

# Pelangio Mines Inc. Pelangio Exploration Inc.

## Independent Technical Report Obuasi Gold Project, Obuasi, Ghana

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*Report Prepared for*

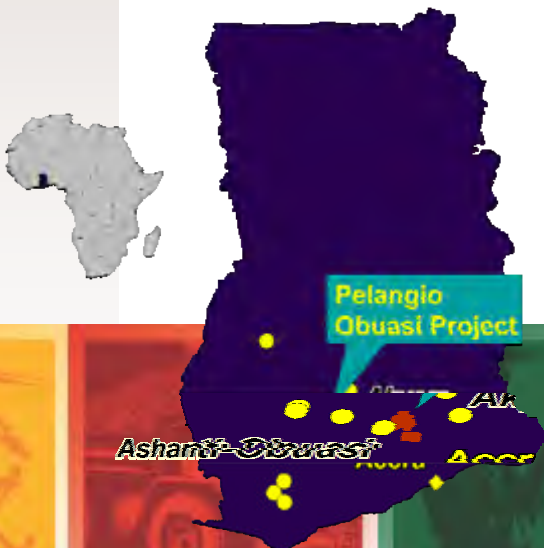
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# Independent Technical Report Obuasi Gold Project, Obuasi, Ghana

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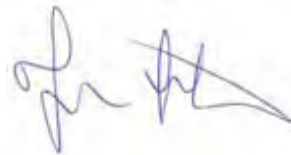
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Cover: Top. Landscape view of the western part of the Kyereboso No.2 property. Bottom. Minor Auriferous Quartz Vein intersected in Borehole PG07-KU-4 drilled on the Kusa Centracor target on the Meduma property.

## **Executive Summary**

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### **Introduction**

In 2005, Pelangio Mines Inc. (“Pelangio”) announced the acquisition of an option on a group of four early-stage gold exploration concessions located near the town of Obuasi in Ghana and adjacent to the AngloGold Ashanti’s world class Obuasi Gold Mine. In the two years since, Pelangio has advanced exploration efforts by performing reconnaissance rock and soil sampling, geological mapping ground and airborne geophysics, followed by limited trenching and core drilling.

Pelangio commissioned SRK Consulting (Canada) Inc. (“SRK”) to prepare an updated independent Technical Report for the Obuasi Gold Project following the guidelines of Canadian Securities Administrators National Instrument 43-101 and Form 43-101F1; and in conformity with generally accepted CIM “Exploration Best Practice Guidelines”. This technical report was prepared in support of a corporate reorganization by way of a plan of arrangement approved by shareholders.

SRK initially visited the Obuasi project in October 2005 and a second time between March 16 and 19, 2008. This technical report is based on information believed to be reliable; collected during the site visit and obtained through field observations, review of technical data and discussions with concession vendors.

### **Property Description and Agreements**

The Obuasi Gold Project comprises three contiguous Prospecting Licences (Kyereboso No.2 and No.3 and Meduma) covering an aggregate area of approximately 290 square kilometres (centroid located at one degree thirty-two minutes longitude west and six degrees seventeen minutes latitude north). An option on a fourth Prospecting Licence (New Edubiasi) covering an area of 120 square kilometres was abandoned in 2007. The project is located near the Town of Obuasi, approximately 150 kilometres from Accra, the capital city of Ghana. The Property is contiguous to a portion of the eastern boundary of the AngloGold Ashanti’s Obuasi mine property.

Pelangio’s rights to the four prospecting concessions have been acquired through a Letter Agreement dated September 23, 2005 and further amended on November 18, 2005. Under the terms of the Letter Agreement reviewed by SRK, Pelangio may earn a ninety percent interest (the Ghanaian Government retaining the statutory ten percent carried interest) over two consecutive option periods and subject to payments totalling US\$3.8 million and the issuance of a total of sixteen million common shares of Pelangio over five years. Titleholders would retain a two percent net smelter return royalty.

### **Location, Access and Physiography**

The Obuasi Gold Project is located within the Obuasi Mining District. Access to the properties is via paved roads from Accra. Travel time from Accra to Obuasi is approximately four to five hours depending on traffic in Accra. The main paved roads traverse all four properties, while several secondary gravel roads and tracks provide access to most parts of the properties, except to areas covered by prominent hills where access is difficult and mobilization of heavy equipment such as drilling rigs will require road building.

The topography in the project area is variable. The concessions are covered by prominent hills rising 200 to 300 metres above the valleys and forming chains of hills aligned along geological features. Elevations range between approximately 200 and 500 metres above sea level.

## History

Prior to Pelangio's involvement in the properties, the exploration history of the concessions is not well documented and apparently records are scarce at the Minerals Commission and the Ghana Geological Survey. Randgold Resources Limited ("Randgold") carried out exploration work in 2004 on the Kyereboso No.2 and No.3 as part of the Adansi-Asaasi Joint Venture. Few original records exist for exploration work presumably conducted on the Meduma concession and there are no records of any work completed on the New Edubiasi concession. Limited historical drilling is reported but no original records could be examined by SRK.

On the Kyereboso No.2 and No.3 concessions in 2004, Randgold work included reconnaissance geological mapping and prospecting and systematic soil sampling (6,561 soil samples), trenching (2,790 metres and 1,397 samples) to investigate the interpreted strike extension of the Obuasi mine Main Trend.

In 2006 and 2007 Pelangio conducted geochemical soil sampling, prospecting work and ground geophysical surveying followed by trenching and limited core drilling. During the fourth quarter of 2007 an airborne geophysical survey was completed over a portion of the project area. At the time the report was prepared, the geophysical data were not available.

## Regional and Local Geology

The concessions are located in southwest Ghana, within the Ashanti Volcanic Belt and in proximity to world-class Obuasi and Akyem gold deposits. This area represents one of the most significant Proterozoic gold belts in the world. The geology of southwest Ghana is dominated by Birimian Supergroup sedimentary and volcanic rocks, Tarkwaian Group sedimentary rocks, and various granitoid intrusions.

The Birimian Supergroup rocks are characterized by northeast striking mafic volcanic belts separated from intervening sedimentary (dominantly turbiditic) basins by major faults. Tarkwaian sedimentary rocks are generally confined to Birimian volcanic belts where they occur as either fault-bounded slices or as unconformably overlying sedimentary rocks.

Proterozoic rocks have undergone two discrete orogenic cycles. An earlier "Eburnian I" orogeny, associated with the eruption of the Birimian metavolcanic rocks, intrusion of Belt type granitoids, and associated metamorphism between ca. 2,200 and 2,150 Ma. Regional northwest-southeast extension and formation of the Tarkwaian sedimentary basins followed the Eburnian I orogeny, between ca. 2,150 and 2,116 Ma. A later "Eburnian II" orogeny involved deformation, metamorphism of Birimian and Tarkwaian rocks, and intrusion of Basin type felsic intrusions between 2,116 and 2,088 Ma.

The Obuasi Gold Project is located within the north central portion of the Ashanti Volcanic Belt. In general, Tarkwaian rock units and dolerite intrusions are characterized by high magnetic susceptibility defining sharp magnetic signatures, whereas Birimian sedimentary and volcanic rocks are characterized by comparatively subtle magnetic patterns. Granitic rocks exhibit varied magnetic signatures, but in this

portion of the Ashanti Belt they exhibit more uniform patterns contrasting with that of Birimian and Tarkwaian rocks.

South of the Pelangio concessions, the Tarkwaian and Birimian rocks units generally trend north-easterly. In the concessions area, the rock units exhibit a strong easterly bend over several tens of kilometres before resuming their regional north-easterly trend farther to the north.

The Kyereboso No.2 and No.3 and Meduma concessions straddle the northwest contact of the Ashanti Volcanic Belt and are underlain by alternating bands of Tarkwaian and Birimian sedimentary rocks separated by narrow belts of Birimian volcanic rocks or dolerite intrusions. A belt-type felsic pluton intrudes the Birimian sedimentary and volcanic rocks in the northern portion of the concessions. This geological and structural setting is considered similar to that at AngloGold Ashanti's Obuasi mine.

## **Deposit Types and Mineralization**

The Obuasi project was acquired by Pelangio for its potential to contain shear zone hosted gold mineralization. Shear zone hosted deposits represent a large group of gold deposits formed by the circulation of hydrothermal fluids into fracture zones during metamorphism. Magmatic intrusions often supply some of the fluids and can act as an additional heat source to drive the hydrothermal circulation.

