



GOLD FIELDS

Gold Fields Exploration

Technical Short Form Report

Over the past ten years Gold Fields has expanded its exploration portfolio world-wide to become a truly global player. Today the company's reach extends to five continents with exploration being managed from two hubs based in Perth, Western Australia and Denver, Colorado. The Group also has offices in Santiago, Chile; Lima, Peru; Vancouver, Canada; Bamako, Mali; and Accra, Ghana.

During F2009 Gold Fields spent a total of US\$90.2 million on exploration, which included US\$48.7 million on greenfields exploration and US\$41.5 million on near mine exploration. The F2010 budget is substantially higher at US\$80.0 million for greenfields and US\$40.0 million for near mine projects, which reflects the improving quality of the portfolio.

Salient Features

- Discovery effort anchored by exploration drilling in excess of 440,000 m in F2009.
- Near mine exploration success increased the Mineral Resources and Mineral Reserves at St Ives, Agnew and Damang during F2009.
- Emerging portfolio of advanced drilling projects which include: Chucapaca in southern Peru, Komana/Sankarani in southern Mali and Talas in northern Kyrgyzstan.
- Robust pipeline of initial drilling projects in Australia, Canada, Chile, China, Ghana, Kyrgyzstan, Mali and the Philippines.

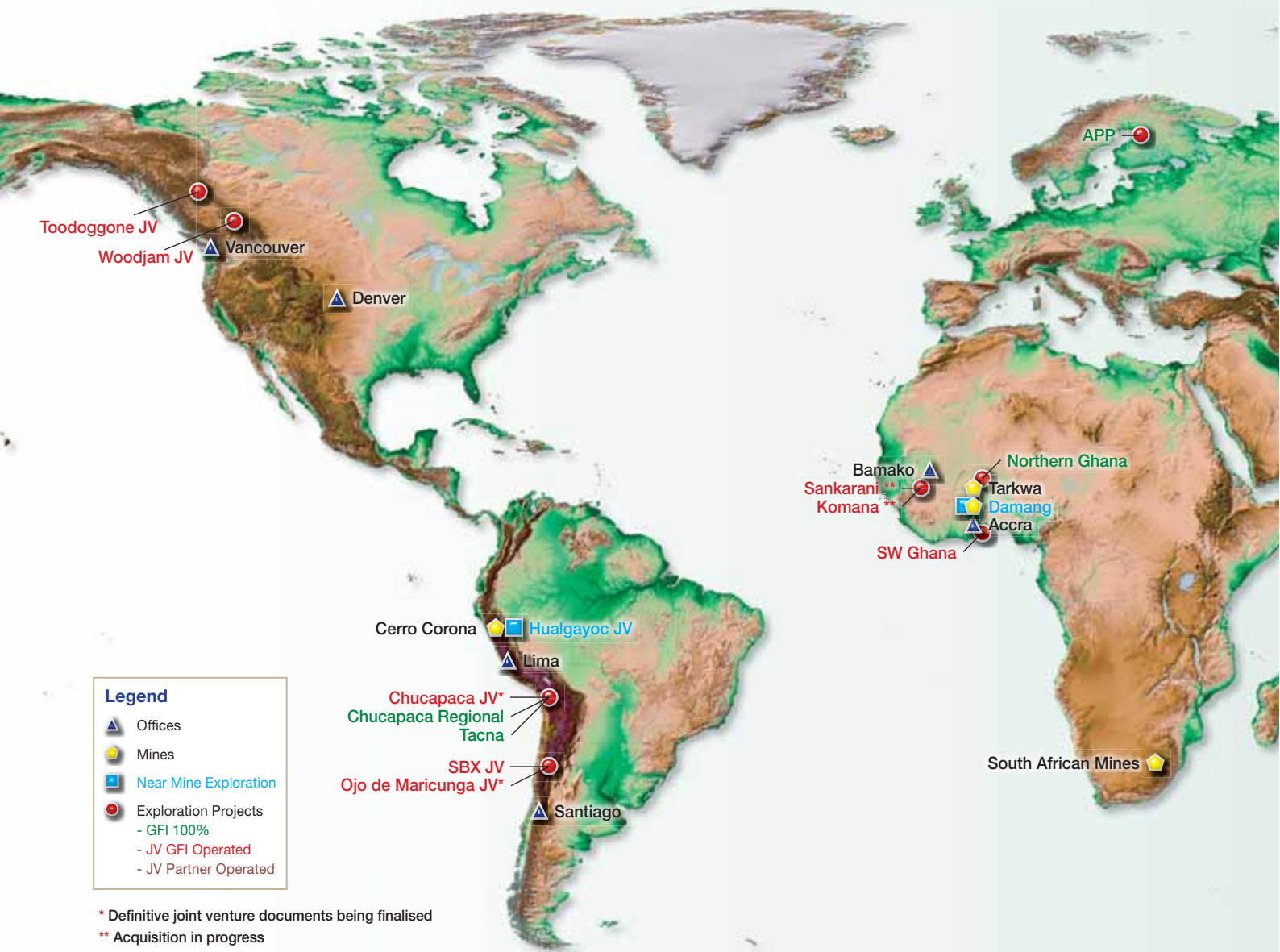
Exploration Objectives

- Grow the Gold Fields Mineral Reserve base and production on a per share basis through quality exploration and discovery
- Develop a strong pipeline of quality greenfields opportunities capable of generating a mine development project every two years
