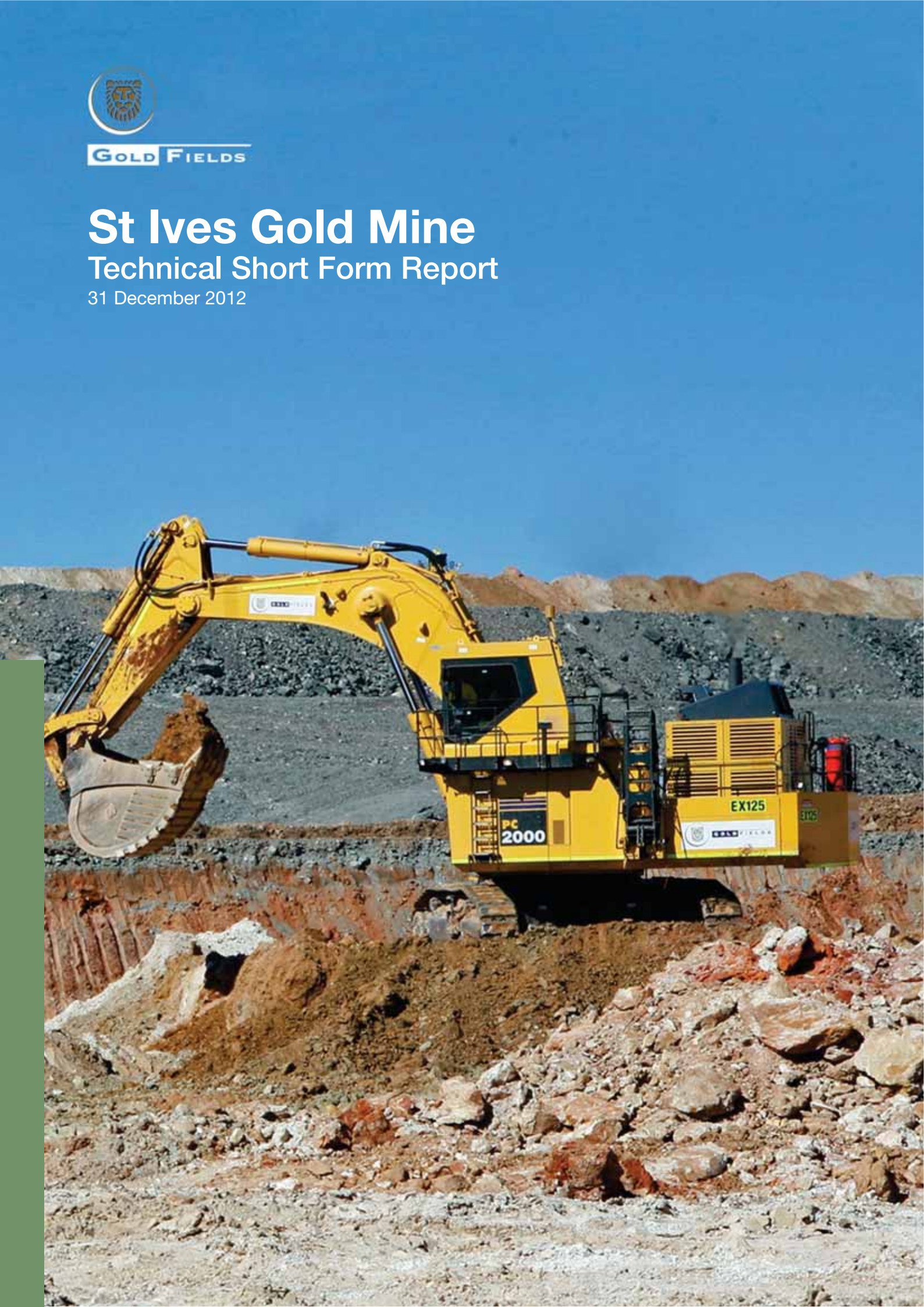
GOLD FIELDS

St Ives Gold Mine

Technical Short Form Report

31 December 2012



1. Overview

The St Ives Gold Mining Company (Proprietary) Limited (St Ives) is wholly owned by Gold Fields Limited and is situated some 80 kilometres south of Kalgoorlie. The St Ives operations are conducted within mining tenements comprising 277 mining titles (54,749 hectares), three mineral titles (364 hectares), 13 exploration licences (27,192 hectares), 22 prospecting licences (2,700 hectares) and 19 miscellaneous licences (14,500 hectares) for a total area of approximately 99,594 hectares. St Ives has security of tenure for all current mining titles and exploration licences that contribute to the Mineral Reserves.

St Ives represents a solid base for growth in Australia and is an important contributor to the Gold Fields' vision of being "the global leader in sustainable gold mining" with a target contribution from the Australasia Region of approximately 0.7 Moz per annum by 2015. St Ives currently operates four underground mines accessed via declines and several open pits, a centralised administrative office, an engineering workshop and CIP processing plant.

Declared Mineral Resources at St Ives decreased by 490 koz primarily due to depletion and closure of the Leviathan, Formidable, Dianna, Minotaur and Britannia Footwall pits during 2012. The Mineral Reserves, inclusive of a depletion of 490 koz since December 2011, declined to 2.2 Moz (2.8 Moz at December 2011). Changes to Mineral Reserves from December 2011 were dominated by limited discoveries at Neptune and Cave Rocks, with nominal additions at Hamlet and Athena.

Continued exploration success and increased drilling of the mine's extensive greenfields project pipeline has led to further discoveries at the Incredible deposit, which now extends over 600 metres on-strike and is still open to the north. Further work is planned in 2013 to grow the deposit's continuity and resource confidence. The St Ives Life of Mine (LoM) has been maintained at six years to 2018.

This Technical Short Form Report reflects the latest LoM plan, coupled with an updated Mineral Resource and Mineral Reserve statement as at 31 December 2012.

All Mineral Resource and Mineral Reserve figures reported are managed unless otherwise stated and Mineral Resources are inclusive of Mineral Reserves.

Geographic location

St Ives locality plan with tenements magnified

Salient features

- Mineral Resources at 4.7 Moz.
- Mineral Reserves at 2.2 Moz.
- High-cost heap leach operation closed.
- Highly prospective tenement delivered new exploration camp and Mineral Resources at Invincible.
- Neptune Mineral Resources and Mineral Reserves continue to grow; detailed technical planning initiated.
- Hamlet well on track to achieve full production in 2013.
- Life of Mine extends to 2018 (6 years).

Contents

The St Ives tenement holdings are located in the highly prospective Norseman-Wiluna Greenstone Belt, which is part of the Yilgarn Craton, a 2.6 Ga well mineralised granite-greenstone terrain in Western Australia where St Ives operates a dynamic mix of open pit and underground mines.

Cover image:
Open pit mining operations at St Ives Gold Mine

Note: For abbreviations refer to page 27 and for glossary of terms refer to page 28 – "Mineral Resources and Mineral Reserves Overview 2012".

← *Construction of causeways and RC drilling on Lake Lefroy*

2. Asset fundamentals

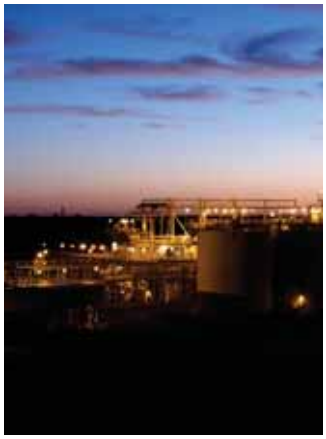
Prepared by	Gold Fields Limited in compliance with the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (2007 SAMREC Code)
Effective date	31 December 2012
Source of information	This Technical Statement is a summary of the December 2012 St Ives Competent Persons Report (CPR)
Personal inspection	Personal inspection is conducted by the Competent Persons as listed, who are full-time employees of Gold Fields Limited
Independent review	Information reported in this declaration is as reviewed by internal consultants as at 31 December 2012. St Ives has been informed that the review identified no material shortcomings in any process by which the Mineral Resources and Mineral Reserves were evaluated
General location	The St Ives operations extend from 5 to 25 kilometres south-southwest of the town of Kambalda in Western Australia, approximately 630 kilometres east of Perth at latitude 31° 12' S and longitude 121° 40' E. The nearest major settlement is the town of Kalgoorlie situated 80 kilometres to the north. Well-established power, access roads and supporting infrastructure exist in the area
Climate	St Ives is situated in an area of arid bush land. While occasional storm activity may cause minor delays to open pit mining operations, the climatic conditions do not materially impact on the normal operations of the site
Licence status and holdings	St Ives controls exploration and mineral rights over a total area of 99,594 hectares (total of granted tenements) and has security of tenure for all current exploration and mining leases that contribute to future Mineral Reserves
Operational infrastructure	St Ives currently operates four underground mines which are accessed via declines, several open pits, a centralised administrative office, an engineering workshop and a CIP processing plant
Deposit type	Archaean orogenic greenstone gold hosted in a number of different styles of mineralisation
Life of Mine (LoM)	It is estimated that the current Mineral Reserve will be depleted in 2018 (6 years)
Environmental/Health and Safety	The mine maintained AS 4801:2000 occupational health and safety management system certification and ISO 14001:2004 environmental management system certification. St Ives was certified as fully compliant with the International Cyanide Management Code on 3 June 2009
Reporting codes	Gold Fields reports its Mineral Resources and Mineral Reserves in accordance with the 2007 SAMREC Code, the South African Codes for the Reporting of Mineral Asset Valuation (2009 SAMVAL Code) and other relevant international codes such as the United States Securities and Exchange Commission (SEC) Industry Guide 7, the Joint Ore Reserves Committee (JORC 2012) Code and the National Instrument (NI) 43-101. The Mineral Resources and Mineral Reserves are underpinned by an appropriate Mineral Resource management process and protocol to ensure adequate corporate governance in respect of the Sarbanes-Oxley Act