Structurally-controlled gold deposits in Ghana are predominantly hosted in Birimian sedimentary rock, often close to major lithological contacts with either Birimian volcanic or Tarkwaian sedimentary rocks. The gold mineralization is associated with major northeast striking, five to forty metres wide graphite-chlorite-sericite fault zones and commonly is marked by pervasive silica, carbonate and sulphide hydrothermal alteration.

On a broad regional scale left stepping flexures along northeast striking fault zones are important for the localization of gold mineralization. Local complexities in stratigraphy and fault geometry associated with major northeast striking faults are also important local controls on the location of better gold mineralization. Two distinct types of gold mineralization are recognized: quartz vein free-milling gold lodes and sulphide-rich (arsenopyrite) disseminated refractory gold lodes which are interpreted to form alteration haloes around the quartz vein lodes.

## **Sampling Method, Approach and Analyses**

Pelangio's field procedures to collect, handle and assay soil, trench and core samples during the period 2006-2007 generally meet industry best practices for early stage exploration projects. All assay samples were prepared and assayed by TransWorld Laboratories in Tarkwa, Ghana. Trench and core samples were assayed for gold by conventional fire assay followed by an atomic absorption finish. Soil samples were assayed using Bulk Leach Extractable Gold analyses and atomic absorption finish. In various areas of the project, samples were also tested by aqua regia digestion for a suite of elements such as copper, arsenic and zinc.

## **Data Verifications**

In accordance with National Instrument 43-101 guidelines, SRK visited the Obuasi project between March 16 and 19, 2008. The purpose of the site visit was to inspect and ascertain the geological setting of the Obuasi project, witness the extent of

exploration work carried out on the property and assess logistical aspects and other constraints relating to conducting exploration work in this area.

SRK conducted a series of routine verifications to ensure the reliability of the electronic data provided by Pelangio. In the opinion of SRK, the electronic data are reliable.

SRK visually examined assaying quality control data produced by Randgold and Pelangio. SRK analysed the quality control data using bias charts and various relative precision plots. This review suggests that the assay results delivered by the primary laboratories used by Randgold and Pelangio are generally reliable.

## **Mineral Resource Estimation**

The subject exploration concessions contain no known gold mineralization of sufficient size or quality that could justify estimating mineral resources.

## **Conclusions**

The exploration concept for the Obuasi Gold Project is based on the recognition that the bulk of the gold mineralization in this district is associated with prominent shear zones characterized by graphite and sulphide mineralization, quartz-veining and associated hydrothermal alteration. The gold mineralization typically is located at or near major lithological contacts between Birimian and Tarkwaian rocks. Fault geometry plays an important role in the localization of prospective gold mineralization. Therefore, the exploration strategy is to identify and understand the fault architecture on the Obuasi Gold Project using a combination of direct and indirect exploration tools. Faults and shear zones can be recognized using geophysical data and direct field observations. Integration of various datasets allows definition and ranking of exploration targets.

The initial exploration efforts of Pelangio were directed at completing the reconnaissance of the four properties and where appropriate at following up on results obtained by Randgold. Regional soil samples were collected over the entire Meduma and New Edubiasi concessions. The projects were prospected systematically as well. Based on the results of these surveys, the option on the New Edubiasi concession was abandoned in 2007. Additional soil sampling and trenching were completed on selected targets, followed by diamond drilling during 2007. Airborne geophysical data were acquired on a small portion of the Kyereboso No.2 concession during the fourth quarter of 2007.

SRK reviewed the exploration data accumulated by Pelangio on the Obuasi Gold Project. These data include sampling records, descriptive logs and drilling records. However, the data are not aggregated in a suitable database preventing Pelangio from extracting optimal interpretation to guide future exploration efforts.

The exploration work completed by Pelangio remains at an early stage and many targets identified during the reconnaissance stage remain to be investigated fully. Furthermore, Pelangio has not received the final airborne geophysical data.

## **Recommendations**

The results of the work to date are of sufficient merit to recommend an exploration program including geochemical and geophysical surveys and approximately 8,000 metres of reverse circulation and core drilling. The recommended work program is subdivided into two consecutive phases of work. The first phase of work includes

additional soil sampling and ground geophysical work to define selected targets, followed by trenching and approximately 3,500 metres of reverse circulation and core drilling. SRK also recommends that Pelangio considers the acquisition of software tools to assist in the integration and management of exploration data for this project. The second phase of work that is partly contingent on the results of the first phase of work comprises an airborne geophysical survey over the rest of the concessions followed by trenching and drilling. The total costs for the recommended work program are estimated at approximately CN\$2.9 million (Table i).

**Table i. Proposed Exploration Budget 2008 – 2009.**

<b>Work Program</b>	<b>Total Units</b>	<b>Total Cost</b>
<b>Phase 1</b>		
Line cutting and brushing \$200/km Area A&B	90	\$18,000.00
Prospecting and Mapping(days) \$345/day-(\$125 geologist and technician \$220 for assays) Area A,B,C and F	145	\$50,025.00
Trenching \$85/m Area C,D and E	1,500	\$127,500.00
Soil Samples (\$35/sample)100m by 25m grid (Area A&B)	3,600	\$126,000.00
RC Scout drilling 18 - 140m holes, (\$75/m) Area G	2,520	\$189,000.00
Diamond Drilling 8 - 150m holes at \$165/m Area G	1,500	\$247,500.00
Airborne Geophysics Final Interpretation( Contract) Area G,H	25,000	\$25,000.00
Computer Software (FracSys, Mapinfo, Downhole Explorer), Training	16,250	\$26,250.00
Compilation 30 days at \$1,000/day	30	\$30,000.00
<b>Phase 1 Subtotal</b>		<b>\$839,275.00</b>
<b>Contingency 5 %</b>		<b>\$41,963.75</b>
<b>Total Phase 1</b>		<b>\$881,238.75</b>
<b>Phase 2</b>		
Trenching Areas A and B	2,000	\$170,000.00
RC Scout drilling (\$75/m)	2,000	\$150,000.00
Diamond Drilling (\$165/m) Areas C,D,E and G	6,000	\$990,000.00
Airborne Geophysical Survey (remaining K2 ,K3 and Meduma areas)	2,760	\$331,200.00
276 km <sup>2</sup> , 100m spacing = 2760 line km (\$120/line km) (includes mob, GST and processing)		
<b>Subtotal Phase 2</b>		<b>\$1,641,200.00</b>
<b>Contingency 5%</b>		<b>\$82,060.00</b>
<b>Total Phase 2</b>		<b>\$1,723,260.00</b>
<b>Administrative Expenses</b>		
Expatriate geologist supervision (250 days at \$500/day)		\$125,000.00
Transportation to/from Canada 12 round trips at \$2,000/trip		\$24,000.00
Field Supplies		\$20,000.00
Food		\$50,000.00
Compensation - Farm Crops		\$32,000.00
Traditional Rites		\$3,500.00
Vehicle - Maintenance and Fuel		\$35,000.00
Field Workers First Aid		\$2,000.00
Permits & Licenses		\$500.00
Electricity Expenses		\$1,200.00
Generator running costs		\$4,300.00
Security Expenses		\$10,000.00
Contingency 5%		\$14,175.00
<b>Total Administrative Expenses</b>		<b>\$321,675.00</b>
<b>Total Budget May 2008 - May 2009</b>		<b>\$2,926,173.75</b>

## Table of Contents

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<b>Executive Summary</b> .....	<b>ii</b>
Introduction .....	ii
Property Description and Agreements .....	ii
Location, Access and Physiography .....	ii
History .....	iii
Regional and Local Geology .....	iii
Deposit Types and Mineralization .....	iv
Sampling Method, Approach and Analyses .....	iv
Data Verifications .....	iv
Mineral Resource Estimation .....	v
Conclusions .....	v
Recommendations .....	v
<b>Table of Contents</b> .....	<b>vii</b>
<b>List of Tables</b> .....	<b>ix</b>
<b>List of Figures</b> .....	<b>x</b>
<b>1 Introduction and Terms of Reference</b> .....	<b>1</b>
1.1 Scope of Work .....	1
1.2 Work Program .....	2
1.3 Basis of the Technical Report .....	2
1.4 Qualification of SRK.....	2
1.5 Site Visit .....	3
<b>2 Reliance on other Experts and Declaration</b> .....	<b>5</b>
<b>3 Property Description and Location</b> .....	<b>6</b>
3.1 Land Tenure.....	8
3.2 Underlying Agreements .....	14
3.3 Environmental Considerations .....	17
<b>4 Accessibility, Climate, Local Resources, Infrastructure and Physiography</b> .....	<b>18</b>
<b>5 History</b> .....	<b>21</b>
5.1 Introduction .....	21
5.2 Kyereboso No.2 and No.3 Concession .....	21
5.3 Meduma Concession .....	22
5.4 New Edubiasi Concession .....	23
<b>6 Geological Setting</b> .....	<b>24</b>
6.1 Regional Geology .....	24
6.2 Property Geology .....	28
<b>7 Deposit Types</b> .....	<b>30</b>
<b>8 Mineralization</b> .....	<b>31</b>
<b>9 Exploration</b> .....	<b>34</b>
9.1 Exploration Work Undertaken by Randgold.....	34
9.2 Exploration Work by Pelangio .....	36
9.2.1 Soil Geochemistry .....	36
9.2.2 Ground and Airborne Geophysical Surveys.....	36
9.2.3 Prospecting .....	39