- Establish Gold Fields' exploration capability and become the dominant explorer in a limited number of regions with identified exploration potential
- Provide Gold Fields' three operating regions outside of South Africa with a growth pipeline to achieve the targeted production goal of three million ounces a year through exploration success and value accretive business development

Gold Fields Limited is one of the world's largest un-hedged producers of gold and is globally diversified with nine operating mines and a strong basket of exploration projects. The Group is listed on the JSE Limited South Africa, the New York Stock Exchange and the Dubai International Financial Exchange.



Gold Fields Global Footprint



Growth Strategy

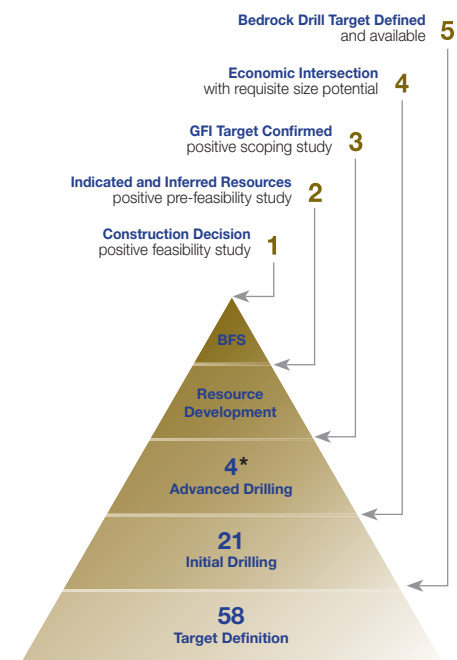
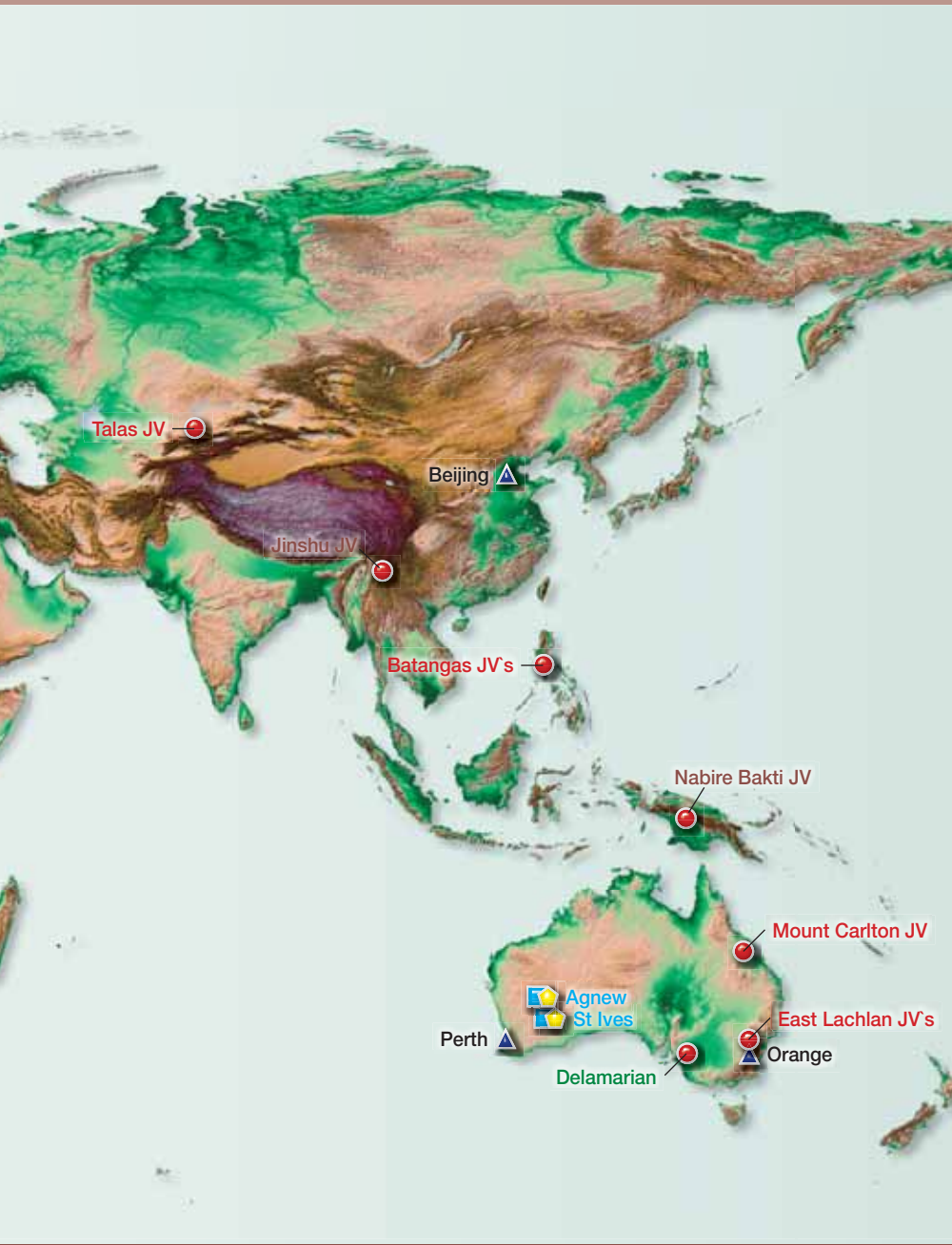
A lack of quality gold discoveries in the industry has led to an increase in competition for advanced exploration and production assets, making value accretive growth through acquisition difficult. In response, Gold Fields' growth strategy is focused on creating its own high quality opportunities through an aggressive exploration programme. By leveraging on its technical excellence in area selection and programme execution, the exploration group aims to improve the likelihood of success and significantly reduce project development timelines. With success from this exploration focus it is expected to grow Gold Fields Mineral Reserves and production on a per share basis and thereby capture significant value for the company's shareholders.

