

## PROJECT PROFILE GRAMALOTE, COLOMBIA



### DESCRIPTION

The Gramalote project, a joint venture between AngloGold Ashanti Limited (51%) and Vancouver-based B2Gold Corp (49%), is located 110km northeast of Medellín in the municipality of San Roque, in the department of Antioquia, in northwest Colombia. The project is managed and operated by AngloGold Ashanti.

AngloGold Ashanti has been engaged in greenfields exploration in Colombia since 2002 with Gramalote being one of three major discoveries in the country.

### Project status

Gramalote is at an advanced stage of development and will be the first major open-pit gold mine development in Colombia, and the group's first operating gold mine in that country. This project, for which best practice standards are being applied to all project activities, will enable AngloGold Ashanti to establish its responsible mining and operating credentials in the host community and among the broader Colombian population.

### Salient features

Mineral Resource (inclusive) – 100%	5.0Moz (2011: 3.9Moz)
– attributable (51%)	2.6Moz (2011: 2.0Moz)
Estimated annual gold production	350,000oz – 450,000oz (+5Moz over mine life)
Estimated annual production rate	70Mt
Estimated total cash costs	\$650/oz – \$750/oz
Average head grade	0.5g/t – 0.55g/t
Total cost	\$950/oz – \$1,050/oz
Estimated capital expenditure – project	\$1.25bn – \$1.45bn
Estimated annual ore throughput	20Mt – 23Mt
Annual plant capacity	20Mt – 23Mt
Tailings storage facilities capacity	300Mt
Plant – scheduled date of first gold pour	2017
Estimated life-of-mine	12 – 15 years

### Progress in 2012

The prefeasibility study was concluded in the fourth quarter of 2012. While the results of this work demonstrated the social, environment and technical viability of the project, several identified optimisations regarding capital and operating aspects of the project remain to be validated. Accordingly, the project team launched an enhanced engineering phase which continues to validate project enhancement opportunities and now envision the Gramalote project as a 70Mtpa open-pit mine with a 23Mtpa flotation and concentrate leaching process plant producing in excess of 450,000oz annually over the first five years of mine life with efforts presently underway to sustain that production level over the remaining life-of-mine.

A total of 23,000m of drilling was completed in 2012. This focused on geotechnical, condemnation and resource conversion. The Mineral Resource increased from 2.0Moz to 2.6Moz. Exploration potential in the district is considered high, with a large tenement position of which less than 10% has been explored to date. A comprehensive exploration programme is being advanced and geophysical and geochemical surveys will assist in defining exploration targets that are expected to confirm the mining district's (and project's) estimated endowment.

Drill programmes in 2013 will focus on further refining the definition of mineral resources and conclude geotechnical and hydrogeological models.

### **Capital expenditure**

In-line with current company and joint venture policy, expenditures at Gramalote are expensed until a viable project is declared. Total project expenditures in 2012 were \$67m, bringing expenditure to date on the project to \$100m.

Approved project expenditure in 2013 will conclude technical studies, advance project engineering, complete land acquisitions, conclude social and environmental baseline work, and continue the engagement of project sustainability programs. Technical work to be completed centres on project enhancements to both operating and capital costs for the project. This work is expected to complete the prefeasibility phase of the project and allow for a decision to advance the feasibility phase of the project. The project's environmental impact assessment will be submitted in the third quarter of 2013 with project approval expected in 2014.

Feasibility work will centre on detailed engineering and design and execution planning for both the project and post-project operations.

### **Sustainability**

AngloGold Ashanti's sustainability strategy at Gramalote is focused on an array of programmes that benefit direct and indirect employment, sustainable agriculture, growth in local supplied commerce, and engagement in general service provision such as water supply and sanitation.

### **Safety**

As with all of Colombia, there was a significant improvement in safety performance at Gramalote, led by a strong team of dedicated professionals coupled with the implementation of an array of safety programmes that focused on working safely.

Gramalote achieved an AIFR of 5.65 per million hours worked – against a target of 9.0 for 2012 – which was a dramatic improvement on the 16.64 recorded in 2011.

Safety targets have been set for 2013 and the programme on the implementation of the group's 22 safety standards, aimed achieving zero incidents group wide, will continue.

### **Health**

A health baseline analysis and a correspondent health impact assessment are being prepared by Cendex, the public health institute of the Javeriana University. This work will be included in the Environmental Impact Assessment due in September 2013. A core element of this assessment is the impact of many decades of artisanal mining in the area, which has led to public health issues among the local population (mainly the artisanal miners) due to the use of mercury.