9.2.4 Trenching .....	39
<b>10 Drilling .....</b>	<b>40</b>
10.1 Historical Drilling .....	40
10.2 Drilling by Randgold .....	40
10.3 Drilling by Pelangio .....	40
10.3.1 Abomposo Target .....	43
10.3.2 Kusa Centracor Target .....	45
10.3.3 Gyabunsu Mampawhe Area .....	47
<b>11 Sampling Method and Approach .....</b>	<b>48</b>
11.1 Sampling by Randgold .....	48
11.2 Sampling by Pelangio .....	48
11.2.1 Soil Sampling .....	48
11.2.2 Trench Samples .....	49
11.2.3 Drilling Samples .....	49
<b>12 Sample Preparation, Analyses and Security .....</b>	<b>50</b>
12.1 Randgold Samples .....	50
12.2 Pelangio Samples .....	51
12.3 Quality Assurance and Quality Control Programs .....	53
12.3.1 Rangold Analytical Quality Control Program .....	53
12.3.2 Pelangio Analytical Quality Control Program .....	54
<b>13 Data Verification .....</b>	<b>56</b>
13.1 Verification by SRK .....	56
13.1.1 Site Visits .....	56
13.1.2 Verification of Randgold Data .....	58
13.1.3 Verification of Pelangio Data .....	58
<b>14 Adjacent Properties .....</b>	<b>60</b>
14.1 AngloGold Ashanti Obuasi Mine .....	60
14.2 Newmont Ghana Gold Inc. Akyem Project .....	63
<b>15 Mineral Processing and Metallurgical Testing .....</b>	<b>65</b>
<b>16 Mineral Resource Estimation .....</b>	<b>66</b>
<b>17 Other Relevant Data .....</b>	<b>66</b>
<b>18 Interpretation and Conclusion .....</b>	<b>67</b>
<b>19 Recommendations .....</b>	<b>69</b>
19.1 Proposed Work for Phase 1 .....	71
19.1.1 Meduma Concession – Areas A and B .....	71
19.1.2 Meduma and Kyereboso Concessions – Area C .....	71
19.1.3 Kyereboso 3 Concession – Area D (Brofeyedru East) .....	71
19.1.4 Kyereboso 3 Concession – Area E (Brofeyedru South) .....	71
19.1.5 Kyereboso 2 and 3 Concessions – Area F .....	71
19.1.6 Main Obuasi Trend – Area G (Anyinabrim Area) .....	72
19.2 Proposed Work for Phase 2 .....	72
19.2.1 Airborne Survey .....	72
19.2.2 Meduma Concession – Areas A and B .....	73
19.2.3 Meduma and Kyerboso Concessions – Area C .....	73
19.2.4 Diamond Drilling – Areas C, D, E, and G .....	73
<b>20 References .....</b>	<b>74</b>
<b>APPENDIX A .....</b>	<b>75</b>
<b>APPENDIX B .....</b>	<b>79</b>
<b>APPENDIX C .....</b>	<b>83</b>

## List of Tables

---

Table i. Proposed Exploration Budget 2008 – 2009.....	vi
Table 1. Obuasi Gold Project Tenement Information.....	6
Table 2. Geological Characteristics of SW Ghana Gold Deposits.....	32
Table 3. Summary of Assay Results from the 2007 Drilling Program on the Obuasi Gold Project .....	41
Table 4. Assay Protocols used by Rangold for Sampling Work on the Kyereboso No.2 and No.3 Concessions. ....	51
Table 5. Assay Protocols used by Pelangio for sampling work on the Obuasi project in 2006 and 2007. ....	53
Table 6. Geographic Coordinates of the Vertices Defining the Kyereboso No.2 Exploration Concession, Ghana.....	76
Table 7. Geographic Coordinates of the Vertices Defining the Kyereboso No.3 Exploration Concession, Ghana.....	77
Table 8. Geographic Coordinates of the Vertices Defining the Meduma Exploration Concession, Ghana.....	78
Table 9. Geographic Coordinates of the Vertices Defining the New Edubiasi Exploration Concession, Ghana. Pelangio dropped the rights to this concession in 2007. ....	78

## List of Figures

---

Figure 1. General geology of Ghana and location of the Obuasi gold project and the major gold deposits of Ghana.....	7
Figure 2. General land tenure map. ....	9
Figure 3. Kyereboso No.2 concession tenement map (data from the Ghana Minerals Commission). ....	10
Figure 4. Kyereboso No.3 concession tenement map (data from the Ghana Minerals Commission).. ....	11
Figure 5. Meduma concession tenement map (data from the Ghana Minerals Commission). ....	12
Figure 6. New Edubiasi concession tenement map (data from the Ghana Minerals Commission). ....	13
Figure 7. Typical landscape in the vicinity of Obuasi and the concessions area.....	19
Figure 8. Geological timeline for southwest Ghana (modified from Allibone et al., 2002a).....	26
Figure 9. Magnetic patterns underlying the Obuasi gold project.....	29
Figure 10. Typical Gold Mineralization Styles at Obuasi.....	33
Figure 11. Distribution of gold in soil samples on the KyerebosoNo.2 and No.3 Concessions. ....	35
Figure 12. Extend and Results of geochemical soil survey, conducted by Pelangio on the northern portions of the property. ....	37
Figure 13. Extend and Results of geochemical soil survey, conducted by Pelangio on the New Edubiase portion of the property. ....	38
Figure 14. Location of Targets Investigated by Drilling During 2007. ....	42
Figure 15. Compilation of Trenching and Drilling Data at the Abomposo Target. ....	43
Figure 16. Abomposo Target. A. Section through Borehole PG07-AB-1 between 92 and 98 metres (see Figure 15).. ....	44
Figure 17. Compilation of Trenching and Drilling Results at the Kusa Centracor Target. ....	45
Figure 18. Composite Sections Through Boreholes PG07-KU-1.....	46
Figure 19. Compilation of Trenching and Drilling Results at New Trench 1 target.....	47
Figure 20. A-B. Benchmark for Boreholes PG07-KU-04 and KU-02 Drilled by Pelangio on the Kusa Target, Meduma Concession. C. Backfilled Trench at Kusa. ....	57
Figure 21. Geology of the Obuasi Mine Area and Location of the Various Gold Deposits and Prospects.....	61
Figure 22. Top. Distribution of Gold Deposits along the Obuasi Main Trend. ....	62
Figure 23. Schematic Vertical Cross Section through the Akyem Gold Deposit (Source: Newmont Website). ....	64
Figure 24. Location of Areas of Focus for the Recommended Work Program for 2008 - 2009 .....	70

# 1 Introduction and Terms of Reference

The Obuasi Gold Project is an early stage exploration property located near the town of Obuasi in Ghana and adjacent to the AngloGold Ashanti's world class Obuasi Gold Mine. It was acquired by Pelangio Mines Inc. ("Pelangio") in 2005 by way of an option agreement with three private companies domiciled in Ghana. In the two years since, Pelangio completed reconnaissance rock and soil sampling, geological mapping ground and airborne geophysics, followed by limited trenching and core drilling.

Pelangio commissioned SRK Consulting (Canada) Inc. ("SRK") to prepare an updated independent Technical Report for the Obuasi Gold Project following the guidelines of Canadian Securities Administrators National Instrument 43-101 and Form 43-101F1; and in conformity with generally accepted CIM "Exploration Best Practice Guidelines".

This technical report was prepared in support of a corporate reorganization by way of a plan of arrangement approved by shareholders.