Gold Fields' exploration strategy is based on a measured and thoughtful approach when adding new projects to the portfolio. The aim is to strike the appropriate balance between size, quality and the various risks associated with the opportunity. These trade-offs will continually be re-assessed as a project advances through the development pipeline to ensure its economic potential is commensurate with its technical, commercial, geopolitical, social and environmental risks.

Gold Fields produced ~3.7 Moz of gold from nine mines in F2009. This figure equates to an annual Mineral Reserve depletion of 4.2 Moz which needs to be replaced by aggressive but balanced near mine and greenfields exploration, coupled

with selective acquisitions of advanced opportunities within the company's operating regions.

Near mine exploration around the Gold Fields operations in Australia, Ghana and Peru is a major priority for the exploration group – the easiest place to find gold is near a gold mine. During the year the team advanced the Athena-Hamlet discovery at St Ives to a feasibility stage and advanced exploration opportunities at all of the sites. Near mine exploration is focused on delivering the option value of the company's sites and providing a robust platform for regional growth.



Gold Fields greenfields portfolio with number of targets in each stage

* includes Arctic Platinum Project

The different stages of an exploration target's development are illustrated in the diagram above.

To be successful, targets need to be drill tested and advanced to the next exploration phase. There is a strong focus on turning over targets as effectively as possible by drill testing and progressing targets in a timely manner.

Greenfields exploration is generated by reviewing and ranking the most prospective terrains across the world and exploration areas are selected after considering country risk and strategic fit. Each exploration region continuously monitors and reviews opportunities, targeting projects at all stages of development.



Chucapaca Project, Moquegua, southern Peru

Most of the company's greenfields exploration is organised to provide a growth pipeline for the operating regions in South America, West Africa and Australasia. During F2009, Gold Fields upgraded this portfolio and as a consequence now has advanced drilling projects in Peru and Mali. Initial drilling projects in Australia and Chile are showing significant potential and it is hoped to progress these during F2010.

Positioning Gold Fields for the longer term the company is establishing its exploration focus in a few key prospective geological belts. This effort will centre on new exploration search spaces which are under-explored and often have never seen

a drill bit. During the year the Talas Project in Kyrgyzstan moved to the advanced drilling stage and new initial drilling projects were established in Canada.

Gold Fields maintains rigorous QA/QC protocols on all of its exploration programmes using best industry practice in data acquisition, reputable laboratories and sign-off by Qualified Persons under the NI 43-101, 2007 SAMREC and JORC codes.