Development of an occupational health surveillance system was undertaken in the fourth quarter of 2012.

## **Community**

### **Stakeholder engagement**

Much of Gramalote's support stems from the promise of the economic development it will provide for a community where 35% of inhabitants live in poverty and 12% in extreme poverty. About 14% of San Roque's inhabitants are unemployed.

The project has established a community investment programme which includes supporting existing activities and social infrastructure.

Successful negotiations with 153 artisanal miners were finalised in July 2012, with a formal agreement that involves recruitment of 40% of their number by the company as well as the setting up of small businesses (assisted by Gramalote) to provide services to the community and potentially to the company. The successful development of Gramalote offers an opportunity for AngloGold Ashanti to establish its project development credentials to the host community and to the broader Colombian population.

The Gramalote project team has designed and implemented an extensive strategy of identifying and engaging stakeholders at the local and regional level. This includes local citizen groups, local and regional businesses and business associations, commercial enterprises, academic institutions and local and regional governments.

Stakeholder engagement has focused primarily on education about modern gold mining and its benefits as well as mitigation and compensation of any possible negative impacts. Secondly, engagement has focused on improving the livelihood of the local inhabitants through investment projects in health, education and infrastructure, and strengthening existent economic activities (i.e. sugar cane and cattle ranching). The project will be developed in an impoverished rural area of Antioquia Department and both the direct and indirect employment opportunities will benefit the region substantially.

Three main initiatives are currently underway to improve living standards in the area immediately surrounding the project. These cover food security, agricultural productivity enhancements and improved living conditions, concentrating around social infrastructure (schools, sanitation, and health institutions in the direct area of influence).

### **Artisanal and small-scale mining**

A detailed artisanal and small-scale mining strategy has been developed and is being successfully implemented. Negotiations have been successfully completed with 153 local artisanal and small-scale miners who have agreed to look for and find alternative means of livelihood, which included employment with Gramalote (40%), as well as setting up small businesses (with assistance by Gramalote) to provide services in the communities and potentially to the company.

## Gramalote – key statistics

		2012	2011	2010
<b>Operational performance</b>				
Total expenditure – 100%	\$m	67.0	29.0	3.5
– 51%	\$m	34.2	14.8	1.8
<b>Safety</b>				
No. of fatal accidents	per million hours worked	0	1	0
All injury frequency rate (AIFR)		5.65	16.14	0
<b>People</b>				
Total average number of employees		529	280	65
– Permanent employees		93	36	8
– Contract employees		436	244	57
Employee turnover	%			
– Permanent		2	6	0
– Contractors		3	3	0
Training and development expenditure	\$000	148	19	4
<b>Environment</b>				
Total water consumption	MI	29		
Total energy usage	Million GJ	0.0005		
Reportable environmental incidents		0	0	0
Rehabilitation liabilities	\$m	0.8	0.8	0

### Environment

AngloGold Ashanti has been engaged with an environmental baseline study of the project for over two years. The study will provide a full scope analysis of the project area as it is today and the potential impacts to the environment as a result of the project development and operation. There are no unique environments or threatened and endangered flora or fauna within the project area, however, as the project is located in an area of moderately high rainfall this necessitates good water management practices to mitigate the effects of surface storm water.

The environmental baseline study along with the social baseline study will inform the project's environmental impact assessment, development of which continues in consultation with the National Environment Authority. Steps are being taken to conclude all the technical work required for the submission of the environmental impact assessment during 2013.

New regulations regarding water discharge standards are currently being evaluated with AngloGold Ashanti and other

mining companies working closely with the regulatory agencies in the development and promulgation of these standards.

Water use is a primary concern in this mostly agricultural region. Infrastructure location will be optimised to minimise the project's use of water and reduce impacts on critical water sources. Preliminary investigations demonstrate that there will not be a material impact on agricultural or domestic water. However, the in-country team continues to work on a broad awareness and education campaign to show the benefits of responsible mining, and how impacts are mitigated and compensated for to achieve a net positive impact.

### Outlook

The focus in 2013 will be to advance the project in line with its development plan, concluding advanced technical studies and submitting the environmental impact assessment in the second quarter of 2013. This will be followed by the start of the project feasibility study in the third quarter 2013. Assuming the project advances to implementation, construction would be expected to begin in late 2014.