## 1.1 Scope of Work

The scope of work involves the preparation of an independent technical report for four gold exploration concessions (Kyereboso No.2, Kyereboso No.3, Meduma and New Edubiasi) located near the town of Obuasi in Central Ghana. SRK's work involved an assessment of the following aspects of each project:

- Topography, landscape and access
- Regional and local geology;
- Exploration history;
- Audit of exploration work carried out by Pelangio;
- Recommendations for additional work.

This Technical Report was prepared following the guidelines of Canadian Securities Administrators National Instrument 43-101 and Form 43-101F1 and conforms to generally accepted CIM "Exploration Best Practices" Guidelines.

## 1.2 Work Program

In 2006 and 2007, Pelangio undertook early stage exploration work at their concessions in the Obuasi region of Ghana. This work included:

- 9,561 soil geochemistry samples;
- 1,075 prospecting rock samples;
- 1,522 line-kilometres of airborne electromagnetic (EM) geophysics;
- 338 line-kilometres of ground very low frequency electromagnetic (VLF-EM) geophysics;
- 9,591 metres of trenching; and
- 2,038 metres of diamond drilling.

SRK visited the Obuasi project in March 2008 to review and audit the exploration work completed by Pelangio.

The technical report was assembled in Toronto, Canada during the months of March and April 2008.

## 1.3 Basis of the Technical Report

This report is based on information collected by SRK during a site visit conducted in March 2008 while active exploration was ongoing, additional information provided by Pelangio, and other information obtained from the public domain. SRK has no reason to doubt the reliability of the information provided by Pelangio.

This technical report is based on the following sources of information:

- Discussion with Pelangio personnel;
- Inspection of the prospecting licenses Kyereboso No.2, Kyereboso No.3, and Meduma concession;
- Previous SRK technical report based on historical data, specifically 2004 exploration by Randgold Resources Limited (“Randgold”);
- Review of the exploration data collected by Pelangio;
- Additional information from public domain sources.

## 1.4 Qualification of SRK

The SRK Group comprises over 700 professionals, offering expertise in a wide range of resource engineering disciplines. The SRK Group’s independence is ensured by the fact that it holds no equity in any project and that its ownership rests solely with its staff. This permits SRK to provide its clients with conflict-free and objective recommendations on crucial judgment issues. SRK has a demonstrated track record in undertaking independent assessments of Mineral

Resources and Mineral Reserves, project evaluations and audits, technical reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies and financial institutions worldwide. The SRK Group has also worked with a large number of major international mining companies and their projects, providing mining industry consultancy service inputs.

This technical report was compiled by Dr. Jean-François Couture, P.Geo. (APGO #0197), Dr. Lars Weiershäuser, P.Geo. (APGO #1504), and Dominic Chartier, P. Geo. (OGQ #874) from the Toronto office. By virtue of their education and experience, Dr. Couture, Dr. Weiershäuser, and Mr. Chartier are Qualified Persons as this term is defined by National Instrument 43-101.

Dr. Couture is a Principal Geologist with SRK and has been employed by SRK since 2001. He has been engaged in mineral exploration and mineral deposit studies since 1982. Since joining SRK, Dr. Couture has authored and co-authored independent technical reports on several exploration and mining projects in Canada, United States, China, Kazakhstan, Northern Europe, South America, West Africa and South Africa. Dr. Couture visited the Obuasi Project between March 16 and 19, 2008.

Dr. Weiershäuser is a Senior Consultant with SRK Canada and has been employed by SRK since 2007. He has been engaged in mineral exploration and mineral deposit studies since 1998. Since joining SRK, Dr. Weiershäuser has prepared and coauthored independent technical reports on several exploration projects in Canada and South America. Dr. Weiershäuser has not visited the property.

Mr. Chartier is a Consulting Geologist with SRK. He has been practicing mineral exploration since 2002. Mr. Chartier has not visited the property,

## 1.5 Site Visit

SRK initially visited the Obuasi project in October 2005 as part of a due diligence review of the project for Pelangio and in preparation for compiling an initial technical report for this project.

In accordance with the National Instrument 43-101 guidelines, Dr. Couture returned to the Obuasi project from March 16 to 19, 2008 to audit the exploration work completed by Pelangio since the initial site visit. Dr. Couture was accompanied by Mr. Chris Pegg representing Pelangio.

The purpose of the visit was to ascertain the geology of the Obuasi gold exploration project, review and audit exploration work completed by Pelangio since 2006. SRK examined drill core and visited outcrop exposures in different portions of the property where Pelangio excavated trenches or drilled surface core boreholes. SRK was able to witness several trenching areas and core borehole collars.

SRK was given full access to relevant data and conducted interviews of Pelangio personnel to obtain information on the exploration work and understand field procedures used to collect, record, store and analyse exploration data.

## 2 Reliance on other Experts and Declaration

SRK's opinion contained herein and effective **April 30, 2008**, is based on information provided to SRK by Pelangio throughout the course of SRK's investigations, which in turn reflect various technical and economic conditions at the time of writing. Given the nature of the mining business, these conditions can change significantly over relatively short periods of time. Consequently, actual results may be significantly more or less favourable.

This report includes technical information that may require subsequent calculations to derive sub-totals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material.

SRK is not an insider, associate or an affiliate of Pelangio, and neither SRK nor any affiliate has acted as advisor to Pelangio or its affiliates in connection with this project. The results of the technical review by SRK are not dependent on any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings.

SRK has not researched ownership information such as property title and mineral rights and has relied on information provided by Pelangio as to the actual status of the mineral titles.

SRK was informed by Pelangio that there are no known litigations potentially affecting the Obuasi exploration project.

The qualified persons preparing this technical report are not experts in the assessment of potential environmental liabilities associated with the Obuasi project. As such, no verification was conducted by SRK and no opinion is expressed regarding the environmental aspect of this exploration project.



### 3 Property Description and Location

The exploration properties consist of three contiguous mineral concessions (Kyereboso No.2 and No.3 and Meduma) and a fourth concession (New Edubiasi) just south of the contiguous area. The tenements are located near the Town of Obuasi, which is situated approximately 150 kilometres northwest of Accra, the capital city of Ghana (Figure 1).

The concessions have been granted as Prospecting Licences by the Ghana Minerals Commission as indicated in Table 1.

**Table 1. Obuasi Gold Project Tenement Information.**

Concession name	Concession type	Concession number	Registration number	Ownership	Granted Date	Expiry Date	Area
Kyereboso #2	Prospecting	LVB No. 5791/05	No. 1661/05	Adansi Asaasi Mining Co Ltd	09-May-05	12-Oct-08	145.61
Kyereboso #3	Prospecting	LVB No. 10415B/05	No. 1660/05	Adansi Asaasi Mining Co Ltd	20-Jun-05	18-Oct-08	79.82
Meduma	Prospecting	LVB No. 16286/99	No. 3912/99	Adansi Gold Mines Ltd	10-Nov-05	18-Feb-09	65.03
New Edubiasi	Prospecting	LVB No. 12221/05		New Edubiasi Goldfields Ltd	27-Sep-05	26-Sep-07	120.70
Total							411.16

The option on the New Edubiasi concession was abandoned by Pelangio on June 19, 2007 when payments required were not made to the New Edubiase landholders.

