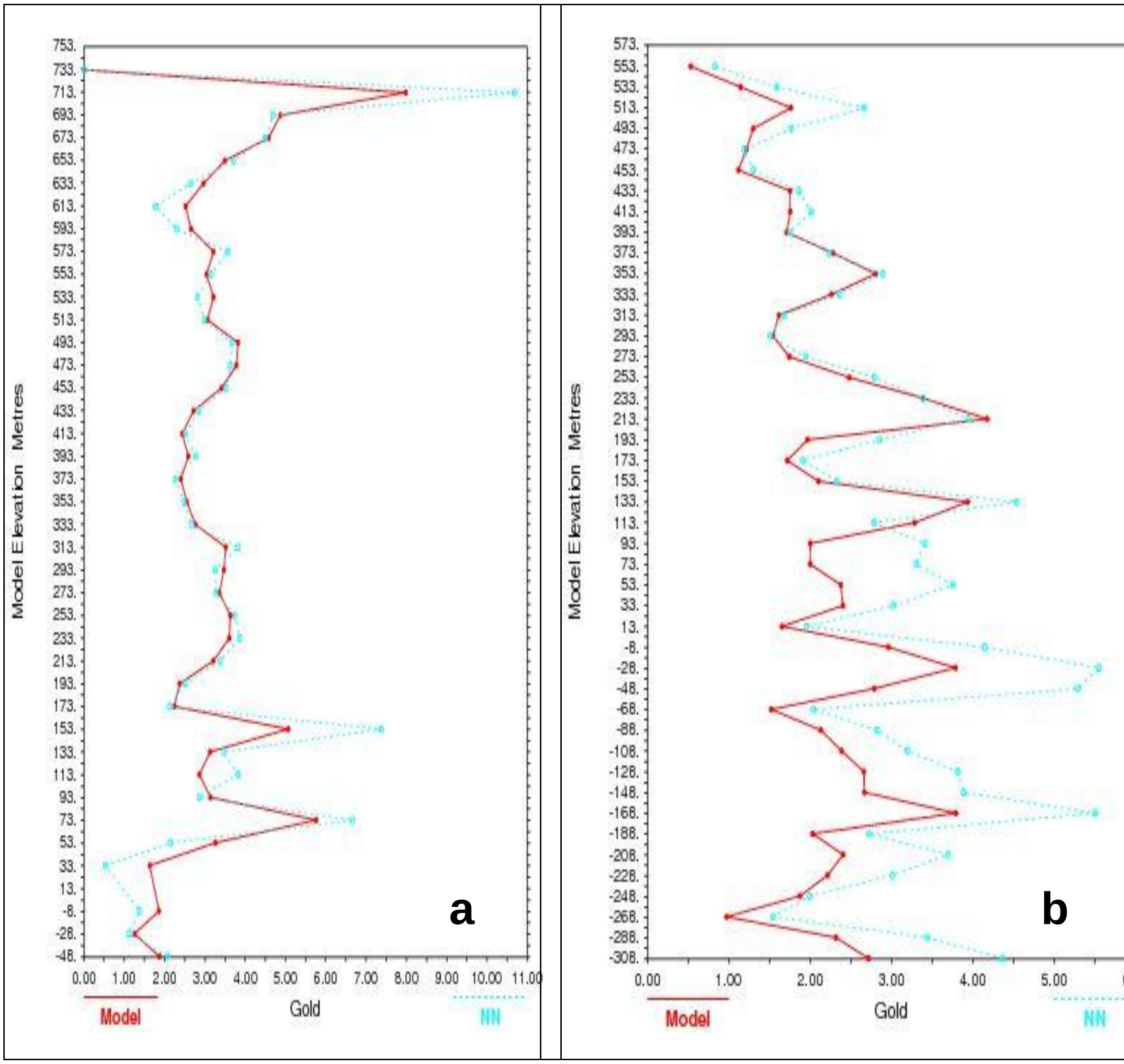
The block model estimates were checked for global bias by comparing the average metal grades (with no cutoff) from the model with mean grades from NN estimates. (The NN estimator declusters the data and produces a theoretically unbiased estimate of the average value when no cutoff grade is imposed and is a good basis for checking the performance of different estimation methods). The results, summarized in Table 14-2, show no problems with global bias in the estimates.

Table 14-2: Global Model Mean Gold Values by Mineralized Shell Domain

Domain	NN Estimate	Kriged Estimate	% Difference
F3/F2	2.972	2.958	-0.5
F7 south	2.904	2.876	-1.0
F7 north	1.493	1.461	-2.1
F6	2.064	2.114	+2.4

The model was also checked for local trends in the grade estimates by grade slice or swath checks. This was done by plotting the mean values from the NN estimate against the kriged results for benches (in 5 m swaths) and for northings and eastings (both in 20 m swaths). The kriged estimate should be smoother than the NN estimate, which should therefore fluctuate around the kriged estimate on the plots. The observed trends behave as predicted, showing no significant trends of gold in the estimates in the Jinfeng model. Examples from the two largest domains, F3/F2 and F7 south, are shown in Figure 14-5.

Figure 14-5: Trend Plots by Elevation Swaths



a) F3/F2 *b) F7 South Domains*

14.6 MINERAL RESOURCE CLASSIFICATION

The mineral resources of the Jinfeng deposit were classified using logic consistent with the CIM definitions referred to in NI 43-101. The mineralization of the project satisfies sufficient criteria to be classified into Measured, Indicated, and Inferred mineral resource categories.

Inspection of the Jinfeng model and drill hole data on plans and sections, combined with spatial statistical work and investigation of confidence limits in predicting planned annual and quarterly production, contributed to the setup of various distance-to-nearest-composite protocols to help guide the assignment of blocks into Measured or Indicated mineral resource categories.

Reasonable grade and geologic continuity is demonstrated over portions of the Jinfeng deposit, which are drilled generally on 30 m to 40 m spaced sections. A multiple-hole rule was used, whereby blocks containing an estimate resulting from samples from two or more drill holes within 45 m from a model block center were classified as Indicated mineral resources. Measured mineral resources were classified only in areas that were pre-drilled by grade control programs; 10 m x 4 m open pit reverse circulation drilling, and 10 m x 10 m underground diamond drilling. Both Indicated and Measured classifications were input into the block model by constructed 3D shells based on the above criteria.

All remaining model blocks containing a gold grade estimate were assigned as Inferred mineral resources.

14.7 MINERAL RESOURCE SUMMARY

The Jinfeng mineral resources as of 31 December 2010 are shown in Table 14-3. The Jinfeng mineral resource is reported at a 0.7 g/t Au cutoff grade for open pit mineralization (defined as mineralization above 400 m elevation), and a 2.0 g/t Au cutoff grade for mineralization to be mined by underground methods (applied to mineralization occurring below 400 m elevation). All were calculated to end of 2010 mining limits for the open pit, and up to end of 2010 mined openings for the underground.

Table 14-3: Jinfeng Mineral Resources, as of 31 December 2010

Mineral Resource Category	Tonnes (x '000)	Grade (Au g/t)	In Situ Gold (oz x '000)
Measured	11,240	3.42	1,235
Indicated	11,937	3.67	1,410
Measured+Indicated	23,177	3.55	2,645
Inferred	8,140	3.85	1,009

SECTION • 15 MINERAL RESERVE ESTIMATES

15.1 MINERAL RESERVE ESTIMATES

Table 15-1 shows a summary of the updated mineral reserve estimates of 31 December 2010 for Jinfeng.

Table 15-1: Jinfeng Mineral Reserves, as of 31 December 2010

	Category	Tonnes ('000)	Grade (g/t Au)	Gold (oz '000)
Open Pit	Proven	2,300	3.71	274
(0.8 g/t Au cutoff)	Probable	1,425	2.78	127
	Proven + Probable	**3,725**	**3.35**	**401**
Underground	Proven	4,202	4.07	551
(2.5 g/t Au cutoff)	Probable	5,885	4.64	877
	Proven + Probable	**10,087**	**4.40**	**1,428**
Stockpile	Proven	**882**	**2.60**	**74**
Total Reserve	Proven	7,384	3.78	898
	Probable	7,310	4.27	1,005
	Proven + Probable	**14,694**	**4.03**	**1,903**

Figure 15-1 shows the final open pit designs and the remaining reserve blocks.

Figure 15-2 shows a long section projection view of underground developments, both developed and planned, and the mineable reserve blocks.

The mineral reserve estimate is based on detailed geology, rigorous modelling, operating experience, and estimate methodologies that demonstrate the quality of the Jinfeng orebody.

Figure 15-1: Jinfeng Stage 4 and Rongban Open Pit Final Designs vs. Open Pit Reserves

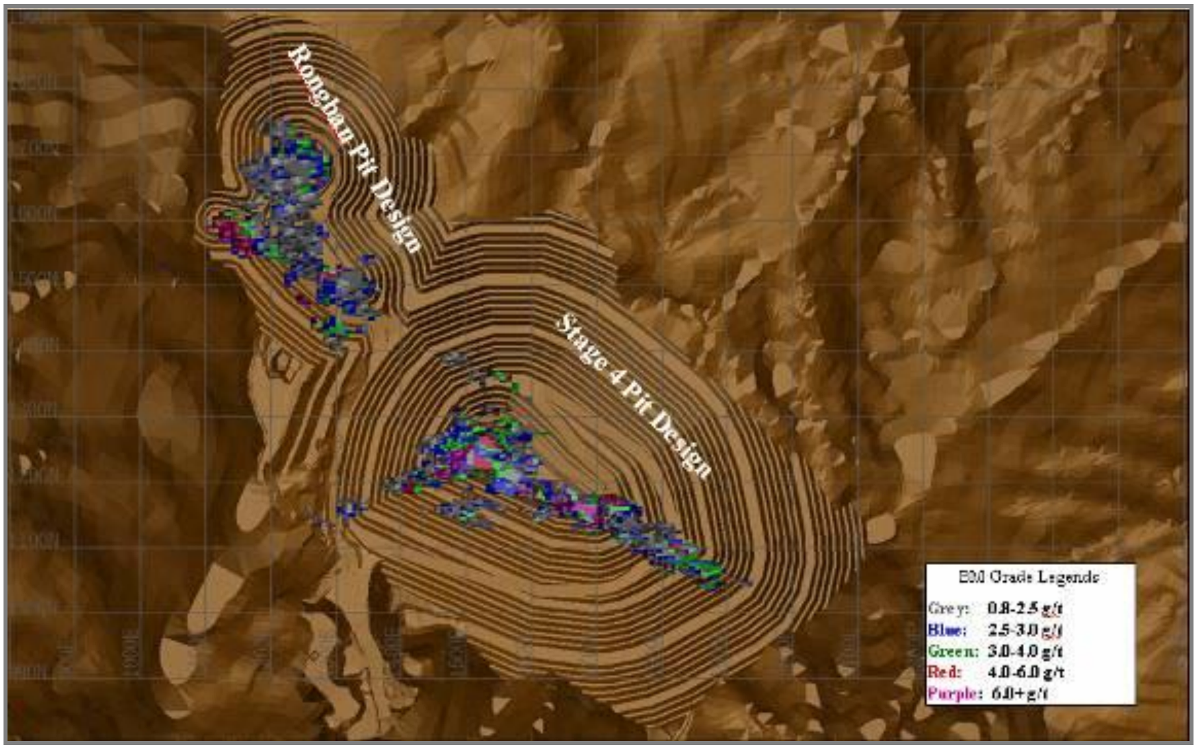
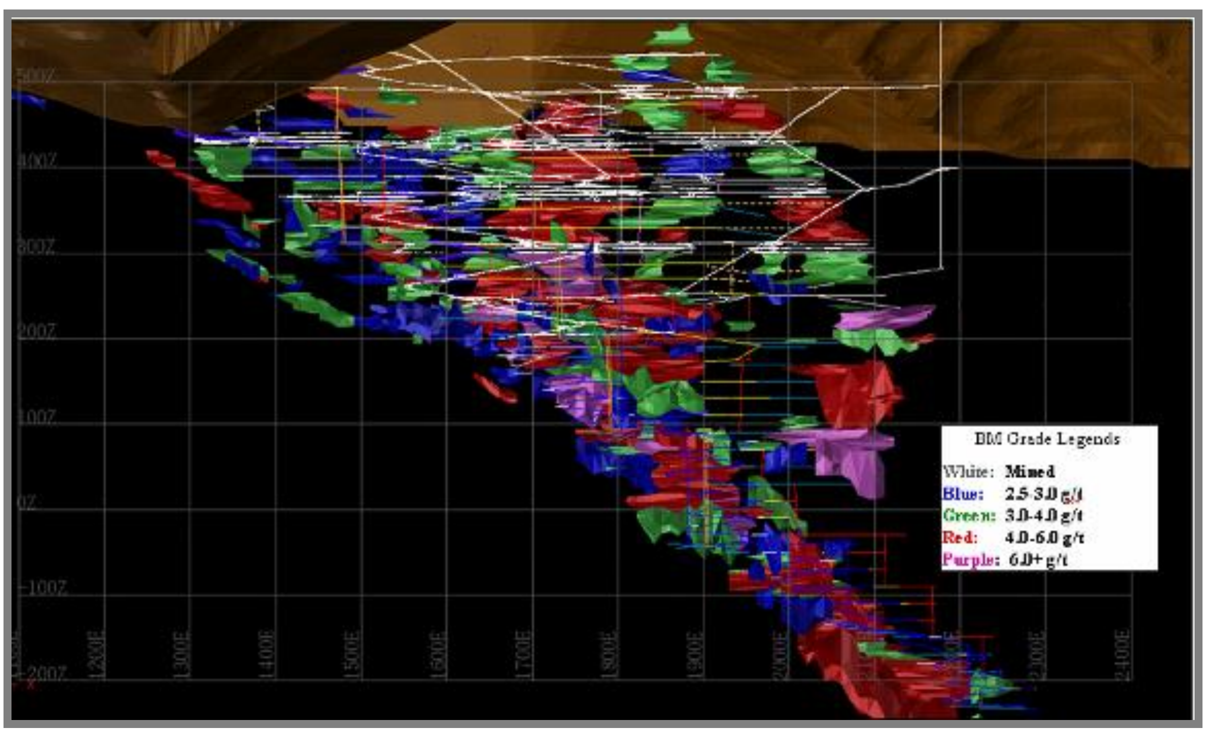


Figure 15-2: Jinfeng Underground Development Designs vs. Reserve Blocks



15.2 KEY PARAMETERS USED IN RESERVE ESTIMATE

The cutoff grade calculations used a gold price of US$1,000/oz, a metallurgical recovery of 85%, and the operating costs projected from previous years' operations (2008 to 2010 operations).