Additional information from a country perspective can be obtained from the Colombia country fact sheet which is available at [www.aga-reports.com](http://www.aga-reports.com).

## Forward-looking statements

Certain statements contained in this document, other than statements of historical fact, including, without limitation, those concerning the economic outlook for the gold mining industry, expectations regarding gold prices, production, cash costs and other operating results, return on equity, productivity improvements, growth prospects and outlook of AngloGold Ashanti's operations, individually or in the aggregate, including the achievement of project milestones, commencement and completion of commercial operations of certain of AngloGold Ashanti's exploration and production projects and the completion of acquisitions and dispositions, AngloGold Ashanti's liquidity and capital resources and capital expenditures and the outcome and consequence of any potential or pending litigation or regulatory proceedings or environmental issues, are forward-looking statements regarding AngloGold Ashanti's operations, economic performance and financial condition. These forward-looking statements or forecasts involve known and unknown risks, uncertainties and other factors that may cause AngloGold Ashanti's actual results, performance or achievements to differ materially from the anticipated results, performance or achievements expressed or implied in these forward-looking statements. Although AngloGold Ashanti believes that the expectations reflected in such forward-looking statements and forecasts are reasonable, no assurance can be given that such expectations will prove to have been correct. Accordingly, results could differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic, social and political and market conditions, the success of business and operating initiatives, changes in the regulatory environment and other government actions, including environmental approvals, fluctuations in gold prices and exchange rates, the outcome of pending or future litigation proceedings, and business and operational risk management. For a discussion of such risk factors, refer to the document entitled "Risk Factors related to AngloGold Ashanti's suite of 2012 reports" on the AngloGold Ashanti online corporate report website at [www.aga-reports.com](http://www.aga-reports.com). These factors are not necessarily all of the important factors that could cause AngloGold Ashanti's actual results to differ materially from those expressed in any forward-looking statements. Other unknown or unpredictable factors could also have material adverse effects on future results. Consequently, readers are cautioned not to place undue reliance on forward-looking statements. AngloGold Ashanti undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after the date of this project profile or to reflect the occurrence of unanticipated events, except to the extent required by applicable law. All subsequent written or oral forward-looking statements attributable to AngloGold Ashanti or any person acting on its behalf are qualified by the cautionary statements herein. This communication may contain certain "Non-GAAP" financial measures. AngloGold Ashanti utilises certain Non-GAAP performance measures and ratios in managing its business. Non-GAAP financial measures should be viewed in addition to, and not as an alternative for, the reported operating results or cash flow from operations or any other measures of performance prepared in accordance with IFRS. In addition, the presentation of these measures may not be comparable to similarly titled measures other companies may use. AngloGold Ashanti posts information that is important to investors on the main page of its website at [www.anglogoldashanti.com](http://www.anglogoldashanti.com) and under the "Investors" tab on the main page. This information is updated regularly. Investors should visit this website to obtain important information about AngloGold Ashanti.

## PROJECT PROFILE LA COLOSA, COLOMBIA



### DESCRIPTION

Exploration rights at the La Colosa project are wholly held by AngloGold Ashanti. The project is based on the largest greenfields discovery made by AngloGold Ashanti and has an inferred resource of 26.8Moz.

La Colosa is located in the department of Tolima, Colombia, about 14km west from the town of Cajamarca. La Colosa lies in steep terrain in Colombia's central Cordillera but retains good access to a national highway and Colombia's main power grid.

The project is at the prefeasibility stage, currently evaluating alternative mining methods, plant locations and related infrastructure. The drilling programme is progressing to define the size and extent of the Mineral Resource that has not been constrained in the northwest and is partially open at depth.

Exploration work is continuing to define the size and extent of the mineral resource that is presently unconstrained in the northwest and partially open in depth. Mineral potential beyond the immediate La Colosa deposit is encouraging and could expand the project

### Salient features

Mineral Resource	2012: 26.8Moz 2011: 16.3Moz
Estimated annual gold production	1Moz (+25 Moz over mine life)
Estimated annual production rate	70Mt mined per year
Estimated total cash costs	\$550/oz – \$600/oz
Average head grade	0.81g/t
Total cost	\$840/oz – \$900/oz
Estimated capital expenditure – project	\$5bn – \$5.5bn
Estimated annual throughput of ore	50Mt
Annual plant capacity	50Mt
Tailings storage facilities capacity	1,700Mt
Plant – date scheduled for first gold pour	2020
Estimated life-of-mine	+ 25 years

### Project status

La Colosa's concession covers 600km<sup>2</sup> on land designated under Colombian law as a "forest reserve", a legal term for a tract of land designated for forestry use. Extraction permits are required to reclassify for mining development. A land use permit was obtained for exploration drilling in 2010 and the majority of the mineral resource has been defined under that permit. Additional land use permits are presently being sought to expand mineral potential, perform condemnation drilling, and perform key infrastructure geotechnical and hydrogeological investigations. These permits are expected to be granted by the National Environmental Authority in 2013.