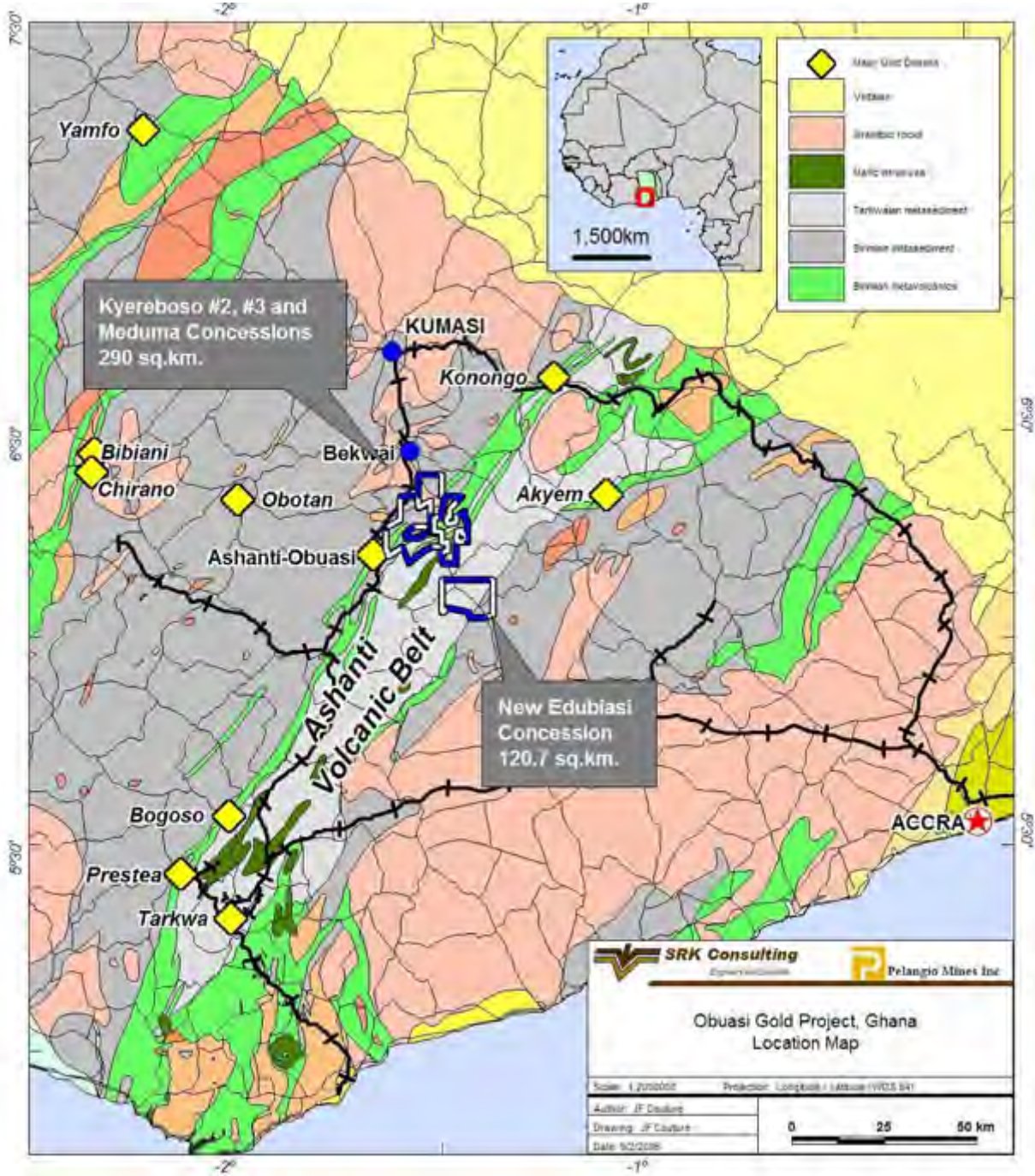


Figure 1. General geology of Ghana and location of the Obuasi gold project and the major gold deposits of Ghana.

### 3.1 Land Tenure

The Kyereboso No.2 concession (LVB No. 5791/05, No. 1661/05) covers an area of approximately 145 square kilometres. The centroid of the project area is located at approximately one degree thirty-four minutes longitude west and six degrees fifteen minutes latitude north. The western boundary of this concession is contiguous with the eastern boundary of the AngloGold Ashanti Obuasi property. The former was granted on May 9, 2005 and subsequently renewed in 2007; the current expiry date is October 12, 2008.

The Kyereboso No.3 concession (LVB No. 10415B/05, No. 1660/05) is contiguous with the eastern boundary of the Kyereboso No.2 concession and occupies an area of approximately eighty square kilometres. It was granted on June 20, 2005, and the current expiration date is October 18, 2008.

Both concessions are registered as Prospecting Licences in the name of Adansi Asaasi Gold Mining Company Limited, a private Ghanaian company.

The Meduma concession (LVB No. 16286/99, No. 3912/99) occupies an area of approximately sixty-five square kilometres. It is situated to the north of and between the Kyereboso No.2 and No.3 concessions. It is registered as a Prospecting License in the name of Adansi Gold Mines Limited, a private Ghanaian company. This concession was initially granted as a Reconnaissance Licence on August 4, 1999 and was subsequently converted into a Prospecting Licence on December 1, 1999. The licence was renewed twice on March 7, 2003 and on July 21 2004. By letter dated March 23 , 2007, the Minerals Commission granted an extension to February 18,2009, with an option of renewal.

The fourth concession, New Edubiasi, (LVB No. 12221/05) is situated approximately one kilometre south of the southern boundary of the Kyereboso No.3 concession. It covers an area of approximately 120 square kilometres. It is registered in the name of New Edubiasi Goldfields Ltd, a private Ghanaian company. In 2007, Pelangio relinquished the rights to this concession.

The land tenure information presented herein is derived from a memorandum prepared by REM Law Consultancy of Accra, Ghana on behalf of Pelangio. SRK has not independently reviewed this land tenure information which is believed to be reliable. The boundaries of each concession are defined by corner posts positioned according to geographic coordinates (War Office 1924 ellipsoid) as indicated on the land tenure maps (Figures 2, 3, 4, 5 and 6). The geographic position of the corner posts for each concession is presented in Appendix A. The boundaries are not physically marked on the ground, and have not been surveyed legally.