The open pit ore reserve is based on a cutoff grade of 0.8 g/t Au, mining dilution of 5%, and mining recovery of 95%. Whittle software was used to optimize the final pit shell, and the detailed design was done in Surpac software.

Overhand mechanized cut-and-fill is the mining method used for the underground mine. Key parameters for the methods are a cutoff grade of 2.5 g/t Au, mining dilution of 5% and mining recovery of 95%.

Jinfeng has been using and will continue to use very selective mining methods for underground mining (Overhand mechanized cut-and-fill). The mining dilution and mining recovery being applied to the block tonnages and grades take into consideration some dilution already being applied during the block model interpolation. The reconciliations to date (See Section 24) have substantiated the use of these dilution and recovery factors at Jinfeng for reserve calculations.

15.3 UNDERGROUND RESERVE ESTIMATE METHOD

The underground mineral reserve estimations are calculated using the conceptual mining stopes, which are shaped from the geological block models using the cutoff grade. Every stope block must pass an economical assessment and geological confidence test before it can be considered as an reserve block. For reserves, the block must be beneficial to mine and it must be of the geological confidence of Indicated or Measured.

SECTION • 16 MINING METHODS

Jinfeng mining commenced as an open pit operation in 2006, with production rates designed to gradually increase to match the initial process feed requirements. Underground mining followed in 2008, and has continually been increasing its production rate. The open pit part of the mining will conclude in early 2017 and thereafter all mine production will come from the underground.

16.1 OPEN PIT MINING

To defer some of the waste stripping to later years, the open pit operation has been designed in five stages. The open pit reserves will be fully mined out in early 2017.

The current pit development is within Stage 3, which has a final floor at 465 mRL, as shown in Figure 16-1.

Figure 16-1: Photograph Showing Open Pit

Stage 4 pit is the last cut-back of the main pit (Huangchangguo (HCG)) orebody. It will extend the pit bottom to 450 mRL and expand the pit in all directions, but mainly target ore along strike to the east. The contiguous Stage 5 pit, which mines a satellite orebody (Rongban), is planned to commence after completing the Stage 4 pit.

Bench heights in the final pit are 10 m; however, in the lower benches this is stacked to an effective height of 20 m. Ore will be mined using 5 m operating bench heights with 2.5 m flitches to optimize ore extraction. Within the pit, the haul road width varies from 18 m for most of its length to 14 m near the bottom of the pit, with a nominal 10% gradient. Haul road widths outside the pit are 20 m wide. The external haul road enters the open pit mining area at 590 mRL.

16.1.1 Stage 4 Open Pit Wall Design Parameters

Jinfeng mine has a very complex geological structure, with geotechnical issues contributing to the final pit design. Peter O'Bryan & Associates (O'Bryan) were engaged by Jinfeng for continuous geotechnical review and a study of open pit slope designs. O'Bryan's latest recommendations for the Stage 4 and Rongban pit designs were based on several site geotechnical investigations and interpretations of major geological structures. Some relevant findings include:

- Most of the identified mechanisms of likely wall failure are controlled by geological structures. The potential and extent of possible failures will be strongly dependent on the relative orientations of structural features and local wall geometry, the shear strength, and persistence of nuances in the face. Unfavourably oriented bedding and fault surfaces have the potential to produce wall scale instability.
- Weak to very weak rock mass conditions exist in various locations.
- Seasonal high rainfall will affect slope stability.

In addressing key issues that have potential to affect pit wall stability, Jinfeng mine has implemented several procedures:

- detailed structural mapping of the pit walls is regularly conducted
- artificial support is applied to some walls, often including cable bolting, wire mesh, and shotcrete
- depressurization holes are used on a regular basis
- berms are ditched to route surface water to the pit sump
- the pit sump is continuously pumped to reduce water inflow to the underground mine
- an automated EDM monitoring system is being controlled to predict failures
- blast management principles include special procedures near final and intermediate stage walls; in very weak ground, this precludes blasting in favour of mechanical scaling.

O'Bryan has assessed the potential pit wall failure mechanisms and their scale within four sectors of the planned open pit. Table 16-1 shows a summary of the results of this assessment.

Table 16-1: Summary of Interpreted Wall Instability Mechanisms

Wall	Mechanism of Instability	Likely Scale
South	Planar Sliding – bedding	Overall wall and multi-batter
	Wedge	Batter scale
West	Planar – joints and faults	Batter scale
	Wedge	Batter scale
North	Toppling – controlled by bedding	Overall wall and multi-batter scale
	Planar – controlled by bedding	Batter scale where bedding dips out of the pit wall
East	Wedge	Batter scale

Table 16-2 shows a summary of the overall wall angles recommended.

Table 16-2: Summary of Wall Slope Angles

Position in the Pit	Recommend Wall Angle
South Wall	33º - 42º
North Wall	42º
West Wall	42º
East Wall	45º

16.1.2 Open Pit Optimizations

The pit optimization was done using Whittle software. Pit optimization scenarios have included the effects of an expanding pit to current and planned underground operations, other existing infrastructure, and land use constraints for the waste rock. Slope parameters as specified in Table 16-2 were used for the slope constraint, while also compensating for a single ramp. Cost projections using recent actual costs and adjustment factors were also calculated for the optimization. Similarly, actual metallurgical recovery data was also used. A three-year trailing average gold price of $1,000/oz was used as the gold price.

16.1.3 Open Pit Designs

The current final pit designs for the Jinfeng site are based on the latest geotechnical information, Whittle optimization runs, and consideration of underground constraints. The pit configuration and design parameters used are shown in Table 16-3.

Table 16-3: Current Open Pit Design Parameters

Consideration	Observation
Maximum Crest Level	750 m (in ESE Sector)
Floor Level	450 m
Maximum Overall Pit Wall Height	300 m (in ESE Sector)
Ramp	Spiral, entry in west at 590 mRL
Ramp Width	18 m (above Level 480 m), 14 m (below Level 480 m)
Average Ramp Grade	1:10.46
Overall Pit Wall Angle	35.6° to 41.8°
Upper Pit Wall Angle	35° in South Sector above ramp, 37° to 42° in other Sectors above ramp
Bench Height	10 m to 20 m
Batter Angle	Approximately 55° to 60°
Berm Width	Typically 4 m to 12 m, but 18 m at 620 mRL bench

The Stage 3 pit will be completed in mid-2011. The Stage 4 pit will start in late 2011, and be completed in 2015. The Stage 5 pit will start in 2015 and be completed in the first quarter of 2017.

Figure 16-2: Stage 4 Final Configuration

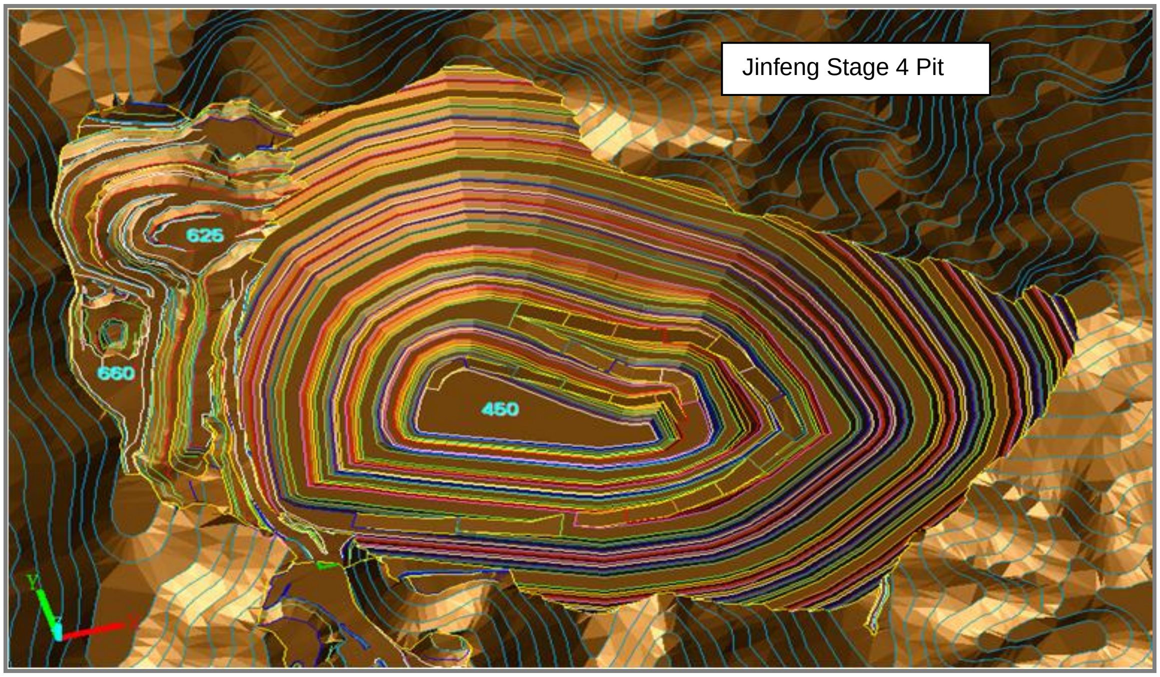
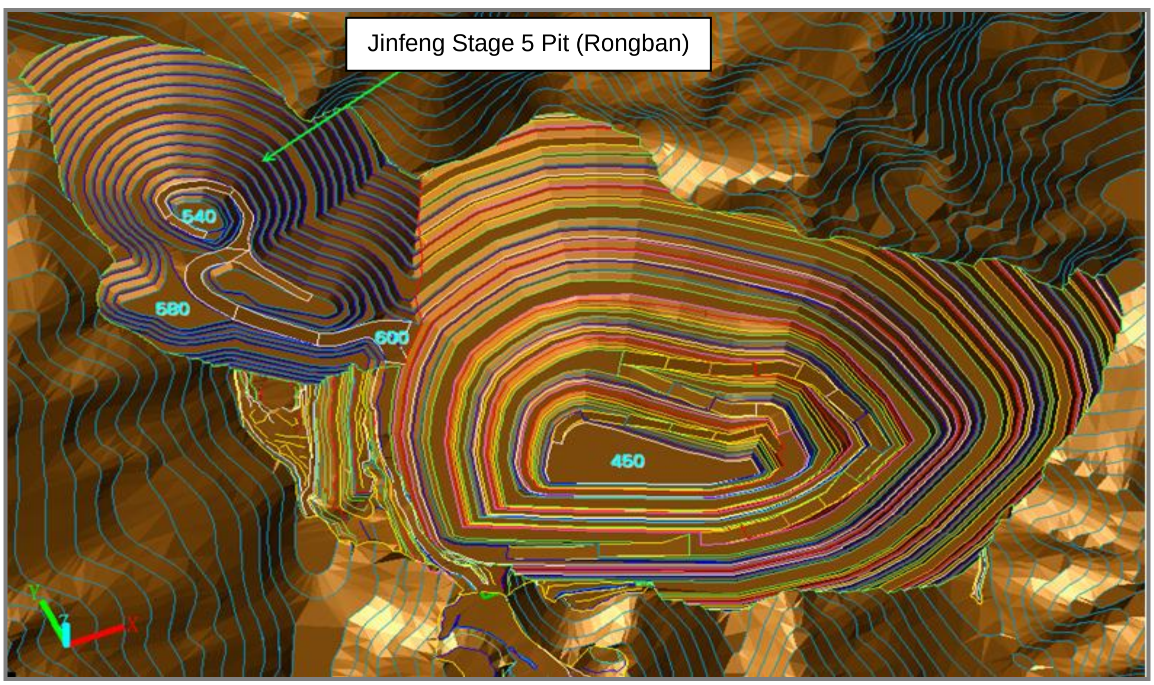


Figure 16-3: Stage 5 (Rongban) Final Configuration



16.1.4 Waste Dump Design

Optimization work completed in early 2006 recommended an open pit with a total tonnage of 91.87 Mt and total waste of 86.08 Mt. The overall pit design therefore had a strip ratio (waste to ore ratio) of 14.8:1. Jinfeng have correctly observed that the waste dump has a significant role in designing an optimum project, and the ability to dump close to the pit exit allows for significant haul cycle reduction, with resulting cost savings. For this reason, the waste dump has been brought closer to the pit exit and higher up the Huangchangguo Valley. The top of the waste dump is proposed to be at 570 mRL, and will fill the valley immediately south of the ROM pad. The final dump height above the valley floor will be in excess of 150 m at the southernmost point. The construction dump height is limited to 30 m per bench in the current design.