Greenfields Exploration

Gold Fields operates a disciplined exploration project management system with clear decision gates based on the discovery potential and economics of a target.

Greenfields Exploration

continued

When evaluating new advanced opportunities or assessing conceptual targets, various metrics are used, which include reserve and production potential, margin, payback period, initial capital costs, development timeline, net asset value, earnings and cash flow.

The table below provides a breakdown, by region, of the number of targets in the Gold Fields portfolio for each of the five stages of project development as of 30 June 2009. The table does not include near mine exploration projects at Gold Fields current operations in South Africa, Ghana, Australia and Peru.

Stage	Africa	Australasia	South America	Rest of World
Bankable Feasibility Study	0	0	0	0
Resource Development	0	0	0	0
Advanced Drilling	1	0	1	2*
Initial Drilling	4	13	1	3
Target Definition	20	15	14	9

* includes Arctic Platinum Project

Initial drilling projects

East Lachlan JV's, Australia

In the East Lachlan belt of New South Wales, Australia, Gold Fields has four

joint ventures with Clancy Exploration Ltd, with the Option to select a further four following review. The company has completed an 80% earn-in interest on two of these in F2009. During the year, initial drilling of bedrock geochemical targets confirmed the presence of Cu-Au porphyry mineralisation analogous to that being mined at nearby Cadia-Ridgeway and Northparkes.

Batangas JV's, the Philippines

In F2009 the company entered into definitive joint venture agreements with Mindoro Resources Ltd in the Batangas Region of the Philippines, which allows us to earn up to a 75% interest in a large area prospective for both Cu-Au porphyry and epithermal gold deposits. A community relations programme and both regional and detailed field work are well advanced with initial drilling to commence in early F2010.

SBX JV, Chile

At the SBX joint venture project in Chile, the company is earning into a 90% interest in three of the claims with SBX Asesorias e Inversiones and 100% in the Pircas claim held by Sociedad Contractual Minera Aguas Heladas. During the year, geophysical surveys, bulldozer trenching and a reverse circulation (RC) drill programme were completed on two of the properties. Positive results were returned from the Pircas prospect and a follow-up drilling programme is planned for the next field season.

Ojo de Maricunga JV, Chile

In April 2009, a letter of intent was signed with SBX Asesorias e Inversiones to earn up to a 70% interest in the Ojo de Maricunga project in Chile. A definitive joint venture agreement should be executed in September 2009 and planning for the next field season is currently underway. The target is a Maricunga-style gold-rich porphyry deposit hosted within the core of an eroded strato-volcano. Gold mineralisation is associated with stockwork and sheeted quartz veins.

Toodoggone JV, Canada

A definitive agreement was signed with Cascadero Copper Corporation, that allows Gold Fields to earn up to a 75% interest in the Toodoggone project in British Columbia, Canada. The main targets are gold-rich porphyry Cu-Au deposits which occur throughout the Quesnellia and Stikinia Terranes in British Columbia. Initial drilling is underway.

Woodjam JV, Canada

Gold Fields signed a joint venture agreement with the Woodjam Partners (Fjordland Exploration Inc. and Cariboo Rose Resources Ltd.) to earn-in to a 75% interest in a 40,000 hectare property covering several known porphyry targets in south-central British Columbia, Canada. Field work consisting of core re-logging, geological mapping and soil sampling has commenced. Geophysical surveys and initial drilling are planned to be started at the end of the first quarter F2010.