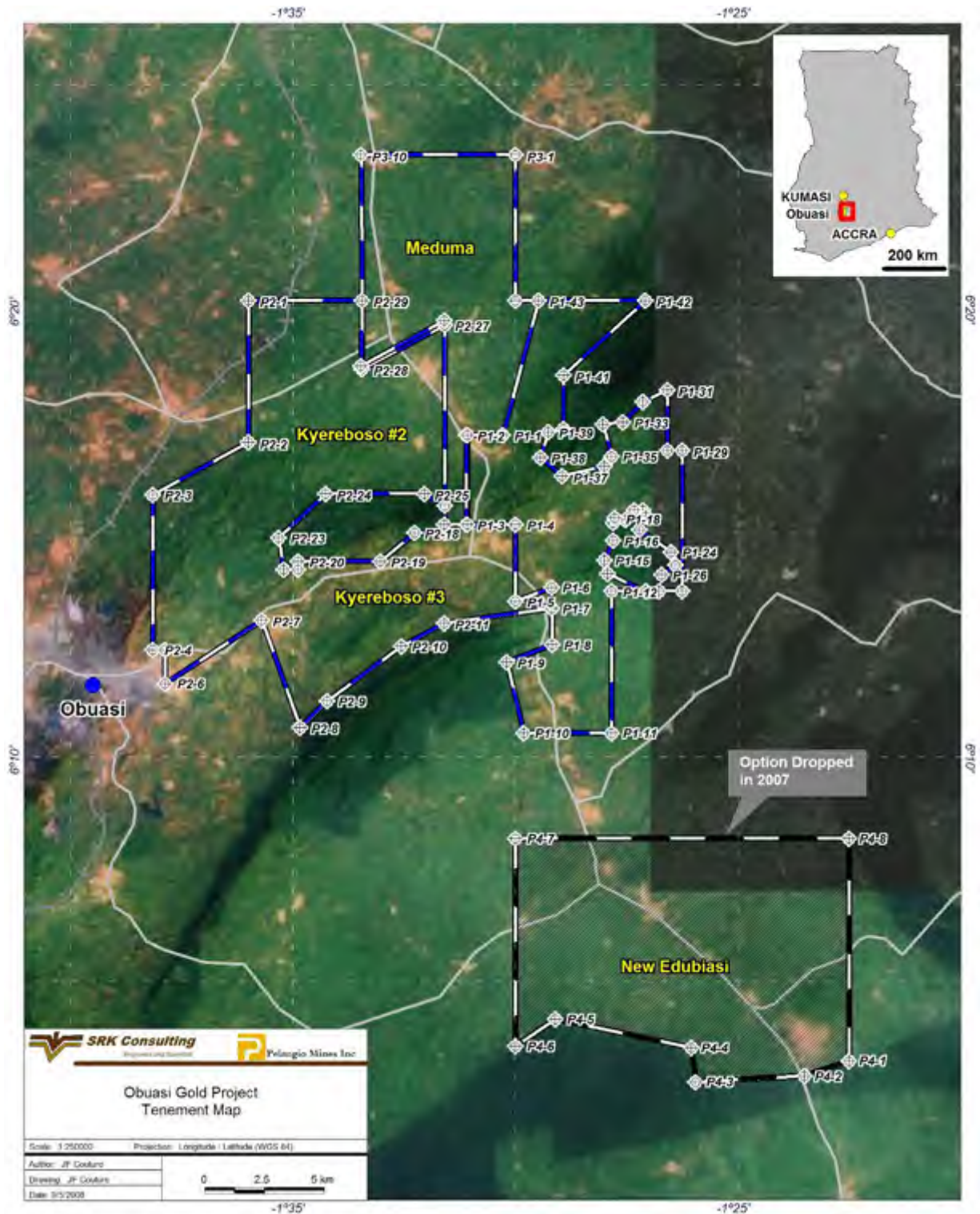
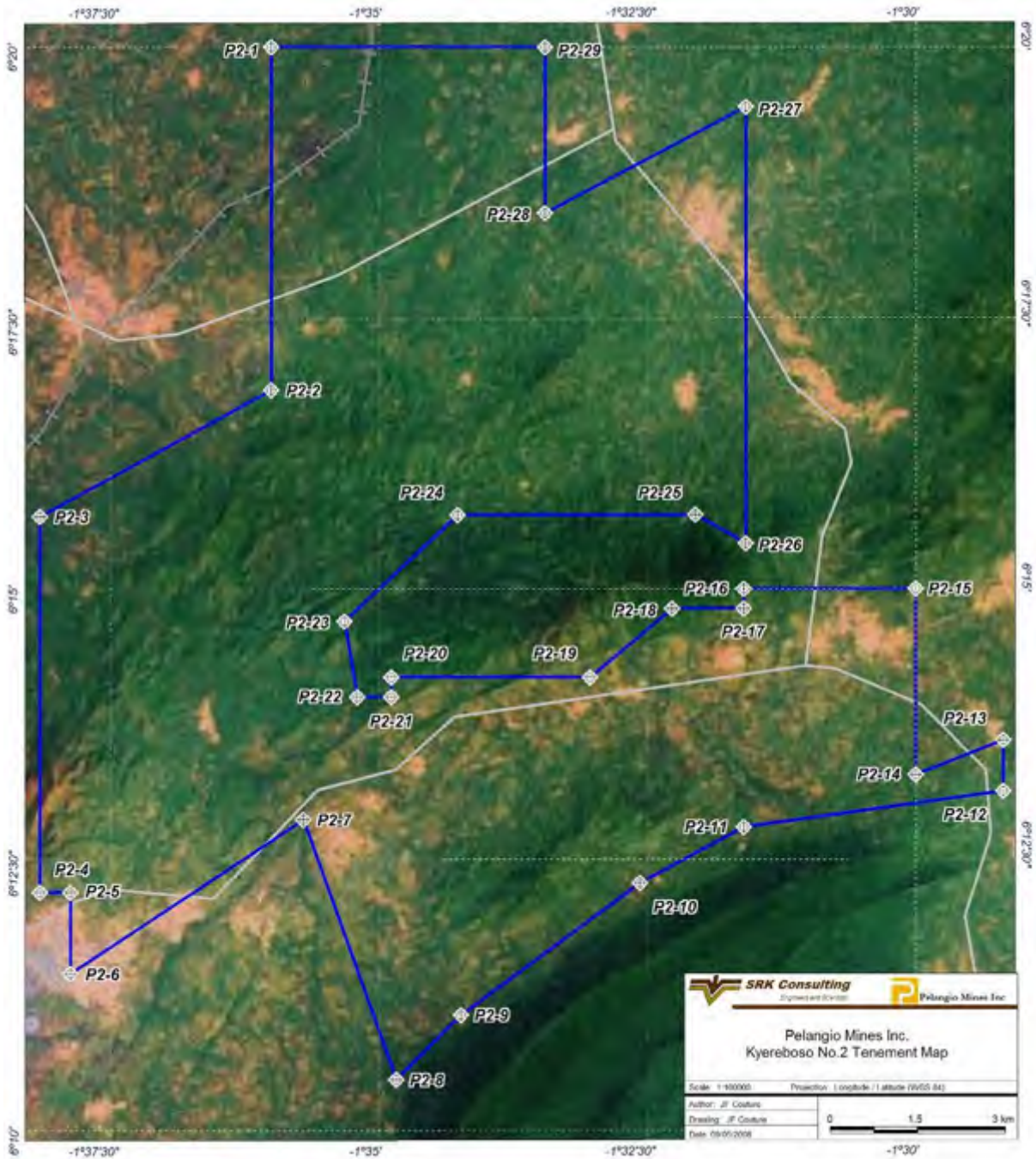
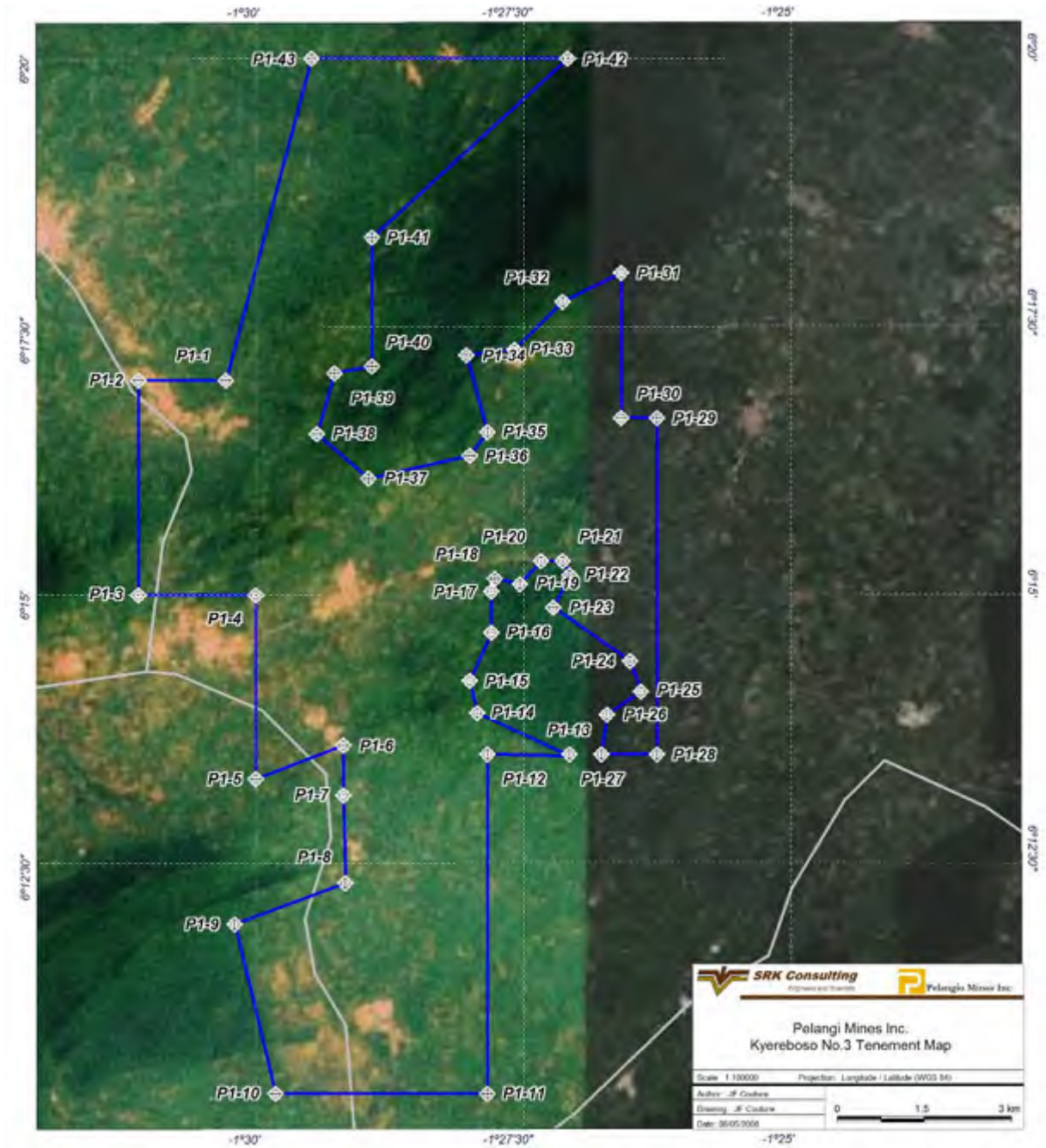