Resource definition drilling on Lake Lefroy

Open pit mining operations

Underground mining operations (development drill rig)

Lefroy Mill/CIL Plant at dusk



3. Operating statistics

Historic performance		Units	Dec 2012	Dec 2011	Dec 2010[1]	June 2010	June 2009
Open pit mining							
Total mined		kt	**16,518**	18,728	8,653	32,718	30,602
– Waste mined		kt	**12,356**	14,421	6,566	26,059	24,803
– Ore mined		kt	**4,162**	4,307	2,087	6,660	5,799
Mined grade		g/t	**1.5**	1.8	1.9	1.4	1.5
Strip ratio (volume)		waste:ore	**3.0**	3.4	3.3	4.2	4.3
Underground mining							
Total mined		kt	**2,528**	2,524	1,242	2,049	1,789
– Waste mined		kt	**903**	756	339	605	567
– Ore mined		kt	**1,626**	1,768	904	1,444	1,222
Mined grade		g/t	**5.1**	4.7	4.9	4.7	5.1
Processing							
Total tonnes		kt	**7,038**	6,745	3,284	6,819	7,262
– Mill tonnes		kt	**4,751**	4,793	2,419	4,766	4,821
– Heap leach tonnes		kt	**2,287**	1,952	866	2,052	2,441
Combined head grade		g/t	**2.2**	2.4	2.6	2.2	2.1
– Mill head grade		g/t	**2.9**	3.0	3.2	2.7	2.8
– Heap leach head grade		g/t	**0.7**	0.9	0.8	0.9	0.8
Combined yield		g/t	**2.0**	2.1	2.3	1.9	1.8
– Mill yield		g/t	**2.8**	2.8	3.0	2.5	2.5
– Heap leach yield		g/t	**0.4**	0.5	0.5	0.5	0.5
Plant recovery factor	– Mill	%	**94**	94	94	93	91
	– Heap leach	%	**51**	55	58	56	56
Gold produced							
Total gold production		koz	**450**	465	243	421	428
		kg	**13,991**	14,449	7,557	13,097	13,322
– Mill		koz	**423**	433	230	389	394
– Heap leach		koz	**27**	31	13	32	37
Gold sold		koz	**450**	465	243	421	428
Financials							
Operating cost		A$/oz	**884**	867	781	832	806
Total cash cost		A$/oz	**899**	873	757	806	805
		US$/oz	**931**	901	710	710	596
Capital expenditure		A$ million	**301**	177	59	117	93
Notional cash expenditure (NCE)		A$/oz	**1,553**	1,248	1,025	1,110	1,023
		US$/oz	**1,608**	1,287	962	978	757
General							
Total Employees Costed (TEC)		number	**808**	796	778	766	699
Mineral Reserves		Mt	**25.8**	37.9	32.7	30.6	30.1
Mineral Reserves head grade		g/t	**2.6**	2.3	2.7	2.3	2.4
Mineral Reserves		Moz	**2.2**	2.8	2.8	2.3	2.3
Expected Life of Mine		years	**6**	7	6	4	4

[1]Figures shown represent the six months to 31 December 2010.
Rounding off of figures presented in this report may result in minor computational discrepancies. Where this occurs it is not deemed significant.

4. Geological setting and mineralisation

The Norseman-Wiluna Greenstone Belt, which forms part of the Paleo-Neoarchean Yilgarn Craton in Western Australia, is a highly mineralised granite-greenstone terrain with world-class deposits of gold and nickel.

The Kambalda-St Ives region is part of the Norseman-Wiluna Greenstone Belt, which comprises regionally extensive volcano-sedimentary packages. These were extruded and deposited in an extensional environment and is part of the Yilgarn Craton, a 2.6 Ga well mineralised granite-greenstone terrain in Western Australia. The rock types in the belt comprise abundant tholeiitic and komatiitic volcanic rocks, chert, sulphidic and albitic sedimentary rocks, and a chain of discrete felsic volcanic centres.

The gross structure is markedly linear with strike-slip faults trending north-north west, and other tectonic lineaments traceable for hundreds of kilometres, which disrupt the greenstone into fault-bounded domains. The generalised stratigraphic sequence comprises three mafic-ultramafic units, two felsic volcanic units and an uppermost epiclastic sequence.

There has been a complex and long-lasting history of structural deformation incorporating up to seven significant stages (D0-D7) during and after regional metamorphism. The gold mineralising episodes are interpreted to have occurred during thrusting and faulting associated with the D2-D3 structural events.

Metamorphism has affected all rock types and ranges from low temperature prehnite-pumpellyite facies to high temperature-pressure amphibolites and granulite facies. Flexures and irregularities in many local and regional shear zones are interpreted to be the major local controls on the majority of economic gold deposits in the belt.

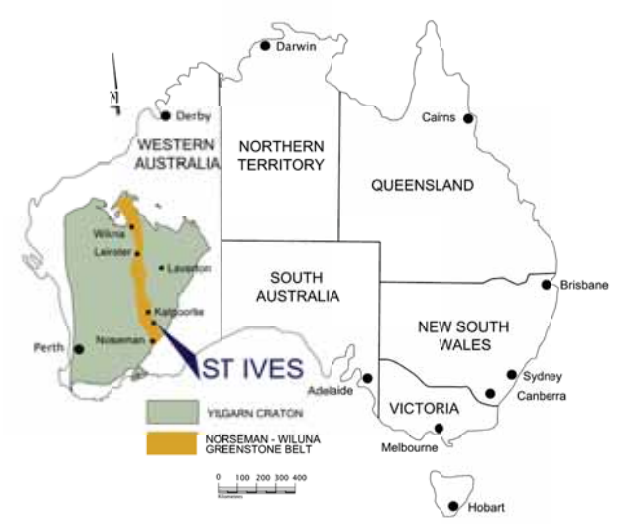
Much of the Yilgarn Craton is deeply weathered and partially covered by Tertiary and Quaternary regolith. Pre-Tertiary lateritic horizons are variably exposed, eroded or buried by later deposits that have in turn been lateritised.

Local geology

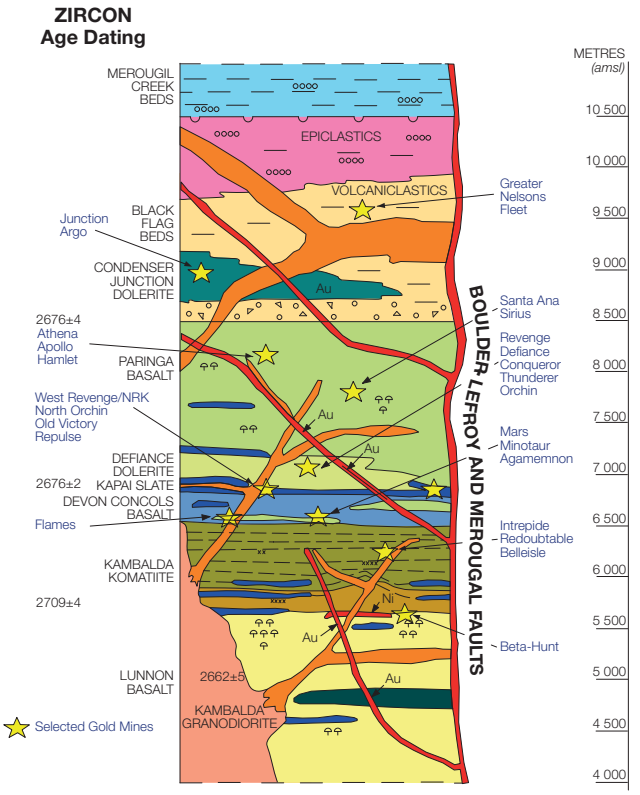
St Ives lies within the Kambalda domain, a subset of the Norseman-Wiluna Belt. The Kambalda domain is bound by the north-north west trending Boulder-Lefroy fault (BLF) and Zuleika shear. The region has undergone four compressional events predated by early extension and has been metamorphosed to upper greenschist or lower amphibolite facies.