Advanced drilling projects

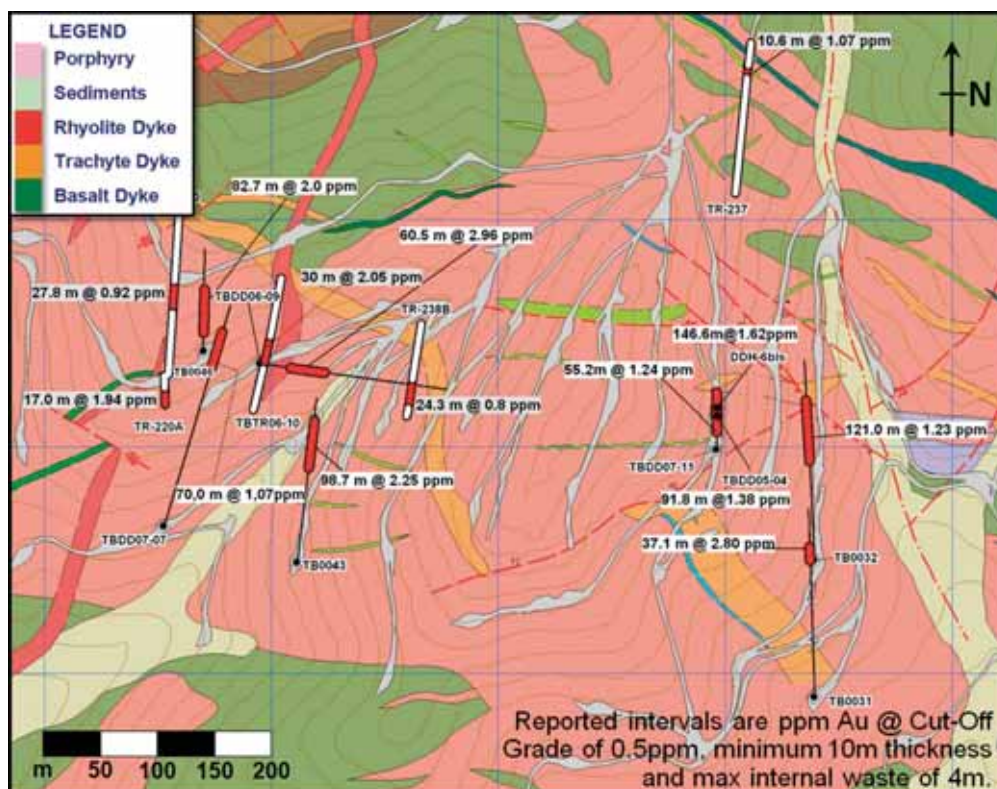
Talas JV Project, Kyrgyzstan

In late 2008, Gold Fields announced a joint venture agreement with Orsu Metals Corporation for the further exploration and development of the Talas licence area in northwestern Kyrgyzstan within the prolific Tien Shan Belt. The agreement gives Gold Fields the right to earn as much as a 70% interest in Orsu's Talas licence area.

Gold Fields assumed operatorship of the Talas Project during 2009 and continued an aggressive drilling programme through the winter months to delineate the resource potential at the Taldybulak Cu-Au porphyry target, as well as testing other promising targets within the belt. Results continue to be encouraging and work is progressing to complete an in-house conceptual study in F2010.



Talas JV Project – Map of the Tien Shan belt in Central Asia and China



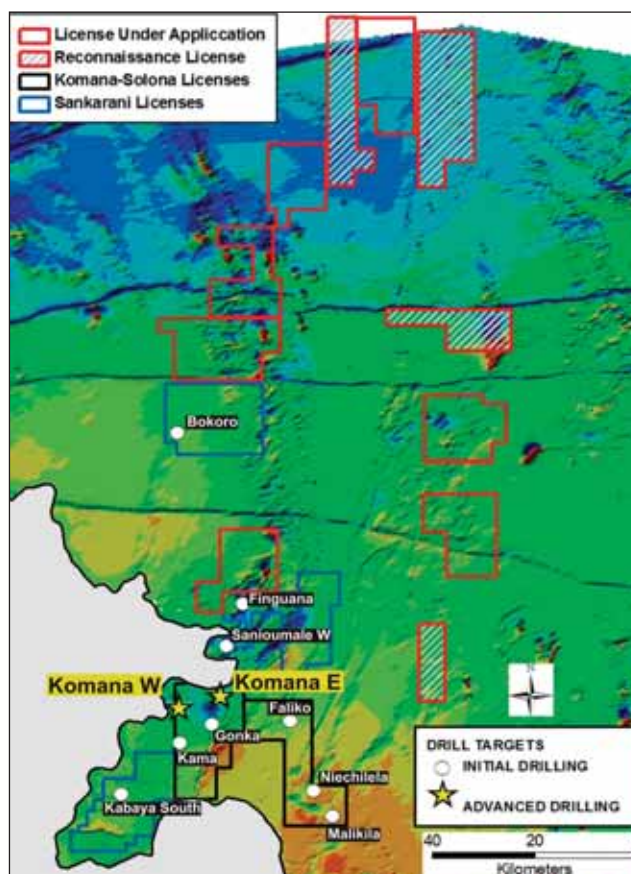
Talas JV Project – Geological map showing selected drilling at the Taldybulak Au-Cu deposit

Komana – Sankarani Project, Mali

At the Komana Project, field work including geophysical surveys, diamond drilling and air core drilling commenced on the Komana East and West zones, but was suspended for the rainy season at the end of June 2009.

In July 2009, Gold Fields announced that an agreement had been reached with Glencar Mining Plc on the terms of a recommended cash offer for its entire issued share capital. On 4 September 2009 Gold Fields had received over 80% acceptances and made the offer unconditional. Gold Fields is now in the process of consolidating 100% ownership of the Komana, Sankarani and adjacent Solona projects in Mali.