The project is currently in prefeasibility with technical studies focused on mineral resource extent, mining method alternatives, ore transportation alternatives, metallurgical test work, process plant design, and related infrastructure design. In parallel, social and environmental baseline studies continue to progress along with key sustainability program implementations and an extensive educational and project communications outreach. The capacity of the project team has been built to ensure efficient and expeditious development of this project.

Updated prefeasibility level capital expenditure and operating costs will be determined once the final mining and processing methods are confirmed at the conclusion of the prefeasibility study, which is expected to be concluded in Q3 2014.

### **Progress in 2012**

Project efforts in 2012 continued to be driven by the expansion of mineral resources (which in-turn is driving infrastructure size) coupled with on-going efforts to address key social issues within the various stakeholder groups – the potential project footprint within the forest reserve and concerns related to potential water consumption and water quality within the Coello River Basin. These scope changes have impacted budget and schedule.

Key decisions related to ore transportation and the relocation of infrastructure facilities out of the forest reserve area have dramatically changed the definition of the project's direct and indirect area of influence, and the scope of the environmental and social studies. Additional trade-off studies were necessary to optimise estimates of capital and operating expenditure, resulting in a suite of alternatives that have enhanced the project profile and are expected to positively address the key social issues of project footprint and water consumption and quality.

With this outcome, extensive efforts have been started to socialise the project in an array of venues locally, within the region and nationally, necessitating strengthening of the project team to execute the critical body of work associated with social and environmental licensing.

Technical evaluations also continued with the collection and analysis of geotechnical and hydrogeological information required for mine definition, trade-off studies on mining methods and alternatives, metallurgical test work and process definition, and infrastructure design.

Prefeasibility work is scheduled to be completed by the third quarter of 2014 and will define the extent and size of the resource; complete an extensive investigation of alternatives for mining, processing, ore transportation; infrastructure size and location; the purchase of land for access and infrastructure development; complete the environmental and social impact baseline assessments; and initiate sustainability projects for the areas of impact.

### **Capital expenditure**

The project is being conducted as expensed costs since neither a formal project declaration nor completion of a feasibility study has been attained. Total expenditure of \$84.3m was spent at La Colosa during the year, bringing the project-to-date expenditure to \$203 m.

## **Sustainability**

### **Safety**

2012 realised significant improvement in safety performance at La Colosa with the implementation of an array of safety programmes that focused on work planning and execution, task training, prevention of accidents and risks, and road safety.

The AIFR declined to 4.19 per million hours worked in 2012 from 19.33 in 2011. Continuous training and leadership involvement will be required to maintain and improve on this success.

Safety targets have been set for 2013 and implementation of the group's 22 safety standards will continue with the aim of achieving zero incidents.

### **Health**

Work continued all year on the project area health baseline study which will help to ensure that data is available for the design and submission of a thorough health impact assessment within the environmental impact assessment. This study is being undertaken by Cendex, the public health institute of the Javeriana University. Initial baseline data will be available around mid-2013.

### **Stakeholder engagement**

The management team has developed extensive stakeholder maps locally, regionally, and nationally and is fully engaged in establishing solid relationships with these individuals, groups, institutions, and agencies. As well, the management team has successfully developed valuable partnerships and alliances with neighbouring educational institutions for verification studies, while a reforestation programme has been initiated with school communities around the Cajamarca area. These interventions form part of an active stakeholder relations and social investment strategy, which also includes business associations, communities, community boards and leaders, educational institutions, government and governmental agencies, and NGOs.