The main structural feature of the St Ives area is the gently south-plunging Kambalda anticline, which extends 35 kilometres from the south end of the Kambalda dome to the Junction Mine. The majority of known gold deposits are proximal to the trace of the anticlinal axis. A major second order structure known as the Playa shear splays off the BLF shear zone and can be traced through the St Ives field for a distance in excess of 10 kilometres.

Location and geological setting



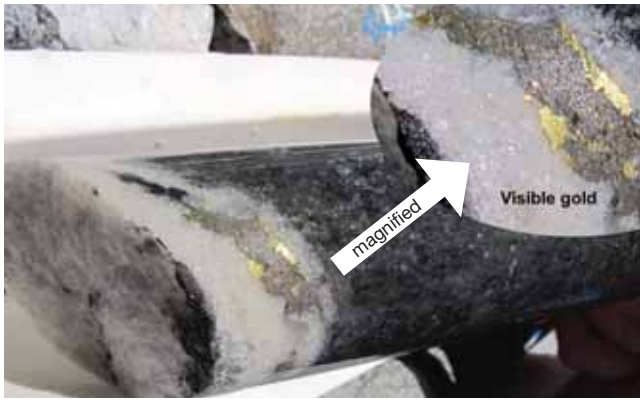
Schematic of gold mineralisation occurrences



Most of the ore bodies mined to date at St Ives are associated with third order splays off the Playa shear – notable exceptions being Argo and Santa Ana which are situated on the western limb of the anticline. Mineralisation typically occurs where these structures intersect favourable rock units, with chemical or rheological contrasts combining with structural flexures to form the most important local controls on mineralisation. The stratigraphic succession in the Kambalda domain comprises Kalgoorlie group volcanic rocks and the Black Flag group felsic volcanic and sedimentary rocks overlain by the post-tectonic Merougil beds unit.

The most common host rocks of gold mineralisation are dolerites such as the Defiance, Condenser and Junction dolerites. Granophyric dolerite and Kapai slate tend to host the highest-grade mineralisation. The Paringa basalt and Kambalda komatiite host deposits in discrete shear structures that are moderate in both tonnage and grade. Low- to moderate grade, high-tonnage mineralisation is commonly developed in porphyries, which are found in almost all deposits.

Visible gold in core sample from Invincible



Hydrothermal alteration and associated gold mineralisation was synchronous with deformation on a network of shear zones. Alteration is concentrated in 10 centimetre to 300 metre-wide halos around shear zones. Gold is commonly associated with pyrite or granular pyrrhotite.

There are several styles of gold mineralisation at St Ives. The individual deposits may contain more than one of these styles:

- lode mineralisation: Archaean lode mineralisation typically consisting of 0.5 to 20 metre-wide mesothermal vein complexes that may also have hydraulic breccias and/or mylonites, indicating movement on a shear;
- supergene mineralisation: broad zones of flat-lying gold mineralisation in weathered Archaean and overlying Tertiary sediments; and
- palaeoplacer mineralisation: placer deposits hosted by palaeochannels in the unconsolidated Tertiary sediments which overly the Archaean basement.

Exploration and resource definition drilling

St Ives continuously explores the +95 km^2 tenement holding to discover new resources. Exploration is split between two teams, the first of which is tasked with discovering new deposits while the second focuses on developing known deposits. These teams are supported by in-house geophysics and sponsored Research and Development (R&D) programmes, along with an established resources team responsible for quality assurance/quality control (QA/QC), data management and resource modelling. Key facets of the exploration activities include:

- Greenfields early stage exploration – St Ives follows a comprehensive, staged exploration approach, using a series of milestones to critically evaluate and advance the best targets for further evaluation. During 2012 in excess of 80 targets were tested and 255,000 exploration metres drilled and led to the discovery of a new camp at the Invincible Project.
- Brownfields advanced exploration – once the early-stage exploration team has defined Inferred Mineral Resources, the advanced exploration team further explores the ore bodies to define Indicated Mineral Resources for conversion to Mineral Reserves. In 2012, 255,000 metres of underground and surface drilling was completed to define in excess of 588 koz of Mineral Resources.

Exploration drilling on Lake Lefroy

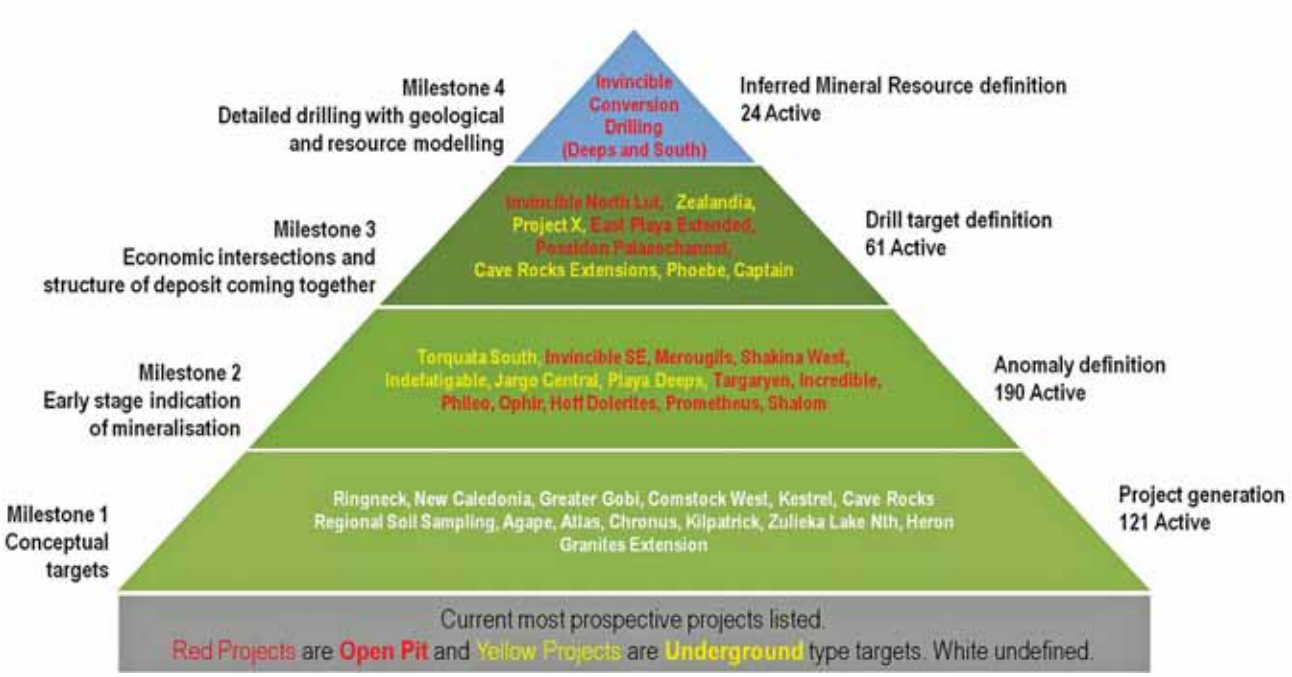
- R&D – sponsored industry research projects in collaboration with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Australian Research Council (ARC) are conducted. These projects are focused on ore-forming systems and understanding the regional stratigraphy. Students, who are completing specific projects for theses purposes, are also hosted on-site.
- Geophysics – St Ives utilises in-house expertise and industry best practice field data collection techniques to assist in the interpretation of the bedrock geology. Regular gravity and high-resolution ground magnetic surveys allow for precision targeting of structures and stratigraphy.

Exploration drilling and expenditure

Operation	31 December 2012 Metres drilled	31 December 2012 A$ (million)	31 December 2011 Metres drilled	31 December 2011 A$ (million)
St Ives Gold Mine	**255,030**	**19.834**	244,740	23.965

Exclusive of grade control drilling except where it is included in the capital budget.

On-mine exploration: Milestone pyramid



St Ives maintains rigorous QA/QC protocols on all its exploration programmes. It draws on industry best practice for data acquisition and utilises accredited laboratories which are regularly reviewed both internally and externally. Analytical QA/QC is maintained and monitored through the submission of blanks, certified reference material and duplicates plus umpire laboratory checks. This ensures sign-off by Competent Persons under the 2007 SAMREC and 2012 JORC Codes.

5. Mining

Conversion to open pit owner mining was completed in 2012.

Gold mineralisation at St Ives is mined using open pit and underground methods to depths generally not exceeding 500 metres below surface. As many of the operations involve mining deposits on or under Lake Lefroy (a shallow salt lake), extraction requires the construction of berms and other earthworks to facilitate access, provide short-term stockpile areas and prevent water intrusion.

Mining methods

Conventional drill and blast/truck and shovel mining techniques are employed at all open pits. Grade control is generally determined by inclined Reverse Circulation (RC) drilling. Certain open pit projects that include 10 to 40 metres of unconsolidated sedimentary overburden do not require drilling and blasting. In such projects, hard rock is imported for sheeting to facilitate the access of equipment during mining, and/or dewatering of the sedimentary overburden prior to mining.