At the Sankarani project, positive initial drilling results over the year broadly defined extensive mineralised trends with economic gold grades over significant drill widths at the Finguana, Bokoro and Sanioumale shear-hosted orogenic gold targets. At Bokoro, drilling has defined a North-South open-ended zone of oxide gold mineralisation 750 m long across an average width of 15 m, grading 1-3 g/t. At Sanioumale, gold mineralisation was intersected along an open-ended 2,000 m long N-S shear system. An aggressive follow up programme will be conducted during F2010 with the aim of in-fill drilling the Bokoro and Sanioumale zones.



Komana/Sankarani Project – Tenement position in southern Mali (TMI aeromagnetic image)

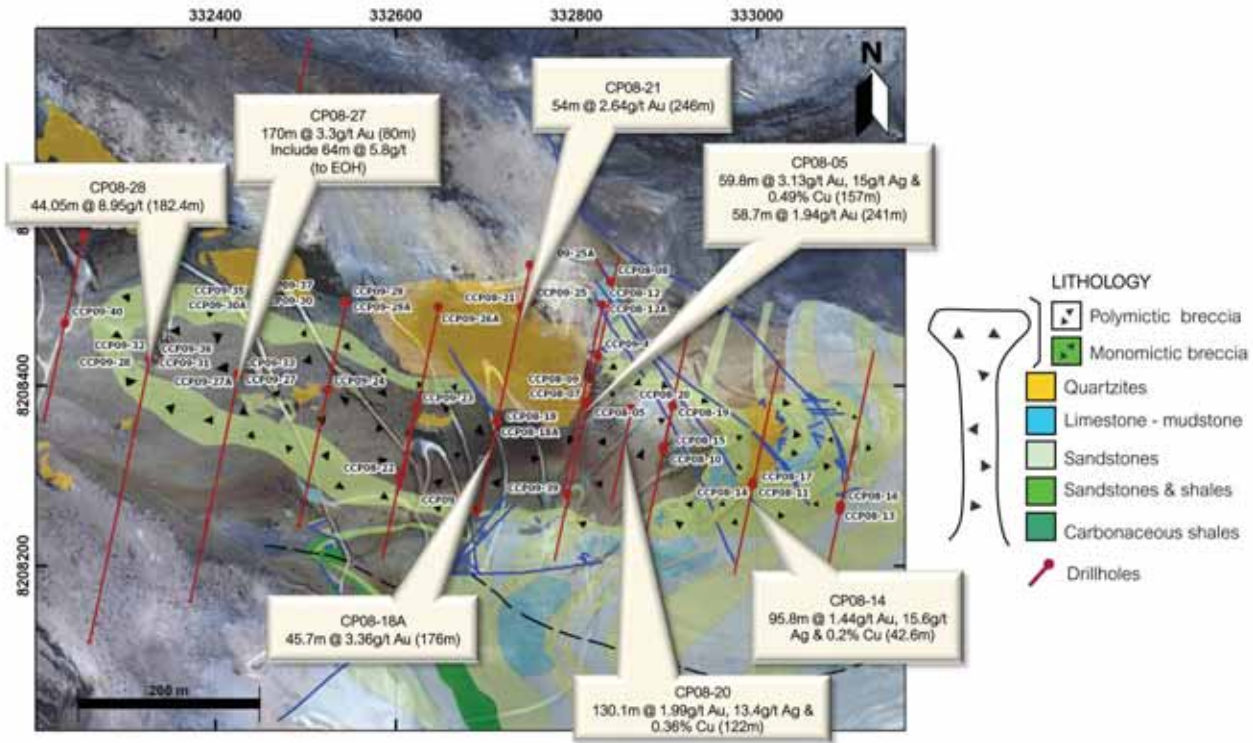
Chucapaca JV Project, Peru

Gold Fields has exercised its back-in right with Compania de Minas Buenaventura S.A.A. to earn a 51% interest in the Chucapaca project located in southern Peru. The option was triggered on the back of the Canahuire discovery on the Chucapaca tenements where drilling intersected significant gold mineralisation with local copper grades associated with the margins of a diatreme breccia. The elongate

breccia system is at least 800 m long by up to 200 m wide. Sulphide mineralisation with gold remains open at depth and laterally to the west and north.

Operatorship of the project was transferred to Gold Fields during F2009 and an aggressive drill campaign commenced to delineate the extent of mineralisation of the Canahuire deposit as well to test several

other prospective targets in the area. Four diamond drills are currently on site with two more scheduled to mobilise in mid-September 2009. Results have confirmed and expanded the potential of the deposit and work is progressing to complete a scoping study in Q4 F2010.