Jinfeng has adopted a dumping procedure that ensures adequate compaction and minimizes water infiltration into the dump. The surface of the dump will be graded to ensure surface water will run off and not pool.

Samples of waste rock from the pit have been tested at Guizhou Institute of Environmental Science and Design using facilities set up by Geo-Environmental Management Pty. Ltd. for acid generation. The conclusion drawn from the testwork was that the waste rock was free of acid-generating rocks, and that some rocks had acid-neutralizing capacity.

16.1.5 Open Pit Mine Equipment

The open pit mining contractor (China Railway 19 Bureau Group Corporation) has both sufficient equipment to fulfill the current mining schedule and the capability to add to the equipment fleet as production increases with the mining schedule.

Table 16-4 shows the major items of the mining equipment fleet that have been operating on site.

Table 16-4: Jinfeng Open-pit Mining Fleet Details

Equipment type	Equipment Model and Capacity	No. of Units
Atlas Drill Rig	ROC L8	3
Atlas Drill Rig	CM780D	1
Dump Truck	Komatsu HD605-7 63-t	20
Excavator	Hitachi 850	1
Excavator	Hitachi 870	2
Excavator	Komatsu PC400 1.8 m^3	1
Excavator	Komatsu PC 1250SP-7 6.7 m^3	3

In addition to the above primary open pit equipment, the contractors also have an assortment of dozers, front-end loaders, graders, water trucks, fuel trucks, and a compacting roller to conduct their work.

16.1.6 Mining Contractors

Drilling and blasting: Jinfeng has appointed Guizhou Construction Company as the drilling contractor for the site. They drill 115 mm diameter holes in ore on 5 m benches, and 165 mm diameter holes in waste on 10 m benches. The contractor utilizes three Atlas Copco L8s and one CM780D drill rig to conduct all drilling for mining purposes. Explosives are supplied under contract, and Jinfeng employees complete placement of the explosives in the drill holes. This method allows Jinfeng to control a critical component of the mining process.

Loading and hauling: Jinfeng has mainly worked with No. 19 China Railway & Construction Company for the open pit loading and hauling operations. The contractor has a fleet of Komatsu equipment, including three PC1250 excavators, twenty HD605 63-t dump trucks, a dozer, water truck, and a grader.

16.2 UNDERGROUND MINING

Jinfeng commenced underground operations in 2008, with ore production rates designed to progressively ramp up to 800 kt/a by 2015.

16.2.1 Underground Mine Plan

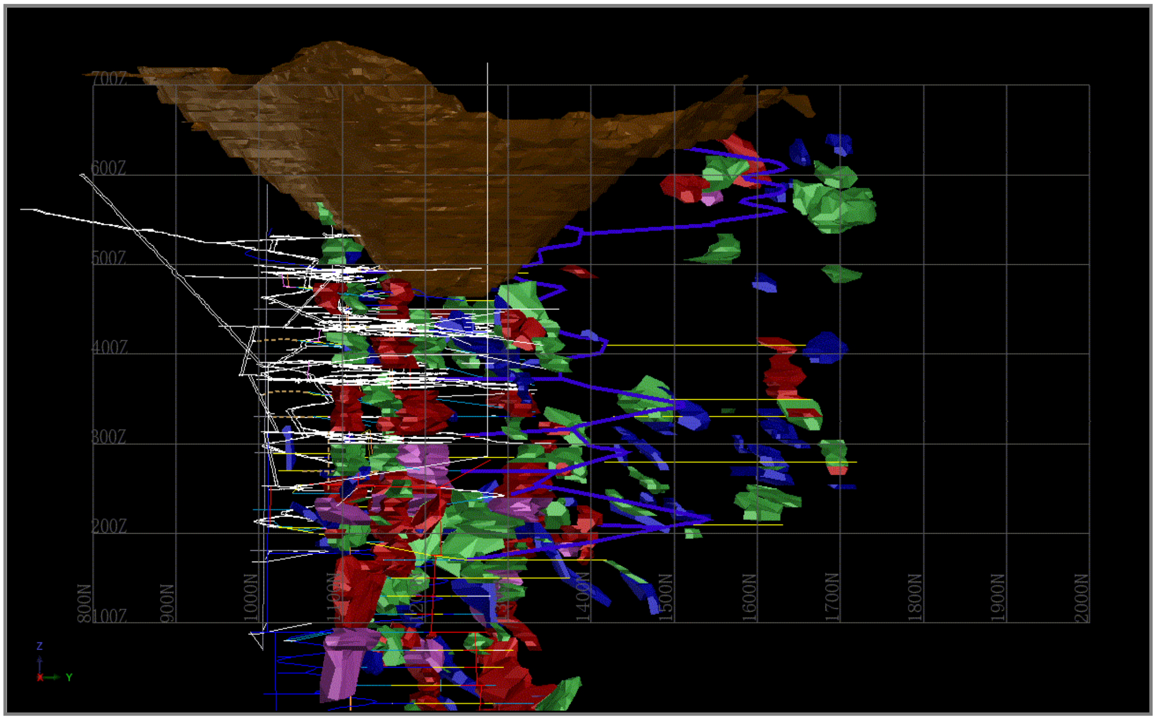
Only one mining method, overhand cut-and-fill, is used in Jinfeng's underground operations due to the poor geotechnical ground conditions and the selectivity required for optimal extraction. Mining depths are currently within 100 m to 350 m vertically below the surface. The ore, plus a small portion of waste, are trucked to surface via a 1:7 gradient decline. The underground mining plan is to ramp up current production capacity from 500,000 t/a in 2011 to 800,000 t/a in 2015. Further production increases and the scheduling of it is currently being studied.

The main decline is connected to the mining extraction level footwall drives, the egress access drives, and the ventilation shafts. The parameters for the decline are:

- cross-section 5.5 m x 5.5 m for straights and curves
- gradient of 1:7 for straights and curves
- level access at 20 m intervals
- centreline radius on curves is 25 m.

Figure 16-4 shows the layout of the development and ventilation connections for the underground mine.

Figure 16-4: Jinfeng Underground Mine Current and Planned Declines



16.2.2 Underground Equipment

Due to the overhand cut-and-fill mining method, both waste development and ore production are similar unit operations using the same mining equipment. The major equipment used in Jinfeng's underground ore and waste mining operations are electric hydraulic drill jumbos, load-haul-dump trucks (LHDs) and mine trucks.

Table 16-5 shows a lists of the key underground mine equipment in use during 2011. Additionally, utility vehicles for charging, shotcreting, aggregate transport, lifting, road maintenance, and dust suppression are all in place and will be increased as needed during the ramp up to full production. The backfill plant also operates two loaders for aggregate feed.

Table 16-5: Jinfeng Key Underground Mining Equipment

Equipment	Model	Manufacturer	No. of Units
Jumbo	Boomer 282	Atlas Copco	6
Truck	MT-439	Wagner	1
	AD45B	Caterpillar	4
Loader	ST-7.5Z	Wagner	1
	R2900G	Caterpillar	1
	R1700G	Caterpillar	3
	JCCY-6	Jinchuan Machinery	1

16.2.3 Underground Mine Ventilation

The Jinfeng underground mine is ventilated using electric exhaust fans, which draw fresh air into the mine via fresh air intake declines and shafts. The fresh airshaft system is located in the footwall of the orebodies, in close proximity to the FW drives. Fresh air connections between the FW drive and the shaft are made for each of the main production levels.

The ventilation standards applied to the Jinfeng underground mine are the higher of the Australian or Chinese standards, with recommendations provided by Mine Ventilation Australia.

The installed mine exhaust fan is currently operated at 300 m^3/s at a static pressure of 1,150 Pa. The fan performance is scheduled to be upgraded in 2012, once the major primary ventilation development is completed, and then further upgraded in 2014 in order to satisfy full production requirements.

16.2.4 Backfill System

The backfill plant utilizes open pit waste, which is trucked directly from the pit mining operation. The waste is then crushed and grinded to produce artificial “sand.”

Tails from the mill (currently ~32% w/w solids density), artificial sand, and cement are mixed to produce underground backfill paste. The tails-to-sand ratio is 1:3.6. Cement dosing of 10–20% is added to achieve 350 to 2,000 kPa paste fill for underground production. A plant thickener upgrading project aimed at increasing the tails density for backfill is currently planned. Once this project is completed, it is expected that more tailings will be used for backfilling the underground, and less cement will be required.

Two independent trains of 80–100 m^3/h backfill throughput have been constructed, well above the underground production ramp-up requirement. Currently only one train system is used, with an average capacity of 1,600 tonnes per shift.

16.2.5 Power, Water, and Compressed Air

The underground mine service lines, including electrical power, water, and compressed air, are reticulated to the underground mine via the decline tunnel from the surface. These service lines will be incrementally extended to deeper sections of the mine in the future.

16.3 PRODUCTION PLANS AND MINE LIFE

The current open pit plan mines out the current design in six years. During this period, a total of 3.725 Mt of ore will be extracted, at an average grade of 3.35 g/t Au (401,000 contained ounces).

Based on the current underground reserves of 10.087 Mt at 4.40 g/t Au, it is planned that underground yearly ore production will be progressively ramped up to 800 kt by 2015. Exploration is continuing underground, and it is expected that reserves will be added as our geological understanding of the deposit increases. During this period, studies will also be undertaken to increase the underground production capacity up to 1.2 Mt/a. Underground mining production would therefore vary between 115,000 oz/a up to 175,000 oz/a.

Based on the Proven and Probable ore reserves, as shown in the mineral reserve section, the indicated mine life for the combined open pit and underground mine is 13 years from 2012. This assumes no further ore is discovered underground, and that the underground extraction rate does not exceed 800,000 t/a. However, as indicated above, there are engineering options for increasing capacity once the geological understanding is enhanced.

SECTION • 17 RECOVERY METHODS

17.1 GENERAL DESCRIPTION

The prime criteria for the Jinfeng plant design are capacity of 1.2 Mt/a of primary ore with a feed sulphur grade of 1.7% and a maximum sulphur grade of 2.25%. The plant has subsequently been upgraded to operate at 1.5 Mt/a with the same sulphur feed grade.

The milling design availability of 91.3% is conservative but within normal levels for modern plants. Design availability of 95% for the BIOX®, CCD, liquor neutralization, CIL, and detoxification circuits is as recommended by Gold Fields. These availabilities have been proven suitable during normal operations.

Monitoring of key process streams with essential automated control by Programmable Logic Controllers (PLCs) using a Citect platform has been provided to support plant operations and provide management data.

17.2 PLANT

The process route incorporates recovery and blending of ore prior to single-stage crushing to a stockpile, underground reclamation, and conveying to a single, low-aspect-ratio SAG mill. The discharged pulp is classified by cyclone, with the underflow gravitating to the primary ball mill, forming a closed circuit.