Load-and-haul is carried out by 140 tonne dump trucks and 150 to 250 tonne excavators in backhoe and/or face shovel configuration. Mining benches vary from five to 10 metres, and are excavated in five passes (flitches) of about 2.5 metres per flitch. Gold mineralisation is mined selectively to cut-offs, and segregated into grade ranges to balance the ore production and processing capacities on-site and maximise cash flow from operations.

New owner mining dump truck

Underground mines at St Ives are commonly extensions of open pit mines. Underground operations are characterised by common features which allow a high level of standardisation in operating strategy, mine design, stoping methods, mining equipment and utilisation. Mines are accessed via declines, with additional raises for return airways and ladder-ways used as a second means of egress. Drives are developed to access the ore and future stoping production areas.

Underground mining at St Ives is predominantly mechanised and conducted by long-hole open stoping (LHOS), with subordinate cut-and-fill and room-and-pillar stoping for the shallower dipping ore bodies. Paste fill and LHOS is used where mandated by geotechnical factors. Electric-hydraulic drilling jumbos and rubber-tyred diesel-powered LHDs are used for development and stoping, while trucks are used for load-and-haul operations. Ore from both open pit and underground operations is transported with road trains from individual mining operations to the central St Ives processing facilities.

Mine planning and scheduling

The Mineral Reserve definition processes are similar for open pit and underground operations. Cut-off grades are used to define potentially economic mining panels, taking into consideration direct mining and processing costs, Group set commodity prices and other parameters. The economic viability of future mining panels is tested by determining whether the optimal margin, after applying the appropriate cut-off grade, is sufficient to cover the required capital development costs and provide a return on investment.

Open pit optimisation software in conjunction with economic parameters and physical constraints is used to generate a series of nested pits for open pit mining. An optimal shell is then selected and a detailed design used to confirm the mineability.

Underground mining methods are largely determined by the geometry of the mineralised zones and evaluation may involve review of more than one method. Sophisticated software is used for mine design and scheduling.

Mine planning is based on three-dimensional block models of in situ mineralisation, with allowances made for minimum mining widths, dilution and ore loss in line with the mining method being considered.

Infrastructure, waste disposal and ore stockpile management requirements are incorporated into the planning process. Ore stockpile management at St Ives strives to optimise the metallurgical blend requirements of the Lefroy Mill and the heap leach facility, with regard to material types and grade management. This in turn helps to maximise cash flow from the operations.

6. Projects

Hamlet is expected to reach commercial levels of production during the first half of 2013.

The current major mine expansion project at St Ives is at the new Hamlet mine, which is in the production build-up phase. A number of ancillary ventilation shafts, ventilation fan chamber/primary fan installation and paste fill plants were completed during 2012. These now provide all supporting infrastructure to the two new mines (Athena and Hamlet). Hamlet mine commenced stoping in 2012 and major declines and development are well advanced.

Commercial levels of production at Hamlet are anticipated during the first half of 2013.

Mechanised mining of ore drive at Hamlet

St Ives continues to pursue ongoing infrastructure development to meet the requirements of current and future mine extensions, and conduct focused extensional exploration and development to extend individual mines.

Resource definition drilling at Neptune

The new Bellerophon open pit commenced production in late 2012, and all Mineral Resource definition and extensional drilling has been completed for the planned new Neptune open pit. St Ives is also in the process of conducting a final technical design, which includes geotechnical, hydrological and metallurgical modelling, to support the start up of Neptune in late 2013.

The establishment and implementation of the open pit owner mining programme is well advanced. Gold Fields successfully initiated the transition from contractor-based open pit mining to in-house mining with St Ives-owned equipment and staff during the third quarter of 2012. Mining in all open pits continued during the year without a major interruption. During 2012 the mine also completed the construction of a new workshop and servicing facility to support and maintain the heavy mining equipment. Several pieces of additional equipment will be delivered in 2013 and 2014 to meet operational needs.

Tailings storage facility

A fourth tailings storage facility (TSF 4) has been constructed and has been fully operational since the third quarter of 2012. Subsequent lifts will be commissioned on an ongoing basis as required during the next few years. Tailings are currently deposited on an alternating basis at TSF 3 and TSF 4, and the construction of TSF 4a will allow for the continuation of this strategy beyond the current LoM. Alternative options (TSF 4b and North Orchin) are also being reviewed, including in-pit tailing deposition at a number of old open pits. This would minimise additional land use and the site's overall environmental impact. Detailed work associated with capacity, hydrology and permitting will commence in 2013, to evaluate and identify the appropriate solution for future tailings storage on-site.

LoM tailings storage facility assessment

Mining operation	LoM deposition (Mt)	Available capacity (Mt)	Surplus/ (shortfall) (%)	Capital requirement (A$M)
St Ives	31.0	34.0	10	25.0*

**Budget estimates including tailings lifts, TSF 4b and North Orchin construction provision.*

7. Mineral processing

Lefroy Mill has a design capacity of 4.8 Mtpa through a variable speed, dual direction, 13.5 MW Sag Mill.

The Lefroy Mill was commissioned in December 2004 and achieved design capacity within seven months. It treats medium- to high-grade ore through a 4.8 Mtpa variable-speed dual-direction 13.5 MW sag mill with wrap-around motor. Oversize from the mill (scats) is in closed circuit with a 140-tonne-per-hour pebble crusher. A gravity circuit recovers the gravity-recoverable gold from the milling circuit and the concentrate is treated separately through to bullion form. The mill cyclone overflow product flows to a five-stage leach circuit consisting of mechanical agitators, reagent addition and oxygen sparging.

Leached slurry passes through the six-stage carousel pump cell adsorption plant and subsequent five-tonne-capacity acid wash, elution and electrowinning circuits which produce calcine ready for smelting. Bullion is shipped to the refinery. Tailings are alternately deposited on two paddock-type tailings facilities which are constructed upstream.

Process optimisation and capital upgrades were implemented at the St Ives heap leach facility during 2011 to reduce costs and improve throughput. A three-stage crushing circuit, of 900 KW installed comminution power, is currently used in a 24-hour operation to prepare -15 millimetre crushed ores for agglomeration, stacking and leaching.

During 2012 St Ives completed a review of the current and future heap leach ore supply, cost modelling and economic feasibility studies. The results of these technical and economic evaluations indicate insufficient future ore supply and low economic margins. The heap leach crushing and stacking facility was subsequently put on "care and maintenance" as of the end of December 2012 and final leaching and gold-in-solution processes will continue for the early part of 2013. Potential heap leach ore will be stockpiled and, if economically viable, the facility will be re-established for future heap leach processing.

8. Sustainable development

St Ives is moving towards a whole-company “Risk-based Approach to Mining”.

St Ives remains fully committed to the Gold Fields strategy of sustainable development and strives to achieve and maintain outstanding health and safety performance through the participation of all employees and the application of safe, innovative processes and technologies within the OHSAS 18001 framework. All management systems are assessed and certified using this international occupational health and safety management system standard.

St Ives is moving towards a whole-company “Risk-based Approach to Mining”, as described by Australia’s Department of Minerals and Petroleum. St Ives uses the Cura risk management database for enterprise, corporate and operational risk and have conducted assessments of the key strategic risks in each department. Critical controls have been implemented to mitigate these risks to an acceptable level. This is an ongoing process and will receive the attention of St Ives’ management as a key safety process during 2013.

Water borehole monitoring at Cave Rocks

The safety and environmental risks specific to each operating area have been identified and entered into the database for assessment and monitoring. These risks are managed by operational area management to ensure line-of-sight and operational discipline in considering risks during the decision-making process.

St Ives employs a five-pillar approach to embedding and improving safety and uses it as a key decision-making element:

- **Risk management** – the use of Cura risk database as an operational risk-management tool facilitates a true risk-based approach to mining, in which critical risks and their associated controls are integrated into an operational manager’s day-to-day duties, allowing greater line of sight and better risk management.
- **Incident investigation** – St Ives has implemented a new Systems Analysis Technique (SAT) investigation methodology, which has demonstrated improvement in the quality of findings from investigations.
- **Safety incident data integrity and interrogation** – St Ives also improved the use and application of the INX safety database, constantly monitoring data quality and utilising its powerful data interrogation tools.
- **Contractor safety management** – all contractors receive a full risk appraisal prior to commencing work, and are required to mitigate risks to a level acceptable to Gold Fields.

Minimising environmental and stakeholder impact is fundamental to St Ives’ operations and the way it conducts business. The operation is committed to the responsible stewardship of natural resources, proactive engagement with all stakeholders and behaving in an environmentally responsible manner. This is demonstrated through its commitment to continuous improvement of site management systems and operational performance, and is evident in its ISO 14001:2004 certification and compliance.

Safety statistics

Class	Units	Dec 2012	Dec 2011	Dec 2010[1]	June 2010	June 2009
Fatalities	number	**–**	–	–	–	–
Fatality rate	per mmhrs	**–**	–	–	–	–
LDIFR[2]	per mmhrs	**3.5**	2.9	3.9	4.1	0.8

[1]For six months to December 2010.
[2]Lost Day Injury Frequency Rate.