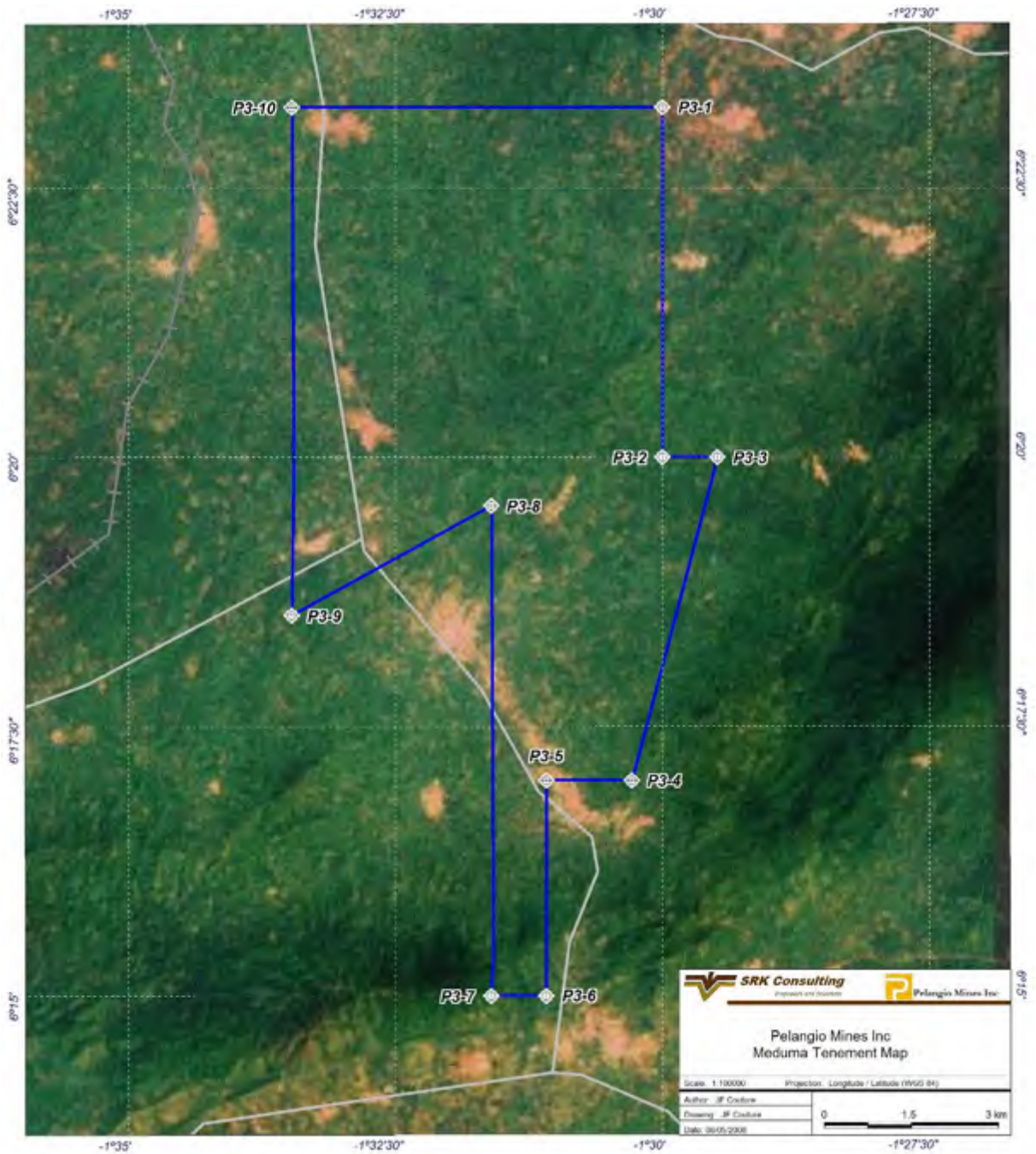
Figure 2. General land tenure map.



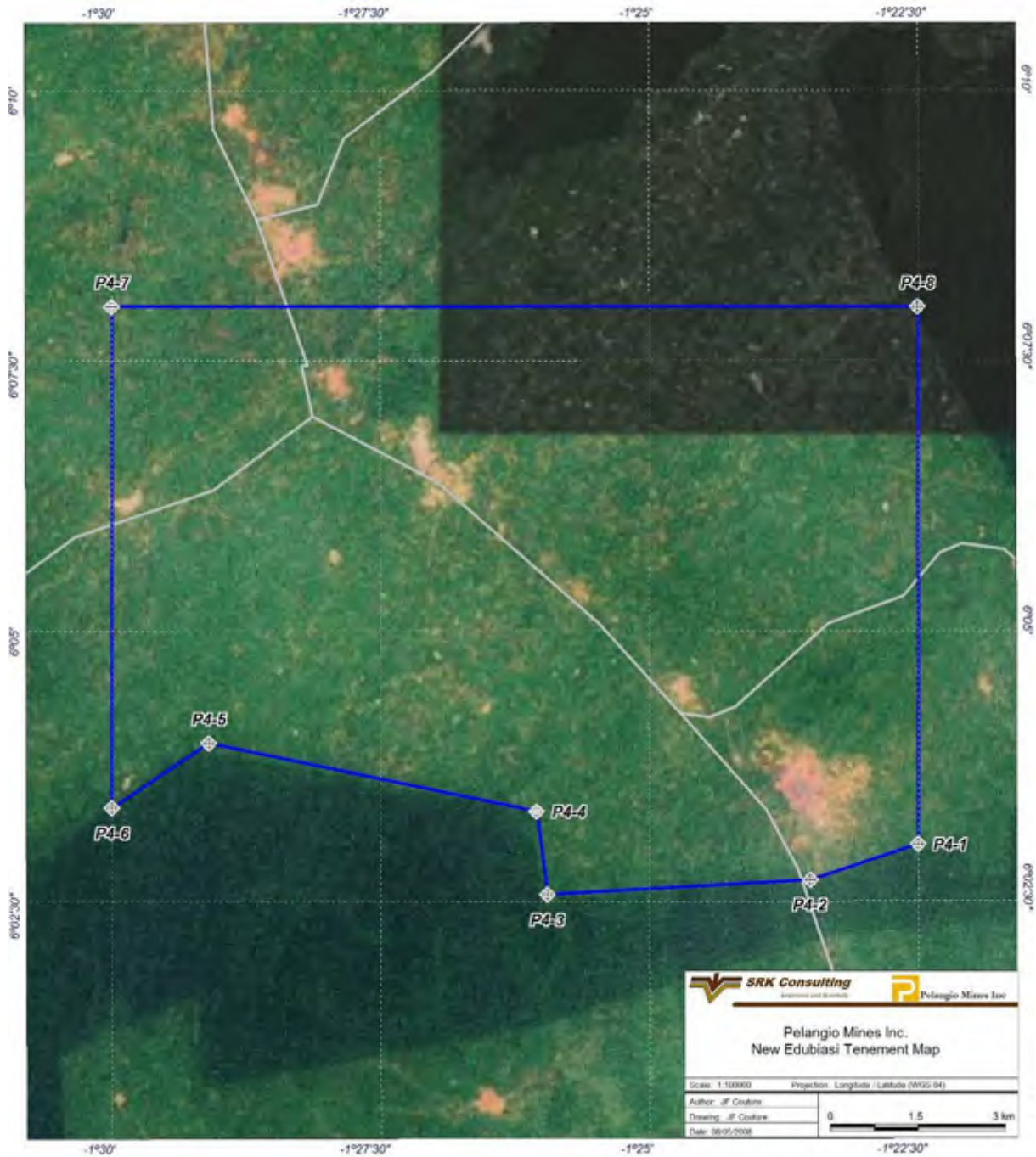
**Figure 3. Kyereboso No.2 concession tenement map (data from the Ghana Minerals Commission). Coordinates for the corner posts are presented in Appendix A.**



**Figure 4. Kyereboso No.3 concession tenement map (data from the Ghana Minerals Commission). Coordinates for the corner posts are presented in Appendix A.**



**Figure 5. Meduma concession tenement map (data from the Ghana Minerals Commission). Coordinates for the corner posts are presented in Appendix A.**



**Figure 6. New Edubiasi concession tenement map (data from the Ghana Minerals Commission). Coordinates for the corner posts are presented in Appendix A.**



## 3.2 Underlying Agreements

By letter dated March 23, 2007, the Minerals Commission granted an extension to February 18, 2009, with an option of renewal. Pelangio entered into a letter agreement dated September 23, 2005 as amended by an amending letter dated November 18, 2005 with, inter alia, AAMC, AGML and NEGL (collectively referred to herein as the Ghana Licence Holders) which outlined the terms of option agreements to be entered into between certain subsidiaries of Pelangio and the Ghana Licence Holders relating to granting certain subsidiaries of Pelangio the right and option to acquire up to a 100% interest (less the right to a carried interest of 10% held by the Government of Ghana) in four mining concessions located in Ghana (one of which, New Edubiase, was subsequently abandoned):