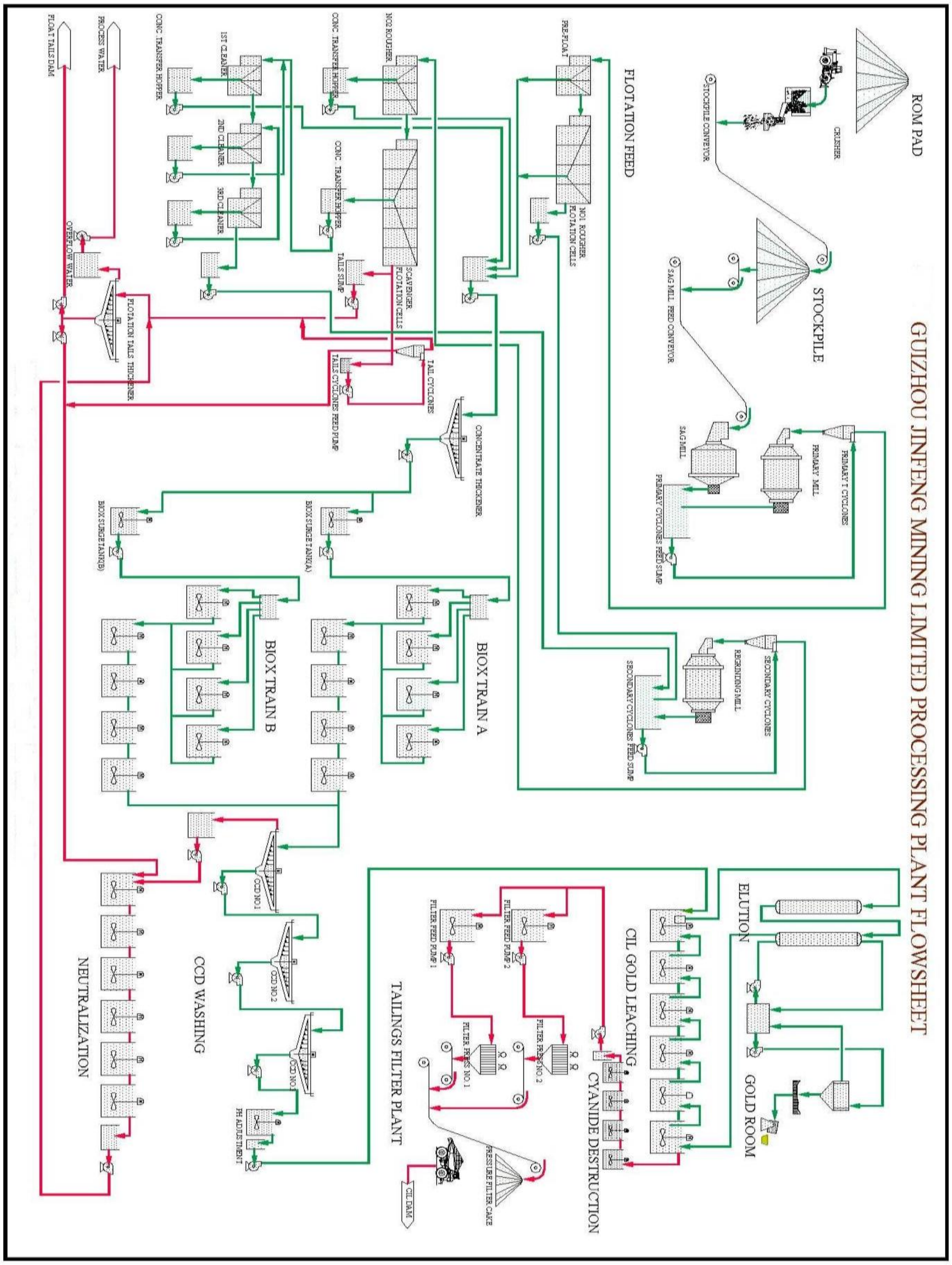
The cyclone overflow (P_{80} 75 µm) flows to a prefloat stage for graphite and pyrobitumen control.

The prefloat tailings are conditioned and then passed to primary flotation, and primary concentrate is pumped either to a concentrate thickener or to the cleaning circuit. Primary flotation tailings are pumped to secondary grinding and return (P_{80} 38 µm), to two stages of secondary flotation. Secondary concentrate is pumped to the three-stage cleaning circuit, and secondary flotation tailings are pumped to the tailings thickener.

Concentrate from the primary cleaner stage is pumped to the concentrate thickener. Concentrates from the second and third stages are pumped to their respective preceding stage. Cleaner tailings are returned to secondary grinding. After thickening, the concentrate is transferred to one of two bio-oxidation surge tanks. Each surge tank feeds a discrete leaching suite comprised of four primary leach tanks in parallel followed by four secondary leach tanks in series.

The leach residence time is 5.23 days at a pulp density of 20% weight/weight (w/w) and a pH between 1.6 and 1.8 with the pulp temperature controlled at 42°C.

Figure 17-1 Jinfeng Processing Plant Flowsheet



The bio-oxidation section of the plant has been separately designed as a package by Gold Fields/Gencor, using the patented BIOX® process. A testwork programme was carried out in SGS Lakefield Johannesburg's laboratory utilising their 120-L mini plant for continuous pilot testing. More than 1,000 kg of flotation concentrate was produced in a flotation programme in China, transported to Lakefield, and processed in several campaigns to produce the design and engineering data for the Jinfeng project.

The oxidized pulp from the biological leaching tanks is pumped to a three-stage continuous counter-current decantation (CCD) thickener circuit for separation of solids and liquids. CCD thickener overflow is neutralised in six agitated tanks in series with thickened flotation tailings (utilising the contained carbonates) to achieve a pH of 3.5, followed by lime addition to bring the pH to 7, before discharge into the flotation tailings thickener. Soluble arsenic is precipitated as a stable form of ferric arsenate. CCD thickener underflow is pumped to the pH adjustment tank before being pumped to the six-stage CIL circuit. The residence time of the CIL circuit is 24 hours.

The elution of gold from the loaded carbon is by the Anglo American research Laboratories (AARL) system, with a 10-tonne capacity elution column. Mercury entrained on carbon entering the elution is captured in two ways:

- by fume extraction/scrubbing in the carbon regeneration area
- and by calcination of electrowinning cell sludge, and loaded cathodes condensing mercury vapour generated in the retort/calciner.

Tailings from the CIL circuit are detoxified by the INCO $CuSO_4$ and air/SO_2 method, using sodium metabisulphite.

17.2.1 Process Engineering Design Criteria

The process design criteria for the various sections of the plant was based on extensive testwork, with piloting of the process being completed where necessary. The comminution circuits of the Jinfeng ore was based on data from test samples drawn from channel sampling.

The primary jaw crusher SAG mill, primary and secondary ball mill, and lime slaking mill selected are Chinese in origin, and have operated successfully since commissioning.

The flotation circuit and reagent suite was developed by combining the work of several laboratories worldwide. The circuit has been piloted to prepare concentrate for biological leaching testing. A factor of 200% has been applied to the laboratory residence times, in line with normal practice. The flotation equipment chosen is Chinese, and has been successfully employed in other plants. There have been no issues with the Chinese flotation equipment since start-up.

The leaching circuit design, including biological leaching, CCD circuit, and neutralization criteria, was developed based on laboratory and pilot testing conducted at the Gold Fields/Gencor/Lakefield BIOX® continuous pilot plant. Engineering design data was provided by Gold Fields, and is based on their experience in design of similar plants worldwide. The CIL and gold room process design is a typical Australian design, with the addition of mercury recovery. Tailings detoxification and liquor neutralization is by well-proven and widely utilized processes.

17.3 TAILINGS DAMS AND WATER RETICULATION

Tailings from the process plant are in three parts:

1. The flotation tailings, which comprise the bulk of the solid residues from the plant operations, are stored in a discrete facility, with supernatant liquor being recovered via a decant system at the dam for return to the plant process water system. The flotation tailings will also contain the ferric arsenate precipitated subsequent to the bioleaching of the concentrate. The flotation tailings are naturally alkaline, with only 5% of the original sulphide present, and is expected to remain alkaline to stabilize the arsenic storage.
2. The residue from the concentrate-processing section of the plant, which is submitted to detoxification by the INCO $CuSO_4$ and air/SO_2 process for cyanide destruction is treated by pressure filter to remove excess moisture before being stored in a separate facility, with no return for plant use of the supernatant liquor.
3. After the two-stage detoxification process to remove cyanide and arsenic, the CIL cyanide leach waste water is then forwarded to a storage pond within the dry stacked CIL tailings dam. The water in the pond is reclaimed and treated again using the INCO $CuSO_4$ and air/SO_2 method to further remove cyanide, and then discharged into the Luofan River under strictly controlled conditions. After significant amounts of testwork completed during 2009 and 2010, a water-polishing treatment plant was designed and is currently under construction to treat the waste water to remove the thiocyanates. This water-polishing treatment plant will significantly reduce the chemical oxygen demand (COD) of the waste water. The technology to remove thiocyanates has been successfully piloted for over one year, and the full-scale plant commissioning is expected in early 2012.

17.4 PROCESS DESCRIPTION

17.4.1 Crushing

Ore is received from the open pit and underground mines onto the ROM stockpile, where it is stored in elongated fingers according to its designated type. Ore is reclaimed from the finger stockpiles of the ROM stockpile area by front-end loader (FEL) into the primary crusher feed hopper. The hopper is fitted with a stationary 500 mm grizzly to prevent oversize from entering the crusher, and uses dust suppression sprays. Ore is withdrawn from the primary crusher feed hopper by an inclined 1,200 x 3,000 mm vibrating grizzly feeder at a controlled rate, discharging directly into the primary jaw crusher.

Grizzly fines and crushed ore are collected on a conveyor running beneath the crusher, which then feeds the crushed ore stockpile conveyor.

17.5 MILLING

Ore is continuously withdrawn from the crushed ore stockpile at a controlled rate, nominally 187.5 dt/h, using a combination of one central apron feeder and two in-line vibrating feeders, each with variable-speed drives. The feeder will discharge onto the SAG mill feed conveyor to feed the low-aspect-ratio SAG mill.

The SAG mill, which is 5.03 m in diameter with a 6.49 m effective grinding length (EGL), is fitted with a 14 mm internal grate to control the size of the discharged material. The mill is driven by a 2.3 MW variable-speed drive. SAG mill discharge flows by gravity to the primary cyclone feed sump, where it is diluted with process water and pumped to the primary cyclones for classification at 75 µm.

Cyclone underflow slurry is fed to the primary ball mill, which is sized to reduce the particle size from an intermediate size F_{80} 367 µm to P_{80} 75 µm. The ball mill is similarly sized to the SAG mill, at 5.03 m in diameter with a 6.79 m EGL and a 2.3 MW drive. Primary ball mill discharge is recycled to the primary cyclones.

Overflow from the primary cyclones is sampled, passed over a vibrating trash screen to remove detritus, and then transported by gravity to the pre-flotation section.

17.6 CONCENTRATOR

The overflow from the primary cyclones flows to the pre-flotation circuit. The pulp, at 20% solids w/w, is floated in two 50 m^3 cells using only MIBC as the frother. Testwork has demonstrated that approximately 55% of graphite and pyrobitumen can be removed in this stage. Pre-flotation concentrates are pumped directly to the final flotation concentrate, thus lowering the chance that organic carbon could absorb large quantities of flotation reagents.

Pre-flotation tailings are conditioned with flotation reagents $CuSO_4$, PAX, and MIBC, then floated for a total of 18 minutes primary flotation residence time in four 40 m^3 cells. Concentrate from the first two cells is pumped to the concentrate thickener, while concentrate from the remaining two cells are transferred either to final product or to the regrind mill circuit.

The primary flotation tailings are pumped to the secondary cyclones, which are designed to classify the product at 38 µm. Cyclone underflow slurry is gravity-fed to the secondary ball mill. The size reduction required within the mill is from F_{80} 103 µm to P_{80} 38 µm. The mill is 3.8 m in diameter with a 6.2 m EGL, and is powered by a 1.5 MW drive. Secondary ball mill discharge is recycled to the secondary cyclones.

The overflow from the secondary cyclones will flow by gravity to a secondary flotation conditioner and six 100 m^3 cells. After passing through three cells a conditioner stage provides the ability to add sodium hydrosulphide to promote flotation. The tailings from the secondary flotation circuit flows by gravity to a secondary scavenger conditioner, then on to secondary scavenger flotation circuit comprising three 100 m^3 cells. After passing through two cells a conditioner stage provides the ability to add sodium hydrosulphide and PAX to promote flotation.

These long flotation times, representing 200% of the batch laboratory flotation times determined from tests by Australian Metallurgical and Mineral Testing Consultants (AMMTEC), are deemed necessary for high recovery of gold. All secondary flotation concentrates are collected and pumped to the cleaner circuit.

Tailings from the final scavenger flotation stage are directed to the tailings thickener for water recovery prior to transfer to the flotation tailings dam. The scavenger concentrate and partial rougher concentrate is pumped to a conditioner ahead of a series of six 40 m^3 cleaner and cleaner-scavenger flotation cells. The cell configuration is flexible to allow various cleaner and cleaner-scavenger combinations.

The cleaned concentrate prefloat concentrate and partial rougher concentrate is collected and fed to a thickener for dewatering.

Cleaner tailings are recycled to the secondary milling circuit cyclones.

17.7 BACTERIAL LEACHING

Thickened flotation concentrate is pumped to two 800 m^3 storage tanks, providing a 48-hour surge capacity. Each storage tank feeds a train of four primary Biox® reactors in parallel, followed by four Biox® reactors in series. Stored concentrate is pumped from the surge tanks to a feed splitter box above the primary BIOX® reactors, and dilution water is injected into the pump discharge line to control the density of the concentrate slurry feeding the primary BIOX® reactors. The dilution water is a combination of fresh water sourced from the Luofan River and recycled BIOX® process water.

The splitter box consists of a timed splitter to evenly distribute the diluted concentrate slurry to the four parallel 1,000 m^3 primary BIOX® reactors. Nutrient solution is dosed to the feed splitter box to maintain the correct levels of nitrogen (N), potassium (K), and phosphorous (P) in the BIOX® reactors for optimum bacterial activity.

The primary BIOX® reactors overflow into launders, which deliver the partially-oxidized concentrate to the first of four 1,000 m^3 secondary BIOX® reactors in series. Bypass launders enable any one of the reactors to be taken off-line for maintenance. The first secondary reactor can be used as a primary reactor if required.

The BIOX® culture is kept active in the reactors by controlling the slurry conditions, specifically the temperature, oxygen level, and pH, within specific ranges. The oxidation reactions are exothermic, making it necessary to constantly cool the slurry. Each reactor is equipped with cooling coil baffles, through which cooling water is circulated to maintain the slurry temperature of 42°C in each reactor. The circulating water passes through cooling towers to remove the generated heat load. Oxygen requirements for sulphide oxidation are significant, and medium pressure air is injected into each of the reactors by sparge rings installed below the agitator impeller. The slurry pH in each of the reactors is kept between 1.0 and 1.6 through the addition of slaked lime slurry from a ring main system.