St Ives application approved for mining on Lake Lefroy beyond 2010

9. Mineral Resources and Mineral Reserves

Geology and evaluation models have been updated to reflect the latest available data sets. An integrated mine design and schedule plan is based on current performance levels and takes cognisance of the inherent risks associated with mining operations at St Ives.

The Mineral Resources are classified as Measured, Indicated and Inferred as defined in the SAMREC Code. Increasing levels of geo-scientific knowledge and confidence are based on geological understanding, grade variance, drill hole/sample spacing, mining development (amount of exposed and mapped mineralisation) and mining history. The economic evaluation is based on the gold price specified by Gold Fields, taking into account estimates of all costs, the impact of modifying factors such as mining dilution and metal/ore recovery, processing recovery and royalties.

Mineral Resources

The Mineral Resource statement for St Ives is summarised in the tables below. The impacts of year-on-year changes are discussed in the reconciliation section.

The following factors apply to the Mineral Resources presented in this report:

- Mineral Resources are quoted at an appropriate in situ economic cut-off grade, with tonnages and grades based on the relevant resource block models. The Mineral Resources also include estimates of any material below the cut-off grade that need to be mined to extract the economic portion of the Mineral Resource;
- 100% attributable to St Ives Gold Mine; and
- Surface sources include stockpiles and are supported by adequate sampling, and are thus classified as Measured Mineral Resources.

Mineral Resource classification

	Tonnes (Mt)			Grade (g/t)			Gold (koz)		
Classification	**Dec 2012**	Dec 2011	Dec 2010	**Dec 2012**	Dec 2011	Dec 2010	**Dec 2012**	Dec 2011	Dec 2010
Open pit and underground									
Measured	**2.1**	2.7	4.7	**4.36**	3.76	3.11	**299**	327	472
Indicated	**29.9**	43.2	41.4	**3.09**	2.59	2.93	**2,967**	3,591	3,898
Inferred	**12.6**	11.8	13.7	**3.27**	3.21	2.89	**1,324**	1,222	1,271
Total open pit and underground	**44.6**	57.7	59.7	**3.20**	2.77	2.94	**4,591**	5,140	5,641
Surface stockpiles									
Measured	**4.1**	5.6	3.3	**0.98**	0.97	1.18	**129**	174	124
Total surface stockpiles	**4.1**	5.6	3.3	**0.98**	0.97	1.18	**129**	174	124
Grand total	**48.8**	63.3	63.0	**3.01**	2.61	2.84	**4,720**	5,314	5,765

Mineral Resource by mining sources

	Tonnes (Mt)			Grade (g/t)			Gold (koz)		
Source	**Dec 2012**	Dec 2011	Dec 2010	**Dec 2012**	Dec 2011	Dec 2010	**Dec 2012**	Dec 2011	Dec 2010
Open pit	**26.6**	38.9	39.6	**2.31**	1.9	2.0	**1,974**	2,391	2,563
Underground	**18.0**	18.8	20.1	**4.52**	4.6	4.8	**2,617**	2,749	3,078
Stockpiles	**4.1**	5.6	3.3	**0.98**	0.97	1.18	**129**	174	124
Total	**48.8**	63.3	63.0	**3.01**	2.61	2.84	**4,720**	5,314	5,765

Construction of exploration causeway on Lake Lefroy (Invincible Project)

Mineral Resource classification per mining area

Area	Measured			Indicated			Inferred			Total Mineral Resource		
	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)
Open pit												
Apollo	25	1.99	2	316	3.03	31	213	2.27	16	553	2.69	48
Bahama	–	–	–	1,856	1.49	89	276	2.10	19	2,132	1.57	107
Bellerophon	–	–	–	2,958	1.37	130	–	–	–	2,958	1.37	130
Bondi	–	–	–	–	–	–	221	3.45	25	221	3.45	25
Clifton	–	–	–	399	2.67	34	108	2.74	9	506	2.69	44
Delta Island	–	–	–	180	2.20	13	6	1.31	0	187	2.17	13
Formidable	278	1.40	12	129	1.92	8	46	1.20	2	453	1.53	22
Idough – East	–	–	–	94	2.06	6	2	2.02	0	96	2.06	6
Idough – West	–	–	–	563	2.06	37	25	1.82	1	588	2.05	39
Intrepide	–	–	–	–	–	–	615	1.61	32	615	1.61	32
Invincible	–	–	–	–	–	–	1,650	3.01	160	1,650	3.01	160
Junction	–	–	–	137	3.15	14	71	3.88	9	209	3.40	23
Mars	65	1.09	2	627	1.49	30	382	1.26	15	1,073	1.38	48
Neptune	–	–	–	3,874	3.63	452	1,207	3.12	121	5,081	3.51	573
Neptune South	–	–	–	152	2.03	10	180	2.55	15	332	2.31	25
Paddys	18	2.72	2	697	1.43	32	–	–	–	715	1.46	34
Pistol Club	–	–	–	–	–	–	424	2.47	34	424	2.47	34
Redback	–	–	–	341	2.13	23	208	3.85	26	549	2.78	49
Revenge	324	1.53	16	1,423	1.62	74	291	1.57	15	2,038	1.60	105
Santa Ana	–	–	–	2,812	1.92	174	626	2.96	60	3,438	2.11	233
Swiftsure	–	–	–	163	5.22	27	4	7.29	1	166	5.26	28
Temeraire	–	–	–	489	1.17	18	–	–	–	489	1.17	18
Thunderer	64	2.12	4	593	2.14	41	164	1.58	8	821	2.02	53
Trinidad	–	–	–	626	2.69	54	79	2.89	7	706	2.71	61
Yorick	–	–	–	609	3.25	64	11	1.33	0	619	3.22	64
Total open pit	**772**	**1.54**	**38**	**19,037**	**2.22**	**1,362**	**6,811**	**2.62**	**574**	**26,620**	**2.31**	**1,974**
Underground												
Argo	557	5.83	104	1,001	4.39	141	679	3.54	77	2,236	4.49	323
Athena	260	8.36	70	1,480	6.06	288	1,016	4.11	134	2,756	5.56	492
Cave Rocks	339	4.73	52	1,630	4.08	214	358	3.85	44	2,326	4.14	309
Conqueror	–	–	–	236	4.24	32	101	5.20	17	337	4.53	49
East Repulse	13	5.96	3	88	6.14	17	85	6.56	18	187	6.32	38
Hamlet	33	9.73	10	5,431	4.56	796	1,483	4.28	204	6,948	4.52	1,010
Invincible	–	–	–	–	–	–	665	4.05	87	665	4.05	87
Revenge	156	4.36	22	478	3.18	49	369	3.11	37	1,003	3.34	108
Santa Ana	–	–	–	524	4.07	69	1,020	4.02	132	1,544	4.04	200
Total underground	**1,359**	**5.97**	**261**	**10,868**	**4.60**	**1,606**	**5,775**	**4.04**	**750**	**18,002**	**4.52**	**2,617**
Surface												
Total surface stockpiles	**4,129**	**0.98**	**129**	**–**	**–**	**–**	**–**	**–**	**–**	**4,129**	**0.98**	**129**
Grand total	**6,261**	**2.13**	**428**	**29,905**	**3.09**	**2,967**	**12,585**	**3.27**	**1,324**	**48,751**	**3.01**	**4,720**

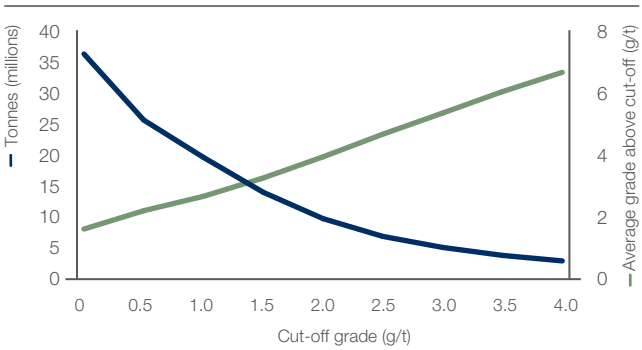
Modifying factors

- The Measured and Indicated Mineral Resources are inclusive of Mineral Reserves.
- All Mineral Reserves are quoted in terms of run of mine (RoM) grades and tonnages, as delivered to the metallurgical processing facilities, and are therefore fully diluted.
- The Mineral Reserve statements include only Measured and Indicated Mineral Resources, modified to produce Mineral Reserves and are contained in the LoM plan.
- Mineral Resources and Mineral Reserves undergo regular internal and/or external audits, and any issues identified are rectified at the earliest opportunity – usually during current reporting cycle.