Local and regional government engagement has been a priority in 2012 with important changes at both local and regional government and the regional environmental authority (CORTOLIMA). These changes are viewed optimistically as venues have been created to work constructively within these entities to educate, provide timely updates, and work to common solutions to the technical challenges a large-scale project will present. A key issue at La Colosa remains preservation of water quality and quantity and the potential impact mining may have on regional rice growers in central Tolima Department. To that end, technical breakthroughs achieved in the last quarter of

## La Colosa – key statistics

	Units	2012	2011	2010
<b>Operational performance</b>				
Expensed and capital expenditures	\$m	84	63	30
Mineral resource (inclusive)	Moz	27	16	12
<b>Safety</b>				
No. of fatal accidents		0	0	0
All injury frequency rate (AIFR)	per million hours worked	4.19	19.33	13.09
<b>People</b>				
Total average number of employees		644	455	267
– permanent employees		86	51	45
– contract employees		558	404	222
Employee turnover	%			
– permanent	%	1.8	1.1	0.7
– contractors	%	5.4	7.2	6.7
Training and development expenditure	\$000	680	411	111
No. of people trained		96	55	45
<b>Environment</b>				
Total water consumption	MI	32.24	59.04	14.03
Total energy usage	million GJ	0.0005	0.0006	NA
No. of reportable environmental incidents		12	1	0
Rehabilitation liabilities	\$m	0.8	0.8	0

2012 regarding project infrastructure and ore transportation, coupled with opportunities to address regional water quality and use, present new venues of common ground to ensuring the co-existence of agriculture and mining. Programs in 2013 will centre on bringing these issues and solutions to all stakeholders with the aim of further advancing the social, sustainability, and environmental licensing.

### Community

The project team at La Colosa, working with the Bogota office, continued a succession of key community enhancement projects across a number of communities it is working in. Specific projects focus primarily on areas of agriculture, health and social infrastructure sector aimed at strengthening existing economic activities and improving levels of poverty. These programs undertaken since the project started include a livestock breeding programme, introducing avocado tree farming, the construction of an auditorium for a local children's

home, and provision of an ultrasound scanner and x-ray system to the local hospital.

Community relations in Cajamarca remain positive and have been built on a social investment strategy, as well as on an on-going stakeholder engagement. The biggest challenge lies now with the extension of the project into new areas, as new infrastructure sites are being analysed. This has required stakeholder engagement in new areas, and will now necessitate a solid and consistent community risk analysis and corresponding investment strategy to mitigate impacts and allow for the work to be advanced without delays.

### Environment

Environmental baseline study work continued in 2012 and its scope has been expanded due to the revised ore transportation and infrastructure. This baseline work will be developed as part of the La Colosa prefeasibility study as well

as the environmental impact assessment (in consultation with the National Environment Authority). The environmental impact assessment is expected to be submitted early in the second quarter of 2015.

Other work engaged in 2012 was the implementation of environmental offset/compensation programmes in concert with Conservation International and other NGO groups with the aim of obtaining net positive gains in biodiversity, with an emphasis on water conservation and use.

The Ministry of Environment and Sustainable Development has adopted a manual for awarding compensation related to the loss of biodiversity and has adopted more flexible rules to allow for an express extraction process for early exploration work. Finally, new regulations regarding water discharge standards are currently being developed in close collaboration with AngloGold Ashanti and the mining industry.

Ongoing field work has resulted in minimal environmental impact since most exploration drilling is conducted using compact portable drill rigs from elevated re-usable bamboo platforms, linked by foot-trails. Three public universities are undertaking the biotic monitoring and hydrogeological and hydro-climatic programme for exploration stage activities in order to independently verify the effectiveness of control measures used.

A watershed reforestation programme has been developed with communities around the project and using trees from a plant/tree nursery programme developed by students from some schools in Cajamarca.

## Other matters

In the wake of peace negotiations between the Government and insurgent (guerrilla) groups, security incidents in the area have increased. This has resulted in some incidents that have affected assets (storage facilities, vehicles) of the company and its suppliers. However, a joint plan and procedures have been established with the armed forces to prevent such incidents and mitigate any impact. It should be noted that the size of the guerrilla groups in the area has substantially decreased in recent years, limiting its ability to undertake large-scale offensive actions.

## Outlook

The focus in 2013 will be to advance the project in line with its development plan and to complete the remaining technical and trade-off studies related to mining, ore transportation, plant and infrastructure locations, and local and regional water hydrology. Drilling activities in 2013 will be conducted largely for various geotechnical, hydrogeological and condemnation activities with permits expected to be released for this activity in the first quarter of the year. Resource drilling will attempt to close off mineralisation in the northwest portion of the deposit and at depth. Total expenditure of \$92m is forecast for 2013.

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