The oxidized product discharging from the final secondary BIOX® reactor flows by gravity via a launder to a three-stage CCD solid/liquid separation circuit using thickeners.

Spillage from the leaching section and hose-down water is contained within the bunded area surrounding this section.

CCD Wash Circuit

During the bio-oxidation of flotation concentrate, iron, sulphur, and arsenic are solubilised. The soluble elements are washed from the oxidized residue in a series of three 15 m diameter CCD thickeners. The oxidized residue is fed by gravity to the feed box of the first CCD thickener, and is then combined with the overflow from the second CCD thickener.

Flocculants are added to the feed boxes of all thickeners to flocculate the slurry prior to the feed well of the first CCD thickener, thereby maintaining a clear overflow. The overflow solution from the first CCD thickener will gravitate to the neutralization circuit. The underflow from the first CCD thickener is pumped to the feed tank ahead of the second CCD thickener, and second thickener underflow to that ahead of the third. The overflow from the third thickener will be gravity fed to the second thickener feed.

The leaching process water is used as wash-water in the CCD circuit, and is added to the feed tank ahead of the third CCD thickener.

The underflow from the last CCD thickener is pumped by the thickener underflow pumps to the pH adjustment tank ahead of the CIL circuit.

The iron, sulphur, and arsenic are solubilised during biological oxidation to Fe^{3+} (as ferric sulphate), SO_4^{2-} (as sulphuric acid), and AsO_4^{3-} (as arsenic acid), respectively. The acidic solution overflows from the first CCD thickener, and is pumped to the distribution box above the first and second neutralization tanks.

The neutralization circuit consists of six aerated and agitated 300 m^3 tanks in series, and the solution flows from tank to tank via overflow launders.

The CCD liquor is neutralised in two stages. In the first stage, flotation tails slurry is combined with the acidic solution feeding the first tank, utilising the natural basicity of the ore to raise the pH of the solution above pH 3. This allows the natural basicity of the tailings to be used instead of lime, thereby reducing costs. In the second step, the pH is raised to between 6 and 8 in the remaining tanks using lime slurry.

Scaling can be expected in the neutralization tanks, due to gypsum precipitation from lime addition, and tanks can be bypassed as required for cleaning and maintenance. The neutralised effluent is pumped to the flotation tailings thickener.

17.8 CARBON IN LEACH

The thickened underflow slurry from the last CCD thickener is pumped to the pH adjustment tank. Residual acid and any residual soluble arsenic is neutralized with lime and precipitated as gypsum and ferric arsenate prior to pumping to the CIL circuit. Sufficient excess lime is added to raise the pH of the pulp to 10.5. The pH adjustment tank is sized to provide both surge capacity between CCD and CIL circuits and sufficient residence time to ensure that there is a delay before the introduction of cyanide into the CIL circuits.

The pulp, with a nominal density of 30 to 35% w/w, is pumped to the distribution box above the first of six 430 m^3 adsorption tanks arranged in series. The conventional arrangement of tanks interconnected with launders allows the slurry to gravitate through the tanks, and for the tanks to be bypassed as required for screen and agitator maintenance. Dual mechanical agitators and a mechanically swept, woven-wire intertank carbon retention screen are used in each tank. A travelling gantry hoist will facilitate the removal of the screens for maintenance and routine cleaning.

Barren carbon will enter the circuit at the final tank, and is advanced counter-current to the slurry flow by pumping using recessed impeller, vertical-spindle centrifugal pumps. The counter-current process is repeated until the first adsorption tank. Loaded carbon and slurry is recovered from the first tank by recessed impeller pump to a loaded carbon recovery screen. The loaded carbon screen will separate out the carbon, which gravitates to the acid wash column, and the slurry returns to the CIL tank.

The leach tails slurry from the final CIL tank gravitates to the vibrating carbon safety screen to recover any carbon lost through the intertank screen in the final tank. The carbon safety screen undersize pulp gravitates to the tailings detoxification circuit. Sodium cyanide solution is metered into tanks 1, 2, and 3.

The CIL circuit operates at high carbon concentration to counteract the preg-robbing capability of the graphite/pyrobitumen present in slurry after the prefloat.

Returned barren carbon and any make-up carbon passes across a vibrating screen to remove fine carbon before entering the circuit.

17.9 ELUTION AND ELECTROWINNING

The elution circuit is a typical AARL circuit using a 10-tonne elution column. The plant is designed to operate on a five days a week basis, with one strip per day. There is a separate mercury elution cycle and mercury precipitation circuit available, but it is generally not required as the amount of mercury reporting to the elution section is much lower than anticipated.

The loaded carbon recovered on the loaded carbon recovery screen gravitates to the acid wash column, and is manually controlled to fill the acid wash column. The acid wash process and the pumping sequence are automated. During acid washing, the dilute solution of 3% w/w hydrochloric acid is circulated through the column in an upward flow direction to remove contaminants, predominantly carbonates, from the loaded carbon. This improves elution efficiency and prevents the carbonates from reducing the carbon activity after regeneration.

After acid circulation, the carbon bed is rinsed with fresh water. Four bed volumes of low-salinity fresh water are pumped through the column to displace any residual acid from the carbon. The dilute acid and rinse water is disposed of directly to the tails hopper. Acid-washed carbon will then be transferred to the elution column from the acid wash tank. If required, a low temperature cyanide mercury elution can be completed. Following that, a dilute solution of caustic sodium cyanide is pumped through the column to elute the gold and silver from the carbon. The solution is heated initially through a recuperative heat exchanger to maintain the strip solution at approximately 125°C.

A circulation time of eight hours is sufficient to complete the elution. The column will then be flushed with heated fresh water pumped into the base of the column. The eluate and fresh water is cooled through the recuperative heat exchanger, pre-heating the incoming solution. The eluate is circulated by pump in three electrowinning cells in parallel to electrowin both gold and silver from solution. Each electrowinning cell has 12 cathodes.

The electrowinning cycle will continue until the solution exiting the electrowinning cells is depleted of gold and silver values. After completion of the elution process, the barren carbon is transferred from the elution column, dewatered, and fed to a horizontal carbon regeneration kiln. The carbon is heated to 650°C to 750°C for regeneration.

Regenerated carbon exiting the kiln is water-quenched and then sized on a screen to remove fine carbon. The screen oversize returns to the CIL circuit, and the undersize is discarded.

Mercury that enters the circuit via the loaded carbon and is not eluted is volatilised in the regeneration kiln. An extraction scrubber captures the emissions for the regeneration kiln and surrounding area. The cell cathodes consist of stainless steel wool. The loaded cathodes and cell sludge are recovered and calcined before smelting.

The calcining oven removes and captures mercury by volatilization. The calcined residue will then be direct-smelted with fluxes in a diesel-fired furnace to produce doré bullion.

The carbon safety screen underflow will gravitate to the feed distribution box ahead of two agitated, aerated interconnected tanks in series.

Sodium metabisulphite and copper sulphate is added into the feed distribution box to destroy free and weak acid dissociable (WAD) cyanides present. Lime is also added to provide protective alkalinity, and the pH is maintained at 10. The resultant effluent is pumped to the CIL residue storage facility at a total WAD cyanide (CN_{WAD}) content of less than 0.5 g/m^3 (parts per million). In order to control any heavy metal sulphides, sodium hydrosulphide is added to precipitate sulphides.

After gold is recovered, the CIL tailings go through an INCO $CuSO_4$ and air/SO_2 detoxification process for cyanide removal, and are filtered using two filter presses with a filter area of 1,060 m^2. The filter cakes (75% solids) are then placed into trucks for transportation to the HDPE-lined CIL tailings dam for dry stacking. The solution recovered from the filter presses is then pumped to a two-stage arsenic removal circuit. The slurry is then thickened, with the overflow being pumped to the thiocyanate polishing plant. The thiocyanate (SCN^-) plant is currently under construction and, once operating will break down the thiocyanates by biological means to ensure that the Chemical Oxygen demand (COD) in any discharged water satisfies environmental requirements.

17.10 PLANT SERVICES

17.10.1 Water

Water for the plant is pumped from the Luofan River, adjacent to the mine site, to the raw water tank for distribution to process water, fire water, camp water treatment, and others. Where possible, water is reclaimed within the plant before exiting in the plant tailings. The flotation tailings supernatant water is recovered by decantation and returned to the process water system. The water from the CIL tailings impoundment will not be recycled to the plant, due to biocides such as thiocyanates resulting from the BIOX® plant.

17.10.2 Compressed Air

Compressed plant and instrument air is supplied at a pressure of 700 kPa. The instrument air is dried via a refrigerated air dryer. Plant air and instrument air is reticulated throughout. Centrifugal blowers supply medium-pressure air at 120 kPa which is reticulated throughout the leaching neutralization, CIL, and tails detoxification circuits, with off-takes at each tank.

17.10.3 Power

Site power is supplied as a grid-connected, 20 MVA 110/6.3 kV power transformer connection. A second transformer has been installed and is currently working as a backup unit. The standby power, emergency diesel generators supplying 1200 kW, is installed at the BIOX® plant 6.3 kV substation. The standby power will facilitate the maintenance of a viable culture in a minimum of one primary reactor.

Process Control Philosophy

The overall control philosophy of the Jinfeng process plant is to provide sufficient automation and instrumentation to assist the operators in monitoring and controlling the plant, in order to maximize production and efficiency. The functionality of the proposed system is designed as a three-tiered pyramidal network.

The bottom tier consists of field devices, switches, contactors, and similar. The second tier consists of software-configurable and programmable hardware (PLCs) that will implement sequence logic programs and proportional integral derivative (PID) algorithms. The top tier, the overlying control system, is a SCADA-type Citect system. These systems and their components are robust and proven, currently in use throughout the gold industry, and provide a reliable mid level of automation.

The sensors proposed are reliable and well proven. The number of operator interface terminals is typical of this type of plant.

17.11 PLANT MAINTENANCE PHILOSOPHY AND PROCEDURES

The plant has been designed to operate at normal availabilities for plants of this type throughout the world. The plant layout is designed with maintenance in mind, and facilitates crane access for major equipment. Critical items of equipment, such as pumps, are provided with standby facilities.

Tanks have launders and connection systems that facilitate individual equipment isolation for repair without total process interruption.

Similarly, in the event of power interruption, there is sufficient power available to sustain the materials in process until full power is restored, allowing resumption of feed.

17.12 HOUSEKEEPING

The plant has been designed with normal western-style access and plant sections, and circuits are contained in spillage-recoverable wash down areas.

17.13 FORECAST REAGENT CONSUMPTION

The forecast reagent consumptions are shown for the Jinfeng flotation plant in Table 17-1, for the bioleach plant in Table 17-2, and for the CIL plant in Table 17-3.

Table 17-1: Reagent Consumption – Jinfeng Flotation Plant

Reagent	Reagent Consumption kg/t Ore Processed
Copper Sulphate	0.46
Potassium Amyl Xanthate	0.37
Frother (MIBC)	0.08
Flocculant	0.16

Table 17-2: Reagent Consumption – Jinfeng Bioleaching Plant

Reagent	Reagent Consumption kg/t Ore Processed
Sulphuric Acid Addition	18.51
Nitrogen (ammonium sulphate)	3.23
Phosphorus (monoammonium phosphate)	0.60
Potassium sulphate	0.72
CCD Flocculant	0.23
CCD Lime Neutralization	100.19 (total in bioleaching and CIL plant)

Table 17-3: Reagent Consumption – Jinfeng CIL Plant

Reagent	Reagent Consumption kg/t Concentrate Produced
NaCN	6.50
Activated Carbon	0.13
HCl	0.91
NaOH	0.89

17.14 ON-SITE ASSAY LABORATORY STANDARDS

The on-site assay laboratory has been built and is being operated to international standards, and the onsite metallurgical laboratory is fully equipped for routine metallurgical tests, including flotation.

SECTION • 18 PROJECT INFRASTRUCTURE

18.1 ROAD ACCESS

The Jinfeng mine is connected to the provincial road system. From Guiyang, the capital city of Guizhou Province, a paved four-lane highway has been constructed to connect to Kunming, the capital city of Yunnan Province. A major suspension bridge has recently been constructed to span a sizeable gorge. This bridge reduces the required travel time from Guiyang to around 6 hours. The road is sealed from the highway to Mingu, although the condition is highly variable. From Mingu the road to Jinfeng continues over 43 km of road through the mountainous region that has been paved by the County Government. This road continues to require significant ongoing maintenance. The remaining 12 km of road has been constructed and paved by Jinfeng.

18.2 ACCOMMODATION

Jinfeng constructed housing units for managers and senior staff, and terrace units for the bulk of the workforce at the mine site. The goal was for 50% of the workforce to be locals who commute daily by bus from their village or town. The camp includes a kitchen and dining room serving both Chinese and western food. The current total workforce is around 1,700 people, and of these, 86.7% of employees and 84% of contractors are accommodated on the site during their rotation. All accommodated employees are fed on a daily basis.