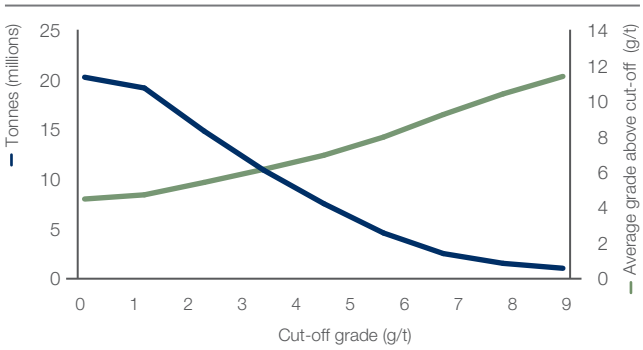
Mineral Resource parameters	Units	**Dec 2012**	Dec 2011
Gold price	US$/oz	**1,650**	1,450
	US$/A$	**1.00**	1.07
	A$/oz	**1,650**	1,550
Cut-off for mill feed	g/t	**0.96**	0.67 – 0.94
Cut-off for open pit (mill)	g/t	**0.59 – 0.64**	0.37 – 0.77
Cut-off for underground (mill)	g/t	**2.10 – 2.90**	2.30 – 3.30
Mineral Reserve parameters	**Units**	**Dec 2012**	**Dec 2011**
Gold price	US$/oz	**1,500**	1,300
	US$/A$	**1.00**	1.07
	A$/oz	**1,500**	1,400
Cut-off for mill feed underground	g/t	**2.3 – 3.0**	2.60 – 3.70
Cut-off for mill feed open pit	g/t	**0.80**	0.68 – 0.70
Strip ratio	waste:ore	**6.8**	6.2
Dilution (open pits)	%	**6 – 20**	6 – 50
Dilution (underground)	%	**5 – 40**	5 – 45
Mining recovery factor (open pits)	%	**95 – 99**	90 – 99
Mining recovery factor (underground)	%	**75 – 95**	75 – 95
Mine Call Factor	%	**98**	97
Plant recovery factor	%	**83 – 94**	83 – 94
Processing capacity	Mtpa	**4.8**	4.8
Pit wall angles	degrees	**25 – 35**	25 – 45

Grade tonnage curves

Open pits



Underground



Mineral Reserves

Reported Mineral Reserves at St Ives reduced to 2.190 Moz since December 2011. The dominant contributors to Mineral Reserves are the Athena, Hamlet, Bellerophon, Neptune and Cave Rocks mines. The Mineral Reserve statement for St Ives is summarised in the tables below. The following points apply:

- Estimates for St Ives include allowances for all relevant modifying factors;
- Mineral Reserves are reported in terms of tonnages, grades and contained gold delivered for processing; and
- Surface sources include stockpiles. St Ives assumes that stockpiles are supported by adequate sampling, and are thus classified as Proved Mineral Reserves.

Mineral Reserve classification

	Tonnes (Mt)			Grade (g/t)			Gold (koz)		
Classification	**Dec 2012**	Dec 2011	Dec 2010	**Dec 2012**	Dec 2011	Dec 2010	**Dec 2012**	Dec 2011	Dec 2010
Open pit and underground									
Proved	**1.1**	1.7	3.2	**4.72**	3.85	3.09	**165**	215	315
Probable	**20.6**	30.6	26.3	**2.86**	2.46	2.82	**1,896**	2,423	2,381
Total open pit and underground	**21.7**	32.3	29.5	**2.96**	2.54	2.85	**2,061**	2,639	2,696
Surface stockpiles									
Proved	**4.1**	5.6	3.3	**0.98**	0.97	1.18	**129**	174	124
Probable	**–**	–	–	**–**	–	–	**–**	–	–
Total surface stockpiles	**4.1**	5.6	3.3	**0.98**	0.97	1.18	**129**	174	124
Grand total	**25.8**	37.9	32.7	**2.64**	2.31	2.68	**2,190**	2,813	2,820

Mineral Reserve classification per mining area

Area	Proved			Probable			Total Mineral Reserve		
	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)	Tonnes (kt)	Grade (g/t)	Gold (koz)
Open pit									
Bahama	–	–	–	621	1.26	25	621	1.26	25
Bellerophon	–	–	–	2,970	1.32	126	2,970	1.32	126
Clifton	–	–	–	171	2.47	14	171	2.47	14
Delta Island	–	–	–	185	1.84	11	185	1.84	11
Idough – East	–	–	–	83	1.88	5	83	1.88	5
Idough – West	–	–	–	506	1.73	28	506	1.73	28
Junction	–	–	–	151	2.65	13	151	2.65	13
Mars	61	0.99	2	654	1.31	28	715	1.28	29
Neptune	–	–	–	2,669	3.69	317	2,669	3.69	317
Neptune South	–	–	–	157	1.74	9	157	1.74	9
Paddys	18	2.46	1	547	1.24	22	565	1.28	23
Redback	–	–	–	349	1.81	20	349	1.81	20
Revenge	163	1.34	7	903	1.37	40	1,066	1.37	47
Santa Ana	–	–	–	1,820	1.71	100	1,820	1.71	100
Swiftsure	–	–	–	186	4.43	27	186	4.43	27
Temeraire	–	–	–	341	0.93	10	341	0.93	10
Thunderer	45	2.05	3	398	1.94	25	444	1.95	28
Trinidad	–	–	–	616	2.28	45	616	2.28	45
Yorick	–	–	–	104	2.91	10	104	2.91	10
Total open pit	**287**	**1.45**	**13**	**13,428**	**2.02**	**873**	**13,716**	**2.01**	**886**
Underground									
Argo	247	5.89	47	17	5.61	3	264	5.87	50
Athena	315	6.74	68	1,335	5.11	219	1,651	5.42	288
Cave Rocks	229	4.70	35	1,313	3.81	161	1,542	3.94	196
Hamlet	5	8.33	1	4,497	4.43	640	4,502	4.43	641
Total underground	**797**	**5.90**	**151**	**7,161**	**4.44**	**1,023**	**7,958**	**4.59**	**1,174**
Surface									
Total surface stockpiles	**4,129**	**0.98**	**129**	**–**	**–**	**–**	**4,129**	**0.98**	**129**
Grand total	**5,214**	**1.75**	**294**	**20,590**	**2.86**	**1,896**	**25,804**	**2.64**	**2,190**

Resource definition drilling on Lake Lefroy

Mineral Resources and Mineral Reserves reconciliation year-on-year

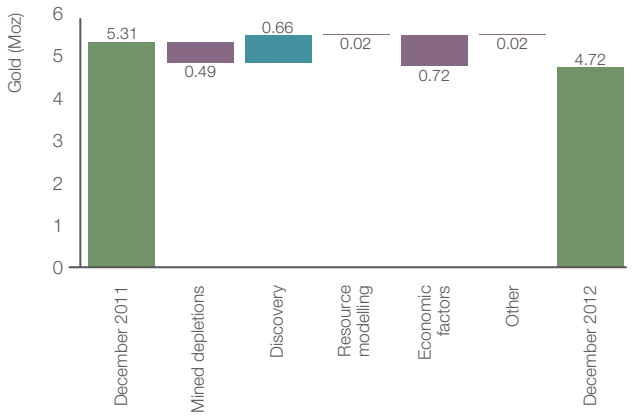
Factors that affected Mineral Resource reconciliation:

- Mined depletion since December 2011;
- Discovery was dominated by Invincible, Neptune and Cave Rocks; and
- Economic factors (lower gold price, higher power cost).

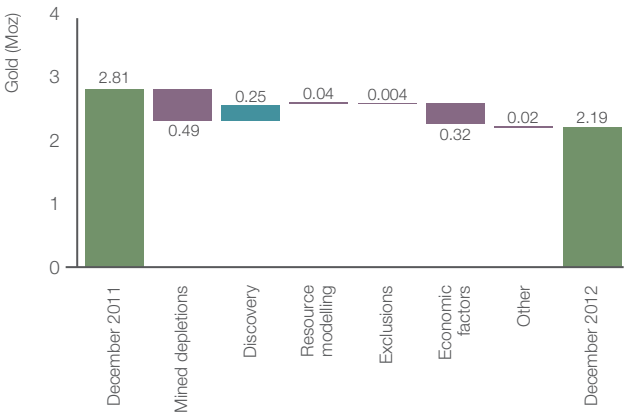
Factors that affected Mineral Reserve reconciliation:

- Mined depletion since December 2011;
- Discovery was dominated by Neptune, Cave Rocks and nominal increases at Athena;
- Sirius underground mine removed from both Mineral Reserve and Resource; and
- Higher gold price assumption, partially offset by cost increases associated with higher power costs.