Chucapaca JV Project – Geological map showing selected drilling results at the Canahuire discovery



Chucapaca JV Project – Advanced drilling underway at the Canahuire discovery



Near Mine Exploration

St Ives Mine, Western Australia

At St Ives the main focus was resource conversion and extensional drilling at the Athena-Hamlet target, located adjacent to the Argo underground mine. Drilling at Athena produced encouraging results with very consistent widths, grades and geometry. The majority of drilling related to the Athena conceptual study has now been completed and a full feasibility study will be completed in mid F2010.

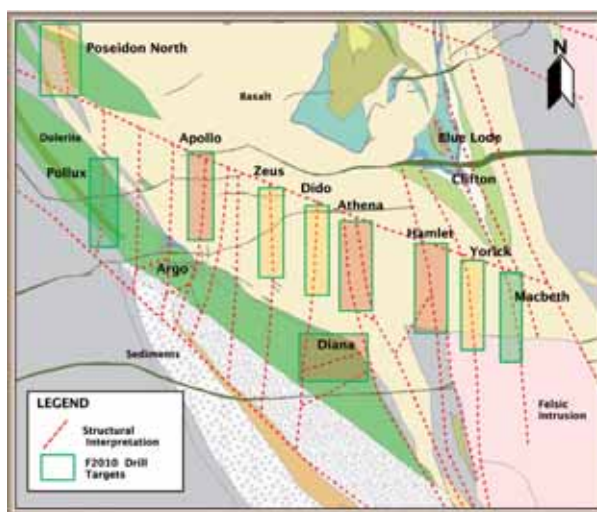


St Ives – Resource definition drilling at the Athena Project

At Hamlet, drilling is focused on extending the lateral and depth extents of the known mineralisation. The strike length of the resource is about 500 m and deeper drilling to 200 m – 400 m below surface is returning positive results. Drilling will continue testing along strike of these deeper results in F2010 to assess if the high grade resource can be expanded. There are a number of additional targets to be tested in the Argo-Athena complex and the area is showing great promise.

Agnew Mine, Western Australia

At Agnew, drilling in F2009 focused on the underground extensional drilling and resource conversion at Waroonga, specifically at Kim South and 450 South. Exploration for near surface mineralisation is focused on the Cinderella and Cinderella NE blocks and other prospects such as Maria and Turret North which are all located within 10 km of the gold plant. Surface drilling north and south of Waroonga was also started and these programmes will extend through F2010.



St Ives – Plan map of the Argo Athena complex

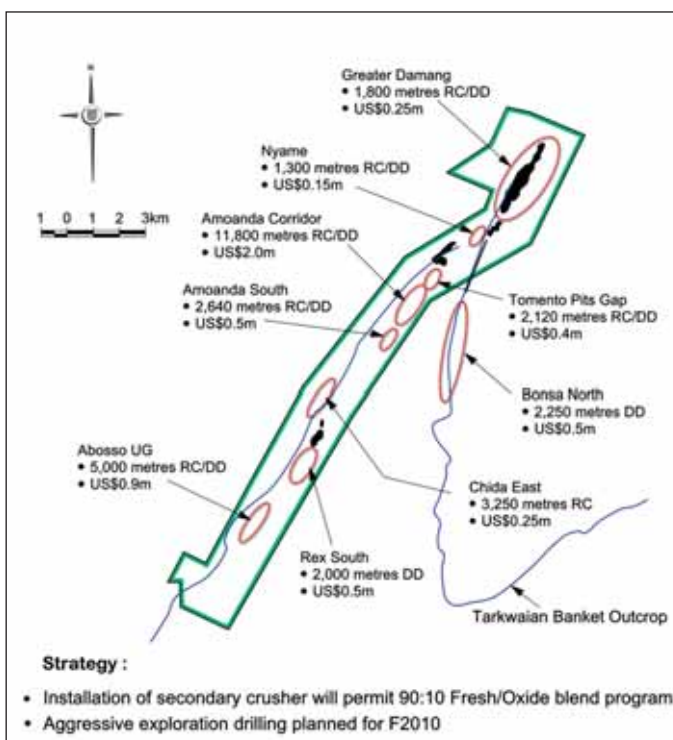
Damang Mine, Ghana

At Damang, the emphasis during F2009 was on extensional drilling to the south of the main Damang mine and between some of the smaller surface mines. Positive results are being returned from the Nyame and Tamang prospects and suggest that the Damang mineralisation may extend for at least 2 km south of the Damang pit cutback (DPCB). Infill extensional drilling in the Huni Gap area, located north of the DPCB, is scheduled for start up in F2010, and represents an additional 400 m of strike length. Current exploration planning is to consolidate the Mineral Resources potential surrounding the DPCB to provide additional fresh ore sources to an upgraded processing circuit.