18.3 ELECTRICAL POWER

The 110 kV line connected to the provincial electrical grid has been extended 42 km from Zhenfeng. The forecast demand from the Jinfeng site is approximately 22 MW. A backup 1.2 MW diesel set is on site to provide power if the grid connection is interrupted. Electrical power rates for the Jinfeng site are currently around US$0.08/kWh. An additional feeder line has been constructed along with a breaker and other switching equipment at Ceheng, approximately 22 km away. This gives the operation an alternate power source in the event of a problem with the main feeder line.

18.4 WATER SUPPLY AND RETICULATION

Water requirements were estimated at 7,200 m^3/day, which is sourced from the Luofan River and pumped to the process plant via a 3 km pipeline. During recent operations, with the current throughput of 1.5 Mt/a, the water withdrawal rate from the Luofan River has been just over 5,000 m^3/day.

The Datian hydroelectric scheme normally draws water from upstream Luofan and discharges it into Beipan River, bypassing Jinfeng's raw water extraction point. The Datian scheme has a regulatory requirement to control draw-off so that a minimum residual flow in the Luofan River of 1,300 L/s is always maintained, which easily exceeds Jinfeng's required take-off volume. There is a slight possibility that the Datian scheme may ignore the regulation and draw off more water for power generation, leaving Jinfeng with insufficient water flow. To date there have been no issues with the collection of water from the Luofan river.

18.5 DIESEL FUEL

Diesel fuel is supplied to the Jinfeng site by road tankers, which pump supplies of diesel fuel into storage tanks on site.

18.6 EXPLOSIVES HANDLING AND STORAGE

A secure storage magazine for explosives has been constructed several kilometres from the mine. The location is at some distance from site activities and is accessed from the road to the tailing storage facilities. Once sufficient development has been completed underground, it is planned to construct an underground explosives storage facility.

18.7 WORKSHOP FACILITIES

The open pit earthmoving, drilling, and blasting work is performed by a contractor. Underground equipment is predominantly owned by Jinfeng, and workshop facilities have been constructed to maintain this equipment. Workshop facilities have also been constructed in the plant area for fixed plant maintenance.

18.8 TRANSPORT

Jinfeng has adequate roads constructed around the mine site to ensure that transport needs are met. A main contributor to road usage is the transport of CIL solid filtered tails from the plant site to the CIL tailings dam. The county did pave the road from Mingu to the 12 km of road constructed by the operation. Several sections of this road were damaged during the wet season and are again under repair.

SECTION • 19 MARKET STUDIES AND CONTRACTS

19.1 MAJOR CONTRACTS

19.1.1 Jinfeng BIOX® Licence Agreement

Sino entered into an agreement with Minsaco BIOX® Pty. Limited (Minsaco) on 23 June 2004. Minsaco is a wholly owned subsidiary of Gold Fields Limited, a company listed on the Johannesburg stock exchange. Under the agreement, Sino agreed to engage Minsaco to provide to Sino a license to use the BIOX® process in the Jinfeng processing plant, a process design package, consulting services, design certification, inoculum, ongoing and updated information, improvements and developments on the BIOX® process, and plant commissioning and training.

The license for use of the BIOX® technology has subsequently been passed on to Eldorado for continued use at the Jinfeng Project.

19.1.2 Mining Contract

Eldorado has entered into a contract with No. 19 China Railway & Construction Company (Railway 19) for continuation of the open pit mining at Jinfeng. The contractor initially took delivery of a fleet of new Komatsu equipment, including three PC1250 excavators, twenty HD605 65-t dump trucks, a dozer, water truck, and a grader. Eldorado also uses the services of Railway 19 at its other operations within China.

19.1.3 Drilling and Blasting

Eldorado has appointed Guizhou Construction Company as the drilling contractor for Jinfeng open pit. The contractor utilizes three Atlas Copco L8 drill rigs to complete all drilling for open pit mining purposes.

As an underground contractor, Ausino Drilling Services is currently contracted to complete all of Jinfeng's underground diamond drilling requirements. Ausino currently utilizes six 55 kW, ADS, Z90-1 drill rigs.

Explosives are supplied under contract, but all placements of explosives in the drill holes are being completed by Eldorado employees.

19.2 SUPPLY AGREEMENTS

19.2.1 Electrical Power and Water Supply

Sino completed a combined infrastructure deal, negotiated with the County. For electrical power supply, the 110 kV line connected to the provincial electrical grid was extended 42 km from Zhenfeng. The current demand from the Jinfeng site is approximately 16 MW. A backup 1.2 MW diesel set is on site to provide power if the grid connection is interrupted. Electrical power rates for the Jinfeng site are currently at US$0.08/kWh.

Licensed water requirements are 7,200 m^3/day, which is sourced from the Luofan River and pumped to the process plant via a 3 km-long pipeline. The current average withdrawal rate is slightly over 5,000 m^3/day.

19.2.2 Diesel Fuel Supply

Diesel fuel is currently supplied to the Jinfeng site by road tanker, and is part of the open-pit mining contract. Eldorado purchases diesel from the open pit contractor as required for any underground mine equipment that are powered by diesel engines.

19.2.3 Explosives Supply

Eldorado has awarded the explosives supply contract to two contractors. One is Chongqing Gezhouba Explosive Chemical Company Limited (EXPL), which has considerable experience with the Three Gorges Dam project. EXPL have built a production plant on site. EXPL supplies emulsion explosives for the open pit. The other supplier is Guizhou Jiulian Industrial Explosive Material Development Company (Jiulian), which supplies ANFO for underground use.

19.3 GOLD MARKET

19.3.1 Supply-Demand Balance

Global gold mine production in 2009 increased 10% from 2008 production to 2,586 tonnes. Gold demand for the same period was 3,971 tonnes. The increase in demand of around 10% was largely due to investment demand for bars and coins coupled with an increase in the jewellery requirements around the world.

19.3.2 Price

The price of gold is the largest single factor in determining profitability and cash flow from operations, therefore, the financial performance of the project has been, and is expected to continue to be, closely linked to the price of gold.

Historically, the price of gold has been subject to volatile price movements over short periods of time and is affected by numerous macroeconomic and industry factors that are beyond the Company's control. Major influences on the gold price include currency exchange rate fluctuations and the relative strength of the US dollar, the supply of, and demand for gold and macroeconomic factors such as the level of interest rates and inflation expectations. During 2010, the price of gold hit a new all-time high of approximately $1,405/oz. The low price for the year was $1,050/oz. The average price for the year based on the London PM Fix was $1,224/oz, a $252 increase over the 2009 average price of $972/oz. The major influences on the gold price during 2010 were continuing strong investment demand in physical gold bars as well as gold linked instruments, further producer de-hedging, the global financial crisis that continues to unfold, and declining supply from central banks.

The Jinfeng mine sells gold as doré to government sanctioned refineries within China. The price paid is agreed based on the world spot market on the day of collection. The refinery then refines the doré and Jinfeng is credited with gold and silver recovered from the doré.

SECTION • 20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

20.1 ENVIRONMENTAL RISKS

There are a number of potential issues associated with treating a sulphide-bearing ore feed in a tropical environment, as the Jinfeng mine does. These issues have been studied by site personnel in order to more fully understand the risks and mitigate any potential negative effects. The following outlines the major areas where extra work has been completed, the results obtained, and the relevant consultant studies.

20.1.1 Mine Waste Rock

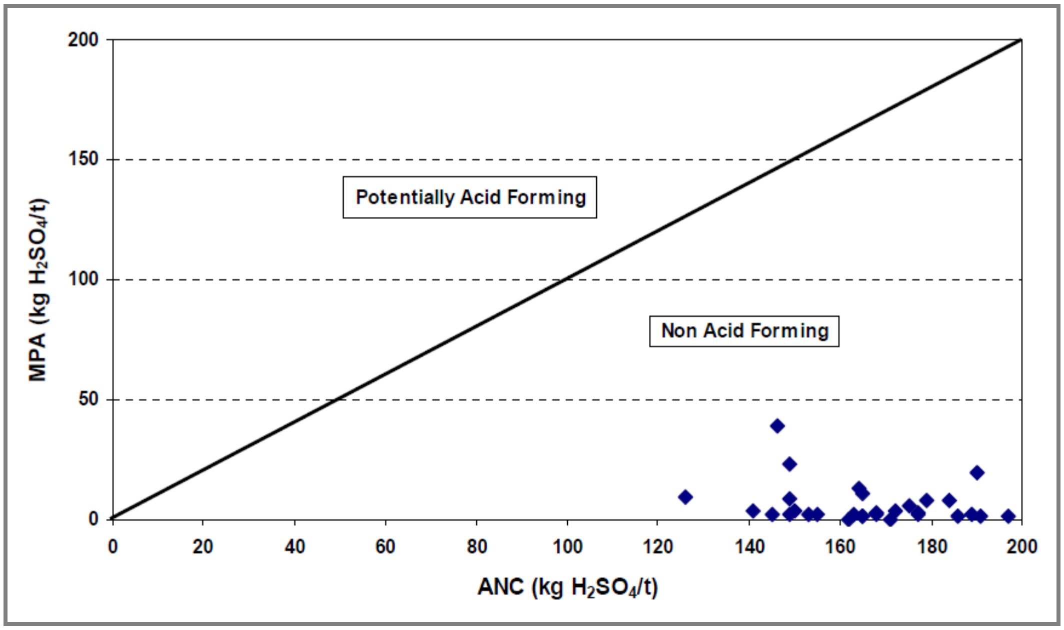
The mine's waste rock was tested in 2006 by URS (Australia). URS analysed samples from thirty drill core samples. Their findings indicate that material stored in the waste dumps is likely to be slightly alkaline and to produce a low salinity runoff and seepage following surface exposure. The waste rock materials generally has a low sulphur content, with only a small proportion (<2.5%) having a total sulphur content of greater than 1%. Most waste rock materials have a high acid neutralizing capacity (ANC), indicating a significant capacity to neutralize or buffer any acid generated from sulphide oxidation.

Figure 20-1 shows that the ANC is significantly greater than the maximum potential acid (MPA) for the 30 samples tested.

Following this study, Jinfeng conducted an internal study and acid base accounting (ABA) testing for the mine waste rock. These test results also indicated that the mine waste rock has a high net ANC.

Consequently, the mine waste rock is placed on the waste dump without any prior separation based on its sulphide content. Water runoff and seepage from the waste dump are collected in a sedimentation pond prior to being discharged into a creek. The water in the creek ultimately joins the water in Luofan River. The discharged water is monitored. Typically, the water pH is between 7 and 8. Arsenic levels have been monitored as well, typically in a range from 0.1 ppm to 0.3 ppm. These levels are below the limit required by the Government.

Figure 20-1: Plot of MPA vs. ANC for Waste Rock Samples – Jinfeng Mine



A concrete wall, similar to that used for the CIL embankment, will protect the waste rock toe area. Farming has been successfully implemented on top of the waste rock dump, including a variety of vegetables and fruits. The harvested vegetables and fruits are supplied to the cafeteria at the mine site. This area will be progressively rehabilitated and returned to the Government for use by the local villagers.

20.1.2 Flotation Tails Dam

The BIOX® process generates a dilute acidic solution with elevated metal concentrations, including iron, arsenic, and some base metals. The acidic water is recovered in a counter-current decant (CCD) washing circuit and then neutralized, first with flotation tailings, and then with lime to neutralize free acid as gypsum and precipitate the dissolved metals as metal hydroxides and oxy-hydroxides. These precipitates can adsorb and/or co-precipitate some of the dissolved species. The remainder of the flotation tailings is then combined with the neutralized BIOX® solution precipitate, and finally deposited together into the flotation tailings dam.

The precipitates generated by flotation tailings and lime neutralisation are produced under oxidizing conditions. One potential concern is that arsenic may remobilize and seep into the water table underneath the flotation tailings dam. Two boreholes, one located upstream and one downstream of the flotation tailings dam, are monitored regularly. These two boreholes allow a full understanding of any potential impact that the flotation tailings dam may have on groundwater. The water in these two boreholes is tested for a number of parameters, including arsenic, manganese, mercury, COD, ammonia, and pH. All levels recorded to date are stable and well below the regulatory limits.

Long-term column leach tests and acid base accounting analyses are currently being undertaken at site on the materials from the flotation tailings dam to determine the long-term stability of the solids.

20.1.3 CIL Tailings Dam

After the gold extraction process is complete, the CIL tailings slurry is forwarded to a cyanide destruction step, where the residual cyanide is destroyed using the INCO air/SO_2 method. Then, the CIL tailings are filtered in a plate/frame pressure filter for dewatering. The filter cakes are trucked to a dry-stacked CIL tailings dam. The CIL tailings dam is lined with a layer of HDPE, and a dozer is used to ensure maximum compaction. Eldorado has established that Biox®-treated tailings behave similarly to normal CIL tailings.

The filtrate is further treated to remove the dissolved arsenic using ferric chloride. The slurry is then sent to a thickener where underflow is combined with the detoxed CIL tailings, and the overflow is sent to a solution storage pond inside the dry-stacked CIL tailings dam. Prior to discharge, this water is treated again using the INCO $CuSO_4$ and air/SO_2 process.