Change in Mineral Resources
December 2011 to December 2012



Change in Mineral Reserves
December 2011 to December 2012

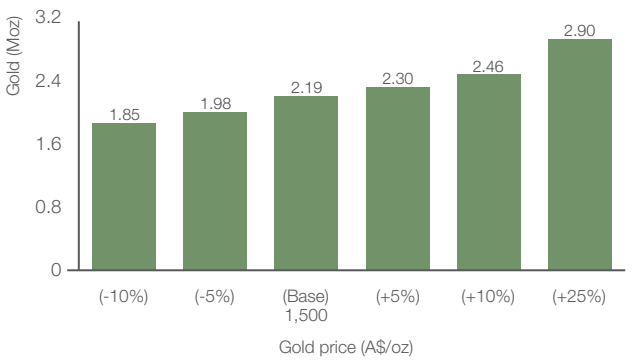


Mineral Reserve sensitivity

To illustrate the impact of fluctuations in gold price and exchange rates on the current declaration, St Ives has generated sensitivities with respect to Mineral Reserves. The following graph indicates the managed Mineral Reserve Sensitivity at -10%, -5%, Base, +5%, +10% and +25% to the gold price.

These sensitivities (other than for the base case) are not supported by detailed plans and should only be considered on an indicative basis; specifically as such sensitivities assume 100% selectivity, without any operating cost increases.

Managed Mineral Reserve sensitivity



Underground at Hamlet

Gold Fields Limited
St Ives Gold Mine

Plan showing mine infrastructure as at 31 December 2012

0 2 4 6 8
Kilometres

Map Grid of Australia Co-ordinate System

350000mE 360000mE 370000mE 380000mE 390000mE 400000mE

6550000mN 6540000mN 6530000mN 6520000mN 6510000mN 6500000mN 6490000mN

Kambalda West
Core Farm
Gatehouse
Silver Lake Facility
Kambalda East
Cave Rocks
Temeraire
Pistol Club
Redoutable
Formidable
Intrepide
Bahama Cutback
Santa Ana Cutback
Swiftsure
Mars
Mars-Minotaur Link
Açamemnon South
Revenge
West Revenge
Grinder
South Delta
Neptune
Pluton
Bellerophon
Bellerophon
Thunderer
Redback
North Orchin
Africa
Britannia Footwall
Sirius
Britannia/Orion
Paddys
Pinnace
Leviathan
Lefroy Mill and Administration
West Idough
Lake Lefroy
Blue Lode
Clifton
Argo U/G
Apollo
Argo
Diana
Athena-Hamlet U/G
Junction
Widgiemooltha
HHH
Paris

Reference

- Lease Outline
- Gold Rights only
- Stockpiles
- Tailings/Leach Pad
- Waste Dump
- Pits-Inactive
- Pits-Active
- Pits-Proposed
- U/G Mines
- Towns
- Buildings
- Sealed Roads
- Unsealed Roads

10. Competent Persons

Internal technical reviews have been conducted by the Competent Persons as listed, who are full-time employees of Gold Fields Limited.

Competent Persons

M Jolly: Manager Mineral Resources
MSc (Geology), EDP Wits Business School, MAusIMM, (304960). Mr Jolly is the lead Competent Person in terms of SAMREL and has 32 years' experience in the mining industry (four years at St Ives) and is responsible for the overall accuracy, standard and compliance of this declaration.

J Woodcock: Exploration Manager
MSc in Geology, MAusIMM (305446). Mr Woodcock has 11 years' experience in the mining industry (two years at St Ives) and is responsible for all surface exploration and resource development drilling, and the oversight of exploration resource development geology models.

L Smuts: Resources Manager
BSc (Hons), Pr Sci Nat (400083/03), PG California (8215). Mr Smuts has 15 years' mining industry experience (one year at St Ives), and is responsible with the oversight and development of technical standards/auditing and validation for the site-wide resource estimation processes and models.

L Grimbeek: Mine Geology Manager
BSc (Hons), Pr Sci Nat (400086/92). Mr Grimbeek has 25 years' experience in the mining industry (one year at St Ives) and is responsible for the mine geology processes, exploration and short- to medium-term resource development function.

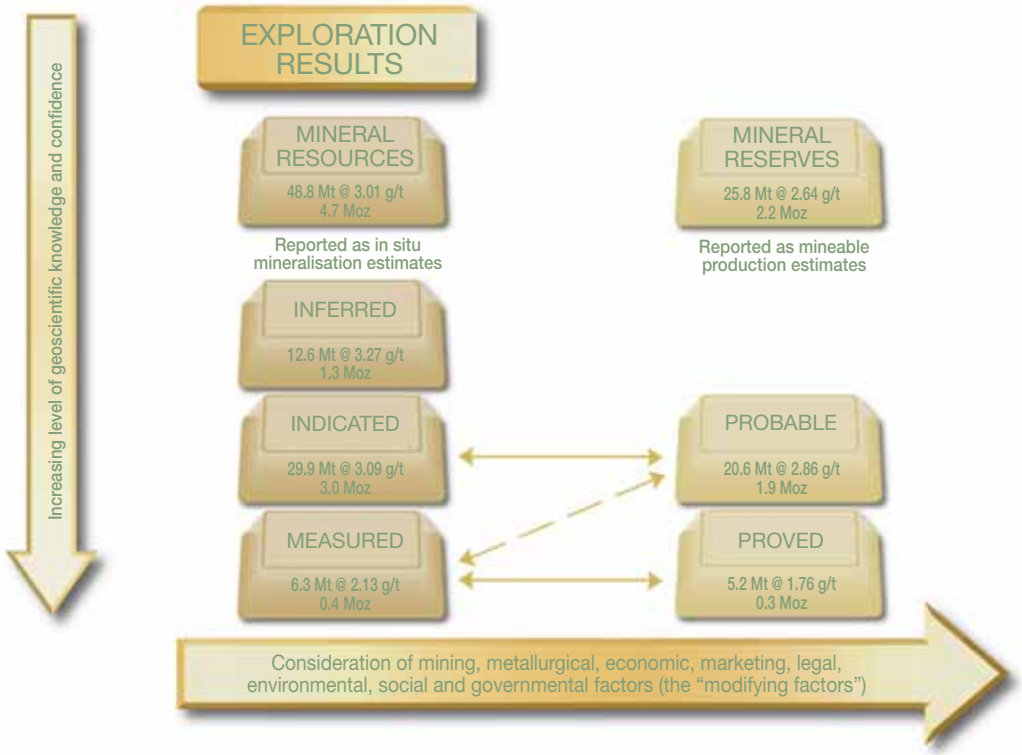
S Ellery: Resource Evaluation Superintendent
BSc (Hons), MSc Geology, Grad Dip Applied Finance and Investment (SIA), MAusIMM (110420). Mr Ellery has 21 years' experience in the mining industry (20 years at St Ives) and is responsible for some aspects of economic evaluation.

11. Key technical staff

Post	Incumbent	Qualifications	Years	Key responsibilities
Operational Manager	Ross Calnan	FAusIMM, B Eng (Mining), MAICO, WA First Class Mine Managers Certificate	46	Responsible for overall strategic direction, leadership and management
Manager Mining	Paul Brennan	MAusIMM (990229) B Eng Mining (Hons), MBA Grad Cert Project Management, WA First Class Mine Managers Certificate (769), WA Underground Supervisors Certificate of Competency (1496)	16	All site underground and surface mining operations
Manager Mineral Resources	Malcolm Jolly	MSc (Geology), EDP (Wits), Com Cert Rock Engineering, MAusIMM (304960)	32	Exploration and mine geology, and compilation of Competent Person's Report (CPR)
Commercial Manager	Charl van Rensburg	BCom	19	Financial management, reporting and compliance
Human Resources Manager	Petro Bekker	BTech HR	30	Human resources, Safety and Health, Emergency services
Manager Processing	Gareth Cormack	NHD in Extractive Metallurgy, Engineering Business Management, MMMA	24	Mineral processing and metallurgy, inclusive of heap leach, CIL and tailings management
Engineering Manager	Brian Cameron	Mechanical Engineer Cert Nov 1991 No 5025, Diploma in Business Nov 2009 Cert 00766	31	Engineering, logistics and infrastructure management
Unit Manager: Underground Engineering	James Langdon	BSc (Electrical Engineering)	20	Responsible for fixed plant and mobile plant maintenance at all mines, surface and underground
Technical Manager	Daniel Worthy	MAusIMM (208354), BEng Mining (Hons), WA First Class Mine Managers Certificate (876)	11	Responsible for the mine design, planning and scheduling of underground and open pit mining operations, project evaluation, compilation and LoM financial evaluation
Manager Environment	Karen de Roer	BSc (Geology and Botany) BSc (Hons) (Geology) Masters in Environmental Management, Environmental Institute of Australia and New Zealand (32381)	14	Environmental management
Manager OHS	Ben Harrington	Graduate certificate extractive metallurgy	18	Occupational Health and Safety management

Aerial view of Lefroy Mill (central processing facility)