Extensional drilling to the north of the Amoanda surface mine, and between Amoanda and the Rex surface mine, is also starting to show promise. These initial drilling results are supported by an extensive, lease wide gravity and IP geophysical survey which is scheduled for completion by Q3 of F2010.

Cerro Corona Mine, Peru

At Cerro Corona, district exploration continues on the 50:50 joint venture project with Compania de Minas Buenaventura S.A.A.



Damang - Planned drilling for F2010



Sustainable Development

Gold Fields has stated that: “If we cannot mine safely, we will not mine”. This principle applies to the exploration team: “If we cannot explore safely, we will not explore”. The exploration group continually strives to provide a safe and healthy working environment at all of the projects, with the ongoing aim of achieving zero incidents and accidents.

From an environmental perspective, the exploration group utilises industry best practices that minimises the overall footprint wherever possible. As projects progress through the pipeline, preliminary Environmental Impact Assessment work will start at the advanced drilling stage, ensuring baseline data is gathered

before any major disturbance of the natural surroundings. As always, local requirements will take precedence should they surpass the company’s internal requirements.

To demonstrate this commitment to safety and the environment, the Gold Fields exploration group has achieved and strives to maintain ISO14001 and OHSAS18001 certification at its offices and projects around the world.

As a team, it is appreciated that the exploration group is the first ambassador of Gold Fields in a community. To this end the team always strives to leave a good and lasting legacy. Stakeholders can

rely on Gold Fields to make constructive contributions and be positive members of the communities in which it works and explores.

With a thoughtful and considered global exploration strategy and a commitment to delivery and execution, in a manner conducive to all Gold Fields’ stakeholders, the exploration group has a significant contribution to make in discovering and realising the next generation of Gold Fields mines.

Key Technical Staff

The exploration team comprises about 200 full-time and contract personnel including 47 Geoscientists, who provide the key exploration capability in the regions

of focus around the world. In addition to experienced field-based technical personnel, state-of-the-art expertise and support is provided to the regional teams

by two in-house groups: the Earth Science Group and the Project Generation Group.

Post	Incumbent	Qualifications	Years	Key Responsibilities
Executive Vice President Exploration and Business Development	Tommy McKeith	BSc (Hons) Geology, GDE (Mining), MBA	22	Executive Head of Exploration responsible for strategic direction, leadership & management; Perth office
Vice President Exploration Americas	Nate Brewer	BA (Geology); AIPG (CPG)	33	Americas Region exploration management (focus on Peru, Chile, and Canada); Denver office
Vice President Business Development	Roy Kim	BSc (Applied Sciences); MBA	10	Global business development function including evaluations and analysis of acquisition opportunities; development of exploration strategy and planning; Denver office
Senior Manager Near Mine & Advanced Projects	Mike Botha	BSc (Geology & Applied Chemistry); BSc (Hons) Geology; MSc (Geology with Distinction)	25	Overall responsibility for Near Mine exploration programmes and resource/reserve additions
Exploration Manager Africa	Serge Nitiema	BSc; DEA; MSc; PhD (Geology)	20	Africa Region exploration management (focus on Ghana and Mali); Accra office
Exploration Manager Australasia	Craig Feebrey	BSc; MSc; PhD (Geology); AusIMM	25	Australasia Region exploration management (focus on Australia, Philippines and China); Perth office
Exploration Manager Kyrgyzstan	John Schloderer	MSc (Geology)	30	Kyrgyzstan exploration management (Talas JV Project); Bishkek office
Project Generation Manager	Ed Baltis	BSc (Hons) Geology	22	Head of Project Generation Group (delineation and target generation within high potential gold provinces and support Exploration Group with technical decision making on active exploration projects; R&D); Perth office
Chief Geologist	Rael Lipson	BSc (Hons); MSc (Geology); PhD (Geochemistry)	36	Head of Earth Science Group (support disciplines of resource modeling; geophysics, geochemistry database & IT services for the Exploration Group); Global area selection for exploration; Denver office
Head Consulting Metallurgist	Mike Brittan	BSc (Chem Eng); MSc (Chem Eng), MS (Chem Eng); PhD (Chem Eng); MDP (Bus Mgmt)	42	Internal metallurgical consultant for advanced exploration projects and acquisition opportunity evaluations; Denver office
Manager Human Resources	Lois Brooks	BA; MLS (Library Sci)	33	Head of global human resources function for Exploration Group; Denver office