The solution that is discharged into the Luofan River, along with any solution reporting to the CIL tailings dam, is tested for a number of elements. These tests are designed to comply with the Chinese National Environmental Standard (Integrated Waste Water Discharge Standard GB8978-1996). The elements monitored include:

- WAD cyanide (CN^-)
- chemical oxygen demand (COD)
- ammonia (NH_3)
- arsenic (As)
- mercury (Hg)
- sulphide (S^{2-})
- manganese (Mn)
- copper (Cu)
- pH
- conductivity
- zinc (Zn)
- chromium (Cr).

Over the last 12 months, the monitoring results have shown that major metal and sulphide levels are stable and within required operating parameters.

The chemical oxygen demand (COD) has been over specification since the plant started up. This is due to the thiocyanates (SCN) present in the solution. Thiocyanate is formed from the partially oxidized sulphides reacting with free cyanide in the CIL circuit. To reduce this COD level in the discharged water, a number of different processes were investigated and piloted at the plant site.

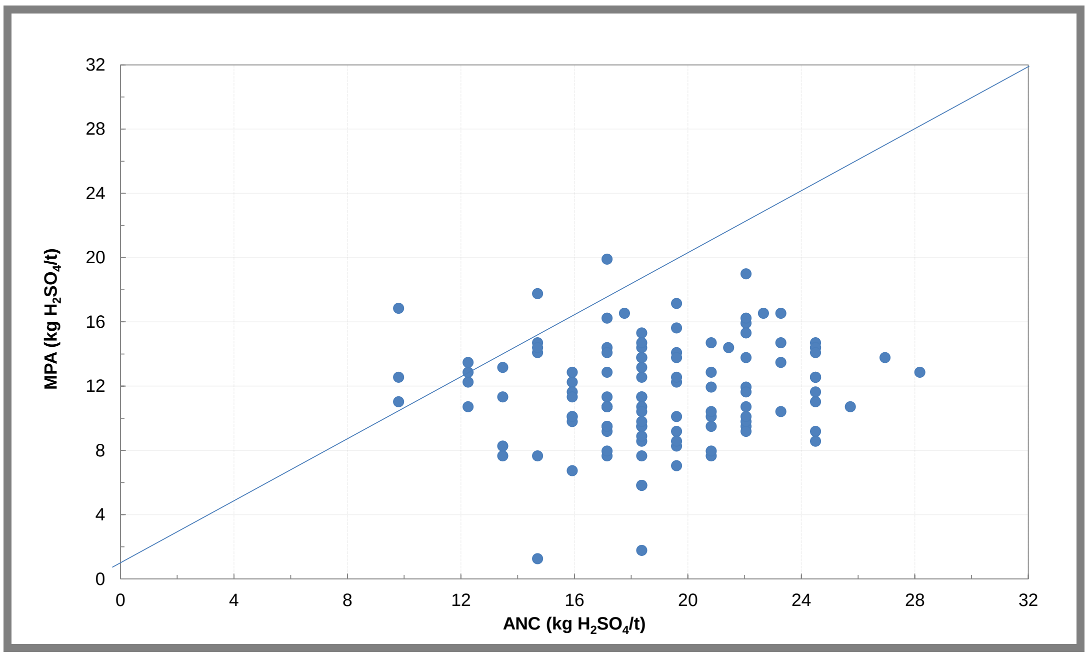
The final design is based on a biological process using a bacterial culture able to effectively break down the SCN. The COD level was above the regulatory limit of 100 ppm. It is anticipated that with the commissioning of the new biological plant this requirement can be complied with. Commissioning of this biological plant is planned for Q4 of 2011.

Another element that is above specification is the ammonia level in the waste water. The current level is approximately 60 ppm, while the government requirement is 15 ppm. According to the results of a completed pilot plant study, the biological plant for SCN treatment will assist to degrade the ammonia. Once the SCN plant is completely commissioned, it will be determined whether an extra step is required to further reduce the ammonia content. Some testwork has also been completed in this area and a bacterial option is preferred for this process.

The CIL tailings have been shown to be slightly acid neutralizing.

The CIL tailings do have some residual sulphide content, but based on testwork completed on site during 2011, it has been determined to be net acid neutralizing. The testwork completed on-site consisted of acid base accounting (ABA) analyses and multiple column tests on the CIL tailings. Figure 20-2 outlines the MPA generation against the ANC. The trendline shows the set of points at which one cancels out the other. Any points underneath the trendline have enough neutralizing capacity to neutralize any acid generated from residual sulphide in the tailings material.

Figure 20-2: MPC and ANC Data for Jinfeng CIL Tailings Column Tests



As can be seen from the chart above, most points in the dataset are underneath the trendline, indicating that the material acid neutralizing. Testwork is continuing as other ore becomes available for testing.

20.1.4 Soil Inventory and Management

A Chinese Closure Plan has been prepared to satisfy the Chinese regulations. This was prepared by a unit specifically qualified to complete this work. Also, a preliminary closure cost estimate was completed by URS (Australia) in April 2008. This report includes provisions for rehabilitation of the waste dumps and placement of a cover over the CIL solid tailings and the flotation dam.

Topsoil to cover the waste dump and tailings dam areas is critical to successful completion of the closure plan. Through communication with the Shaping township government, Jinfeng has obtained permission to remove the topsoil from an approximately 700 m^2 stretch of area near the Luofan River. This material can be purchased at nominal cost. There are plans along the river system for a hydroelectric dam at some stage. This will increase the water level and restrict access to topsoil at some point in the future. The Jinfeng operation is stockpiling topsoil while the opportunity is still present. There are no published dates for the development of the hydroelectric project.

As noted in a later section, the rehabilitation and closure strategy remains conceptual in nature only. With the availability of suitable soils from the Luofan River, the site management of topsoil is not as critical. That being said, there are significant dumps of material being used for the rehabilitation of waste dumps as required. It is planned that suitable land be handed back to the government on an ongoing basis as rehabilitation is completed.

20.2 REHABILITATION PRACTICES AND CLOSURE COSTS

20.2.1 Key Rehabilitation and Closure Issues

A preliminary study has been completed into the requirement for rehabilitation and closure. It should be noted that the open pit will be completed many years prior to the mine finally closing. Therefore, any costs associated with the open pit rehabilitation or waste dump rehabilitation will be completed out of operating costs rather than from the closure fund. Closure costs are therefore expected to include the following:

- Rehabilitation of the underground mine workings.
- Alignment of the ROM pad with the waste rock dump to provide a continuous section of flat land.
- CIL Tailings impoundment and the flotation tailings facility will be capped with rock and topsoil.It is assumed that rehabilitation of the CIL dam walls will be rehabilitated during operations. The tailings flotation facility will not be rehabilitated until it is sufficiently dry to

place machinery on. As the CIL tailings material is dry stacked the rehabilitation of this dam can commence immediately on closure or sooner if the dam layout allows.

- The processing plant will be decommissioned and sold off. Any remaining concrete will be placed in the open pit or in a suitable nearby quarry. Any infrastructure that can remain (offices, accommodation units, power lines and associated infrastructure) will remain in position post closure.
- Roads, tracks, power and pumping facilities will be required to complete the closure and will remain after completion.

Based on completed testwork, both of the tailings facilities are expected to be stable over the long term. Continuing monitoring during the rest of the operational life and throughout the closure period will guide the final rehabilitation requirements.

Based on completed testwork, it is anticipated that there will not be issues with the long-term storage of waste in the rock dump. As waste dump rehabilitation has already commenced, Jinfeng are gaining direct knowledge of what is required, and can make adjustments if needed moving forward.

20.2.2 Budgeted and Expected Costs

While closure planning remains at an early stage, an initial closure plan was prepared during 2007, which included commitments to return rehabilitated waste dump land to the local villages for distribution for agricultural or other uses as soon as practical. Eldorado can confirm that rehabilitation allowances are currently being provided for at the rate of US$200,000 per month, with an estimated life-of-mine (LOM) expenditure of about US$36 million based on a 15-year mine life.

Using the site-specific load haul costs, we estimate that to place a 1 m cover on all of the tailings and waste rock areas (based on the disturbed areas alone) could amount to about US$ 12 million. This does not include any allowances for pre-stripping and storage of topsoil for rehandling later. It also does not include engineering and/or water management structures for final closure. Assuming that about 30% of the topsoil will be inventoried for rehabilitation (i.e. rehandled), including an allowance for engineering and a 15% contingency, the estimated total LOM rehabilitation and closure costs may amount to between US$18 and US$20 million. Consequently, the allowance of US$36 million is considered to have sufficient contingency included at this stage. Another closure report is required shortly as the operation has been operating for a few years now and the understanding of the costs associated and the rehabilitation requirements have improved significantly over the intervening years.

20.3 SOCIAL ASSESSMENT

20.3.1 Social and Community Interaction

Jinfeng has developed good relationships with the local community, which is supportive of the Jinfeng mine and associated facilities. Eldorado has improved local roads and constructed electrical power infrastructure that will benefit the local community, which includes four villages (Bai Ni Tian, Shi Zhu, Tingshan, and Niluo) and one township (Shaping). Sino has constructed a meeting hall adjacent to the entrance to the Jinfeng site, which building is used by both Jinfeng personnel and the local community to meet and discuss community issues. Eldorado has established a Community Relations department, which will continue to be staffed by Eldorado employees throughout the life of the Jinfeng mine.

20.3.2 Relationship with Local Government

The local government structure consists of several layers, led by the village chief, town mayor, county mayor, prefecture governor, and provincial governor. Eldorado reports that it has established a good relationship with all levels of local government.

SECTION • 21 CAPITAL AND OPERATING COSTS

21.1 CAPITAL AND OPERATING COSTS ESTIMATES

21.1.1 Operating Costs

Jinfeng open pit operation is under a contractor mining arrangement. China Railway Number 19 Bureau Group Cooperation (CRGC No 19), together with a few other contractors, has been with Jinfeng since the start of the mine and has maintained a very good and cooperative relationship. Under the contracts, the mined materials unit costs have been relatively constant over the past few years, after adjusting for inflation. This constant unit cost is expected for the rest of the open pit mine life.

The unit operating cost for underground mining has slightly increased over the past couple of years, mainly due to changes in fuel costs, exchange rates, labour costs, and inflation. As underground production is to be significantly increased in the next few years, it is expected that the underground unit ore production costs will be maintained at the current level.

For the processing plant, the unit operating cost per tonne milled has been fairly constant since 2006. This unit mill processing cost is forecast to increase slightly in some future years of Jinfeng's mine life, when ore tonnes to mill will be insufficient to run at full capacity. After 2017 the planned milled throughput is expected to be in the range of 800,000 to 1.2 Mt/a, and some scaling down of operations are planned to control the process unit costs.

With consistent efforts to optimize mill production, overall mill recovery in Jinfeng has steadily improved over the years, from ~75% in early years to current rates of ~87%. However, overall milled ore grade is expected to decrease from 2012 to 2016. During that period, mill recovery is expected to be around 83–85%. Then, from 2017 on, the only source for mill feed will be from the underground operation, and mill recovery will again increase with the increase in ore grade.

Jinfeng has been maintained as a low cost mine since start-up, in terms of total unit ounce cost. However, due to the planned reduction of open pit ore production from next year on, it is expected that unit ounce costs will increase moderately. The largest effect of this increase will be experienced in 2012, as low grade stockpiles are utilized.

The current unit cost projections for the various operations at Jinfeng are summarized in Table 21-1.

Table 21-1: Operating Costs

Item	Unit	Cost
OP Mining Costs	$/t ore mined	3.50
UG Mining Costs	$/t ore mined	40.60
Processing Costs	$/t milled	25.10

Over its remaining operating life, Jinfeng will produce an average of 120,000 to 150,000 oz Au/a, at an average cash cost in the range of $550 to $600/oz.

21.1.2 Capital Costs

Jinfeng has generated sufficient cash flow to pay back the initial capital expenditures. Some of this cash flow has been further re-invested into capital projects like mill plant upgrading, underground mine capital developments, infrastructure construction, and land acquisitions. Presently, most of these capital projects are complete, except for some further underground incremental capital injections and some additional land acquisitions for future open pit mining, waste dump, and flotation tailings storage facility (TSF). From 2011 on, waste stripping campaigns in the open pit have also been allocated to capital expenses. In 2011, capital expenditures at Jinfeng are expected to total approximately US$37 million. Most of this will be due to mining costs including waste stripping from the open pit (US$3 million), underground development costs (US$6 million), and underground equipment (US$5 million). Land acquisition costs are also significant at US$5 million and construction costs of around US$5 million are also expected. Exploration in the immediate area surrounding Jinfeng will also account for US$5 million.

By the end of 2011, the underground mine will have reached the ore production capacity of ~500 kt per year. From 2012 on, further advancements in underground capital developments are planned, creating more ore mining faces. Underground production capacity is expected to be ramped up to 800 kt/a by 2015, as more stoping work faces are incrementally introduced.

The bulk of future capital costs in the open pit are for waste stripping campaigns in Stage 4 and Stage 5, and land acquisitions for Stage 5 pit's mining and waste dump expansions. Some additional expenditures also include rebuilding the Jinfeng camp site access and Lannigou village roads, and relocating of Jinfeng's old camp facilities.

Apart from the direct capital injection for future mine life, a constant injection of incremental and sustaining capital expenditures are also required to maintain the planned production rates. These capital expenditures include, but are not limited to: costs for underground infrastructure addition to deeper levels (substation, pump stations, etc); costs for new mining equipment to increase the size of the fleet as production ramps up; and costs for replacement of old equipment.