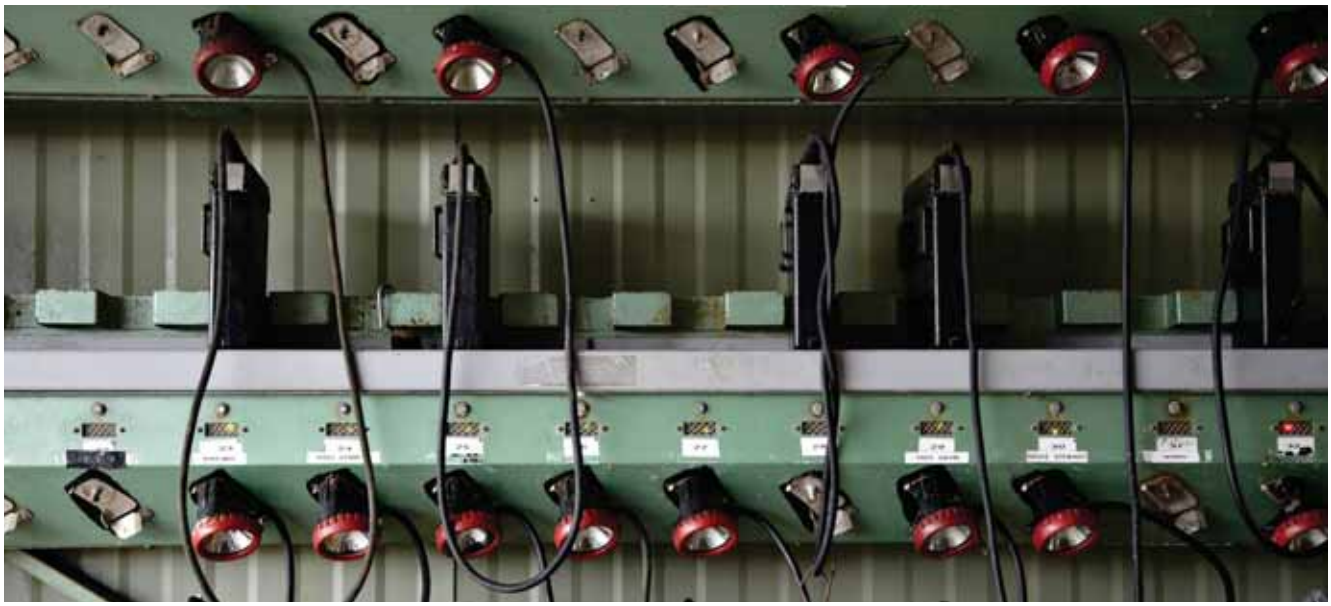
St Ives Mineral Resource and Mineral Reserve classification



12. Brief history

The history of St Ives	
1897:	Gold discovered at Kambalda Red Hill camp.
1897 – 1907:	Other gold-bearing locations, such as Victory, discovered with an estimated total production of 31 koz, mostly from the Red Hill group of mines.
1919:	New discovery led to construction of Ives Reward mine and small town in St Ives area.
1926:	Ives Reward mine closed, having produced 10 koz of gold. Town abandoned.
1966:	Iron-nickel sulphides discovered near the old Red Hill mine. Western Mining Corporation (WMC) acquired ground and developed a mining and milling operation. From 1966 to 1996 the region produced approximately 34.0 Mt of ore at an average grade of 3.1% nickel.
1970s:	Increase in gold price led to a re-evaluation of the old gold prospects in the Kambalda area.
1980:	Significant gold mineralisation identified beneath the Hunt nickel shoot.
1981:	Discovery of the Victory-Defiance complex (Leviathan area). Gold production commences at St Ives using a 0.5 Mtpa treatment plant (later expanded to 1.2 Mtpa) located at the Kambalda Nickel Concentrator site.
1988:	New 3.1 Mtpa CIL facility constructed 25 kilometres south of Kambalda at St Ives.
2001:	2.0 Mtpa heap leach facility commissioned. St Ives acquired by Gold Fields Limited.
2004:	4.8 Mtpa Lefroy mill constructed. Fully commissioned in early 2005.
2006:	Start of aggressive exploration programme with full field aircore drilling programme.
2007:	Start-up and establishment of Cave Rocks and Belleisle underground mines.
2008:	Initiation of mining new consolidated Leviathan open pit.
2009:	Discovery of new Athena-Hamlet deposit.
2010:	Continued discovery growth of Hamlet deposit. Commencement of Athena mine with the first ore intersected in May 2010.
2011:	Athena reaches commercial level of production in September 2011. Hamlet development intersects first ore in October 2011 as part of a new mine development programme.
2012:	Stoping commences at Hamlet, Cave Rocks LoM extended and an early-stage discovery of a new camp (Invincible deposit). Conversion to open pit owner mining completed and heap leach processing stopped.

Lamp room

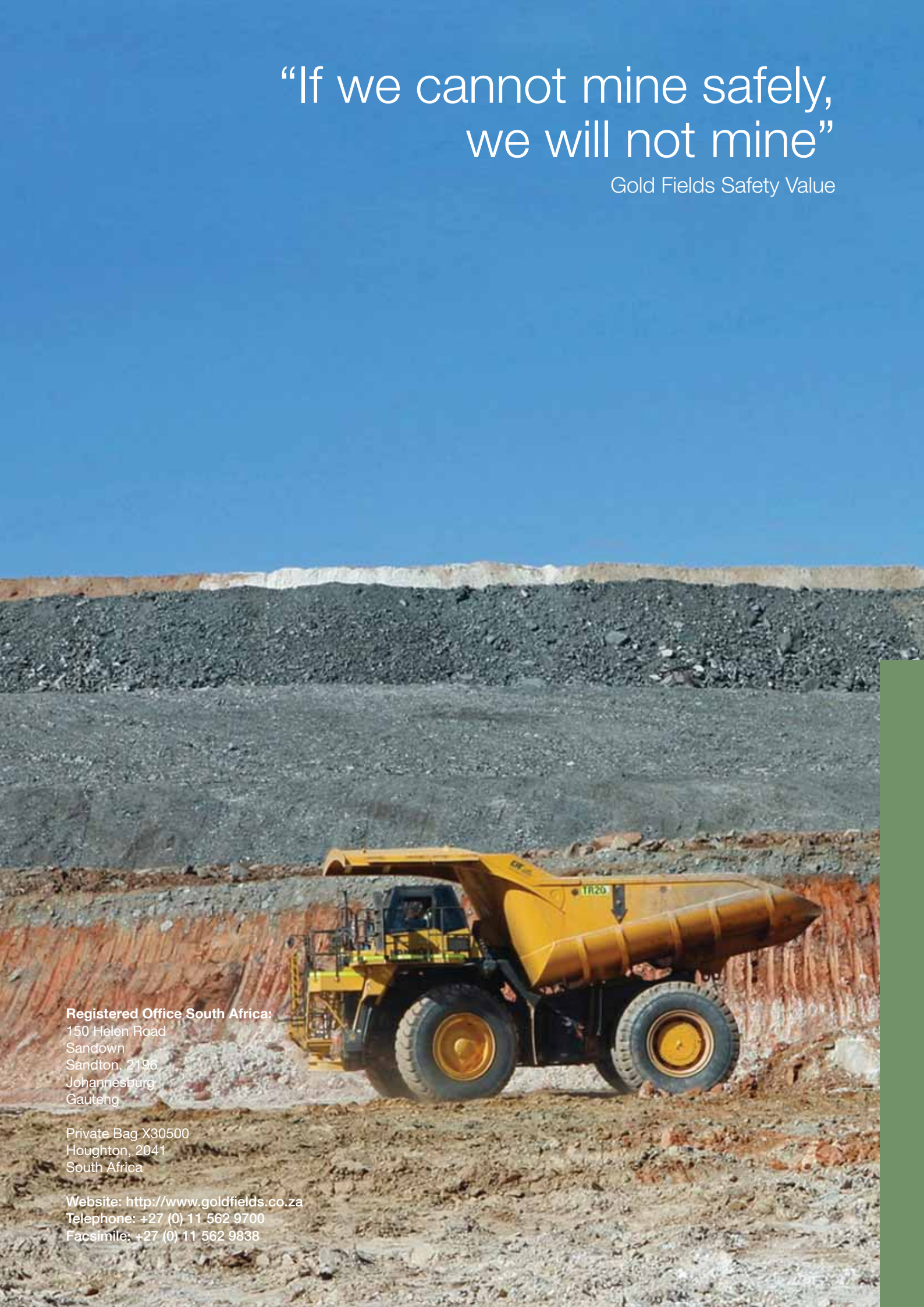


This Technical Short Form Report **(the Report)** contains information as at 31 December 2012 **(the Effective Date of this Report)**. The statements and information set out in this Report speak only as of the Effective Date of this Report. Shareholders and other interested and affected parties are therefore urged to review all public disclosures made by Gold Fields after the Effective Date of this Report, as some of the information contained in the Report may have changed or been updated. Gold Fields does not undertake any obligation to update publicly or release any revisions to statements and information set out in this Report to reflect events or circumstances after the Effective Date of this Report, or to reflect the occurrence of unanticipated events, unless obliged to do so pursuant to law or regulation. In such event, Gold Fields does not undertake to refer back to any information contained in this Report.

BASTION GRAPHICS

“If we cannot mine safely, we will not mine”

Gold Fields Safety Value



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