The process plant's capital expenditures in future are mainly for replacement of old equipment, land acquisitions for expanding the TSF surface area, and tailings dam construction.

SECTION • 22 ECONOMIC ANALYSIS

Not applicable to this report.

SECTION • 23 ADJACENT PROPERTIES

Not applicable to this report.

SECTION • 24 OTHER RELEVANT DATA AND INFORMATION

24.1 RECONCILIATION

Jinfeng started production in 2007 processing ore from the open pit; underground mining only reached full production in late 2009. Therefore, 2010 marked the first full year that both mining areas contributed ore to the plant. The 2010 production also provided a good test to the revised geological model created by Eldorado for the year-end resource estimate. Table 24-1 shows the 2010 reconciliation numbers.

The modelling work conducted during 2010 demonstrates that using the revised mineralization model creates a good predictor to mill feed, with ore tonnage being slightly under-predicted and grade over-predicted. These differences are likely due to unplanned dilution of lower grade material being sent to the plant.

Table 24-1: 2010 Jinfeng Ore Reconciliation

Area	Resource Model Ore (t '000)	Resource Model Ore Grade (Au g/t)	Resource Model Ore (Au oz)	Grade Control Ore (t '000)	Grade Control Ore Grade (Au g/t)	Grade Control Ore (Au oz)	Ore to Mill or Stockpile (t '000)	Ore to Mill or Stockpile Grade (Au g/t)	Ore to Mill or Stockpile (Au oz)
Open Pit	1,465	4.02	189,000	1,397	3.85	173,000	1,175	4.09	155,000
Underground	325	5.13	53,000	348	4.97	56,000	382	4.70	58,000
Stockpile Addition							280	2.50	23,000
Total	**1,790**	**4.22**	**242,000**	**1,745**	**4.08**	**229,000**	**1,837**	**3.97**	**236,000**
% of Resource Block Model				**97%**	**97%**	**95%**	**103%**	**94%**	**97%**

SECTION • 25 INTERPRETATION AND CONCLUSIONS

The Jinfeng Gold Mine has been in operation for nearly four years. The mine has been successful in its implementation of construction and operations plans, described in an earlier NI 43-101 technical report titled *Jinfeng Gold Mine, Guizhuo Province, China,* with an effective date of October 10, 2007. Production tonnages and gold produced have exceeded previous forecasts. This is largely due to increasing the mill capacity to 25% above the original design capacity. There is no reason to believe that the mine will not continue to perform as well in the future as it has during the first years of operations.

The geology of the Jinfeng deposit is still being understood. Recent work by Eldorado has better defined the structural geological history and its relationship to the gold mineralization. The work is contributing to better grade control during mining and the generation of new exploration targets in and around the deposit. Jinfeng is considered to be a sediment-hosted gold deposit type, similar to those in the Carlin district.

Eldorado employs a comprehensive QA/QC program for its gold analyses on drill core and reverse circulation drill samples. Monitoring of the quality control samples showed all data were in control throughout the preparation and analytical processes. In Eldorado's opinion, the QA/QC results demonstrate that the Jinfeng deposit assay database, particularly for new data obtained from the start of 2010, is sufficiently accurate and precise for resource estimation.

The Jinfeng resource model and mineral reserve estimates were developed using industry-accepted methods. Both have been substantiated by mill-to-model reconciliation in 2010.

The metallurgy of Jinfeng is well understood. Recovery numbers gained from the first four years of operation have slightly exceeded the results obtained during the Feasibility Study. To date, the Project has shown excellent agreement between predicted gold recoveries and actual gold recovered. Operating costs and reagent requirements approximately agree with those predicted, and robust models have been developed and are being used for both production forecasting and cost control.

Jinfeng has demonstrated through testwork and continuing operations that the mine can be operated to the highest environmental standards despite the ore's sulphide content. This is due to the neutralizing capacity of the treated ore and the waste rock. Ongoing rehabilitation demonstrates the commitment to minimal land disruption and to the local villagers.

Jinfeng has the ability to sell gold to local refiners at international spot prices. With gold prices rising over recent times, the project continues to demonstrate solid margins for continued operation.

SECTION • 26 RECOMMENDATIONS

Not applicable to this report.

SECTION • 27 REFERENCES

Chen, M.H., Mao, J.W., Qu, W.J., Wu, L.L., Uttley, P.J., Norman, T., Zheng, J.M., Qin, Y.Z., 2007. Re-Os dating of pyrites in Jinfeng (Lannigou) gold deposit, Guizhou province, China and its geological significance. Geological Review 53(3), 371-38 (in Chinese with English abstract)

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Luo, X.H., 1993. The features of F3 ore controlling fault and the mechanisms of tectonic mineralization in Lannigou gold deposit, Zhenfeng Country, Guizhou 10, 26-34 (in Chinese with English abstract).

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SECTION • 28 CERTIFICATE OF AUTHORS

CERTIFICATE OF QUALIFIED PERSON

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I, Stephen J. Juras, am a Professional Geoscientist, employed as Director, Technical Services, of Eldorado Gold Corporation and reside at 9030 161 Street in the City of Surrey in the Province of British Columbia.

This certificate applies to the technical report entitled *Technical Report for the Jinfeng Gold Mine, China,* with an effective date of March 15, 2011.

I am a member of the Association of Professional Engineers and Geoscientists of British Columbia. I graduated from the University of Manitoba with a Bachelor of Science (Honours) degree in geology in 1978 and subsequently obtained a Master of Science degree in geology from the University of New Brunswick in 1981 and a Doctor of Philosophy degree in geology from the University of British Columbia in 1987.

I have practiced my profession continuously since 1987 and have been involved in: mineral exploration and mine geology on gold, copper, zinc and silver properties in Canada, United States, Brazil, China and Turkey; and ore control and resource modelling work on gold, copper, zinc, silver, platinum/palladium and industrial mineral properties in Canada, United States, Mongolia, China, Brazil, Turkey, Peru and Australia.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101.

I have visited the Jinfeng Gold Mine on numerous occasions with my most recent visit occurring from January 21 to 27, 2011.

I was responsible for reviewing matters related to the geological data and directing the mineral resource estimation and classification work for the Jinfeng Gold Mine in China. I am responsible for the preparation or supervising the preparation of all items in the technical report except items 4, 5, 13 and 15 to 22.

I have not had prior involvement with the property that is the subject of this technical report.

I am not independent of Eldorado Gold Corporation in accordance with the application of Section 1.5 of National Instrument 43-101.

I have read National Instrument 43-101 and Form 43-101FI and the items for which I am responsible in this report entitled, *Technical Report for the Jinfeng Gold Mine, China,* with an effective date of March 15, 2011, has been prepared in compliance with same.

As of the effective date of the technical report, to the best of my knowledge, information and belief, the items of the technical report that I was responsible for contain all scientific and technical information that is required to be disclosed to make the technical report not misleading

Dated at Vancouver, British Columbia, this 13th day of January, 2012.

Signed "Stephan J. Juras"

Stephen J. Juras, Ph.D., P.Geo.

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I, Paul J. Skayman, am a Professional Extractive Metallurgist, employed as Senior Vice-President – Operations for Eldorado Gold Corporation, employed at 1188 Bentall 5, 550 Burrard Street in the city of Vancouver in the Province of British Columbia.

This certificate applies to the technical report entitled *Technical Report for the Jinfeng Gold Mine, China,* with an effective date of March 15,2011.

I am a Fellow of the Australian Institute of Mining and Metallurgy. I graduated from Murdoch University with a Bachelor of Science (Extractive Metallurgy) degree in 1987.

I have practiced my profession continuously since 1987 and have been involved in the operation and management of gold extraction operations in Australia, Ghana, Tanzania, Guinea and China. This work has also included Feasibility Studies, Project Acquisitions and the Development and Construction of said projects.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101.

I have visited the Jinfeng Gold Mine on numerous occasions with my most recent visit occurring from 3rd to the 6th February 2010.

I was responsible for reviewing matters related to the metallurgical and operational data for the Jinfeng Gold Mine in China. I am responsible for the preparation or supervising the preparation of items 4, 5, 13, and 17 to 22 in the technical report. .

I have not had prior involvement with the property that is the subject of this technical report.

I am not independent of Eldorado Gold Corporation in accordance with the application of Section 1.5 of National Instrument 43-101.

I have read National Instrument 43-101 and Form 43-101FI and the items for which I am responsible in this report entitled, *Technical Report for the Jinfeng Gold Mine, China,* with an effective date of March 15, 2011 has been prepared in compliance with same.

As of the effective date of the technical report, to the best of my knowledge, information and belief, the sections of the technical report that I was responsible for contain all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated at Vancouver, British Columbia, this 13th day of January, 2012.

Signed "Paul J. Skayman"

Paul J Skayman, FAusIMM

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I, Norman S. Pitcher, am a Professional Geoscientist, employed as Chief Operating Officer, of Eldorado Gold Corporation and reside at 2746 Wembley Drive in the City of North Vancouver in the Province of British Columbia.

This certificate applies to the technical report entitled *Technical Report for the Jinfeng Gold Mine, China,* with an effective date of March 15, 2011.

I am a member of the Association of Professional Engineers and Geoscientists of British Columbia. I graduated from the University of Arizona with a Bachelor of Science degree in geology in 1980.

I have practiced my profession continuously since 1980 and have been involved in: mineral exploration, mine geology, mine planning, and resource and reserve calculations on gold, silver, copper, lead and zinc properties in Canada, United States, Brazil, China, Turkey, Peru, Argentina, and Mexico.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101.

I have visited the Jinfeng Gold Mine on numerous occasions with my most recent visit occurring in July 23 - 30, 2010.

I was responsible for reviewing matters related to the underground portion of the ore reserves and underground mining for the Jinfeng Gold Mine in China. I am responsible for the preparation or supervising the preparation of items 15 and 16 in the technical report.

I have not had prior involvement with the property that is the subject of this technical report.

I am not independent of Eldorado Gold Corporation in accordance with the application of Section 1.5 of National Instrument 43-101.

I have read National Instrument 43-101 and Form 43-101FI and the items for which I am responsible in this report entitled, *Technical Report for the Jinfeng Gold Mine, China,* with an effective date of March 15, 2011, has been prepared in compliance with same.

As of the effective date of the technical report, to the best of my knowledge, information and belief, the items of the technical report that I was responsible for contain all scientific and technical information that is required to be disclosed to make the technical report not misleading

Dated at Vancouver, British Columbia, this 13th day of January, 2012.

Signed "Norman S. Pitcher"

____

Norman S. Pitcher, P.Geo.

CERTIFICATE OF QUALIFIED PERSON

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I, Richard Miller, am a Professional Engineer, employed as Manager, Mine Engineering, of Eldorado Gold Corporation and residing at 832 Victoria Drive in the City of Port Coquitlam in the Province of British Columbia.

This certificate applies to the technical report entitled *Technical Report for the Jinfeng Gold Mine, China,* with an effective date of March 15, 2011.

I am a member of the Association of Professional Engineers and Geoscientists of British Columbia. I graduated from the University of British Columbia with a Bachelor of Applied Science degree through the department of Mining and Mineral Process Engineering in 1987.

I have practiced my profession continuously since 1987 and have worked at copper, diamond and gold mines in Canada, South Africa, Namibia, Guinea and Turkey in the capacities of Mining Engineer, Project Manager and Mine Manager covering planning, surveying, production, contract management, department head and global manager covering operations in Turkey, Brazil and China. I have also consulted to mining related companies in Canada, Dominican Republic, Burkina Faso, Serbia and Russia.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43-101.

I have visited the Jinfeng Gold Mine on numerous occasions with my most recent visit occurring from October 14 to 20, 2010.

I was responsible for reviewing matters related to the open pit part of the mining operations and directing the open pit mineral reserve estimation work for the Jinfeng Gold Mine in China. I am responsible for the preparation or supervising the preparation of the open pit parts of items 15 and 16 in this technical report.

I have not had prior involvement with the property that is the subject of this technical report.

I am not independent of Eldorado Gold Corporation in accordance with the application of Section 1.5 of National Instrument 43-101.

I have read National Instrument 43-101 and Form 43-101FI and the items for which I am responsible in this report entitled, *Technical Report for the Jinfeng Gold Mine, China,* with an effective date of March 15, 2011, has been prepared in compliance with same.

As of the effective date of the technical report, to the best of my knowledge, information and belief, the sections of the technical report that I was responsible for contain all scientific and technical information that is required to be disclosed to make the technical report not misleading

Dated at Vancouver, British Columbia, this 13th day of January, 2012.

Signed "Richard Miller"

Richard Miller, P.Eng

SECTION • 29 SIGNATURE PAGE

The effective date of this report titled “Technical Report for the Jinfeng Gold Mine, China” is March 15, 2011. It has been prepared for Eldorado Gold Corporation by Stephen Juras, P.Geo., Richard Miller, P.Eng., Paul Skayman, FAusIMM.,and Norm Pitcher, P.Geo.; each of whom are qualified persons as defined by NI 43-101.

Signed this 13th day of January 2012.

SIGNED

“Stephen Juras”

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