- (i) the Kyereboso No. 2 prospecting licence stamped as LVB No. 5791/05 and registered as No. 1661/2005 over an area of approximately 145.61 square kilometres in the Ashanti region of Ghana and held by AAMC;
- (ii) the Kyereboso No. 3 prospecting licence stamped as LVB No. 10415/05 and registered as No. 1660/2005 over an area of approximately 79.82 square kilometres in the Ashanti region of Ghana and held by AAMC;
- (iii) a prospecting licence stamped as No. LVB 16286/99 and registered as No. 3912/99 over an area of approximately 65.03 square kilometres in the Ashanti region of Ghana and held by AGML; and
- (iv) a prospecting licence stamped as No. LVB 12221/05 over an area of approximately 98 square kilometres in the Ashanti region of Ghana and held by NEGL. (The option agreement entered into by Pelangio Mines (B), Pelangio Edubiase (B) Inc. and Pelangio Edubiase (G) Limited with NEGL was terminated by letter dated August 17, 2007). The Ghana Option Agreements subsequently entered into relating to the three mining concessions located in Ghana and described in subparagraphs (i), (ii) and (iii) above, are summarized as follows:

1. The AAMC KY2 Option Agreement dated as of May 3, 2006 among AAMC, Pelangio Mines (B), Pelangio Adansi Asaasi (G) Limited and Pelangio Adansi Asaasi (B) Inc. relating to the Kyereboso No. 2 prospecting licence. Under the terms of the AAMC KY2 Option Agreement, the acquisition by Pelangio of a 100% interest in the applicable Ghana Property is effected by way of exercise by Pelangio Adansi Asaasi (G) Limited of an initial option and the exercise by Pelangio Adansi Asaasi (B) Inc. of a second option. The AAMC KY2 Option Agreement is structured in such a way that upon exercise of the initial option Pelangio Adansi Asaasi (B) Limited is granted a 100% interest (less the right to a carried interest of 10% held by the Government of Ghana) in the applicable Ghana Property that is the subject of the AAMC KY2 Option Agreement. However, Pelangio Adansi Asaasi (B) Inc. issues certain shares to AAMC so that upon exercise of the initial option and prior to exercise of the second option Pelangio Mines (B) and AAMC shall each hold a 51% and 49% indirect interest, respectively, in

that Ghana Property. On exercise of the second option, the shares issued to AAMC are cancelled and therefore we would hold a 100% interest in Pelangio Adansi Asaasi (G) Limited which in turn shall hold a 100% interest (less the right to a carried interest of 10% held by the Government of Ghana) in that Ghana Property. In order to exercise the initial option, Pelangio Adansi Asaasi (G) Limited is required to (i) make or cause to be made payments in three unequal instalments in an aggregate amount of US\$240,000, and (ii) deliver or cause to be delivered Common Shares in an aggregate amount of 2,400,000. In order to exercise the second option, Pelangio Adansi Asaasi (B) Inc. is required to (i) make or cause to be made payments in three unequal instalments in an aggregate amount of US\$900,000, and (ii) deliver or cause to be delivered Common Shares in an aggregate amount of 2,400,000. The initial option has been exercised and all required payments have been made and the Common Shares issued.

2. The AAMC KY3 Option Agreement dated as of May 3, 2006 among AAMC, Pelangio Mines (B), Pelangio Kyereboso Mining (G) Limited and Pelangio Kyereboso Mining (B) Inc. relating to the Kyereboso No. 3 prospecting licence. The terms and conditions of the AAMC KY3 Option Agreement are substantially similar to the AAMC KY2 Option Agreement discussed above. In order to exercise the initial option under the AAMC KY3 Option Agreement, Pelangio Kyereboso Mining (G) Limited is required to (i) make or cause to be made payments in three unequal instalments in an aggregate amount of US\$240,000, and (ii) deliver or cause to be delivered Common Shares in an aggregate amount of 2,400,000. In order to exercise the second option, Pelangio Kyereboso Mining (B) Inc. is required to (i) make or cause to be made payments in three unequal instalments in an aggregate amount of US\$900,000, and (ii) deliver or cause to be delivered Common Shares in an aggregate amount of 2,400,000. The initial option has been exercised and all required payments have been made and the Common Shares issued.
3. The AGML Option Agreement dated as of May 3, 2006 among AGML, Pelangio Mines (B), Pelangio Adansi Gold (G) Limited and Pelangio Adansi Gold (B) Inc. The terms and conditions of the AGML Option Agreement are substantially similar to the AAMC KY2 Option Agreement discussed above. In order to exercise the initial option under the AGML Option Agreement, Pelangio Adansi Gold (G) Limited is required to (i) make or cause to be made payments in three unequal instalments in an aggregate amount of US\$120,000, and (ii) deliver or cause to be delivered Common Shares in an aggregate amount of 1,200,000. In order to exercise the second option, Pelangio Adansi Gold (B) Inc. is required to (i) make or cause to be made payments in three unequal instalments in an aggregate amount of US\$450,000, and (ii) deliver or cause to be delivered Common Shares in an aggregate amount of 1,200,000. The initial option has been exercised and all required payments have been made and the Common Shares issued.

Pelangio made the first payments under the Ghana Option Agreements in 2006 and made the second payments totalling US\$225,000 and 2,225,000 Common Shares to only AAMC and AGML on June 19, 2007 and made the third payments totalling US\$150,000 and 1,500,000 Common Shares to such

vendors on March 3, 2008 (which were made early pursuant to the Ghana Option Amendments, described below). The payments cover the Obuasi Property and satisfy the requirements to earn a 51% interest on such properties pursuant to the Ghana Option Agreements. Pelangio shareholders have approved the spin-off by way of plan of arrangement (the “Arrangement”) of all of its assets (including Pelangio’s interests in the Obuasi property), other than 19 million common shares of Detour Gold Corporation and certain working capital, to Pelangio Exploration Inc. (“Newco”). The Arrangement is expected to occur June 14, 2008 (the “Effective Date”). Pursuant to amendments to the Ghana Option Agreements negotiated by Pelangio prior to the Effective Date, following the Effective Date Newco will be entitled to exercise the second option to acquire the remaining 49% of the Obuasi Property by issuing Newco Common Shares, rather than Common Shares, as was the case under the original Ghana Option Agreements.

The cash payment and share issuance required to maintain the option on the New Edubiase concession were not made, following a decision not to continue exploration efforts on this ground. During the third quarter of 2007, Pelangio received notice that NEGL (the vendor of the New Edubiase property) is expecting payment. Neither Pelangio nor Newco expects to make such payment.

### 3.3 Environmental Considerations

The Obuasi gold project is an undeveloped exploration project. Exploration work carried out on the property includes trenching, soil and rock sampling, ground and airborne geophysics, diamond drilling as well as historical pitting and excavation of exploration adits.

Several exploration adits, carried out prior to the acquisition of the properties by Pelangio, have been excavated in one area of the Kyereboso #2 concession by an unknown company. They remain open and potentially represent a minor safety risk. Several small vertical pits were excavated in several areas of the Meduma concession and have been fenced.

Surface disturbances relating to soil sampling and trenching are considered minimal. Trenches visited by SRK have been backfilled partly as required under Ghanaian regulation. Ground geophysical surveys have not needed line-cutting and thus have minimal environmental impact. Airborne geophysical work does not disturb the environment. A limited amount of diamond drilling has been carried out; SRK considers the environmental impact minimal.

SRK has not conducted a detail review of the environmental liabilities related to the four concessions and therefore no professional opinion can be expressed on this matter by SRK. However, considering the early stage of this exploration project and the limited extent of historical work, the potential environmental liabilities related to the Kyereboso No.2, Kyereboso No.3, Meduma and New Edubiasi concessions are considered negligible.

## 4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Obuasi Gold Project is located within the Obuasi Mining District. The Kyereboso No.2, Kyereboso No.3 and Meduma concessions are located just north of the town of Obuasi, whereas the New Edubiasi concession is located approximately twenty kilometres east-southeast of the Town of Obuasi. The Obuasi district is located within the Ashanti region, approximately 150 kilometres northwest of the town of Accra, the capital city of Ghana (Figure 1).

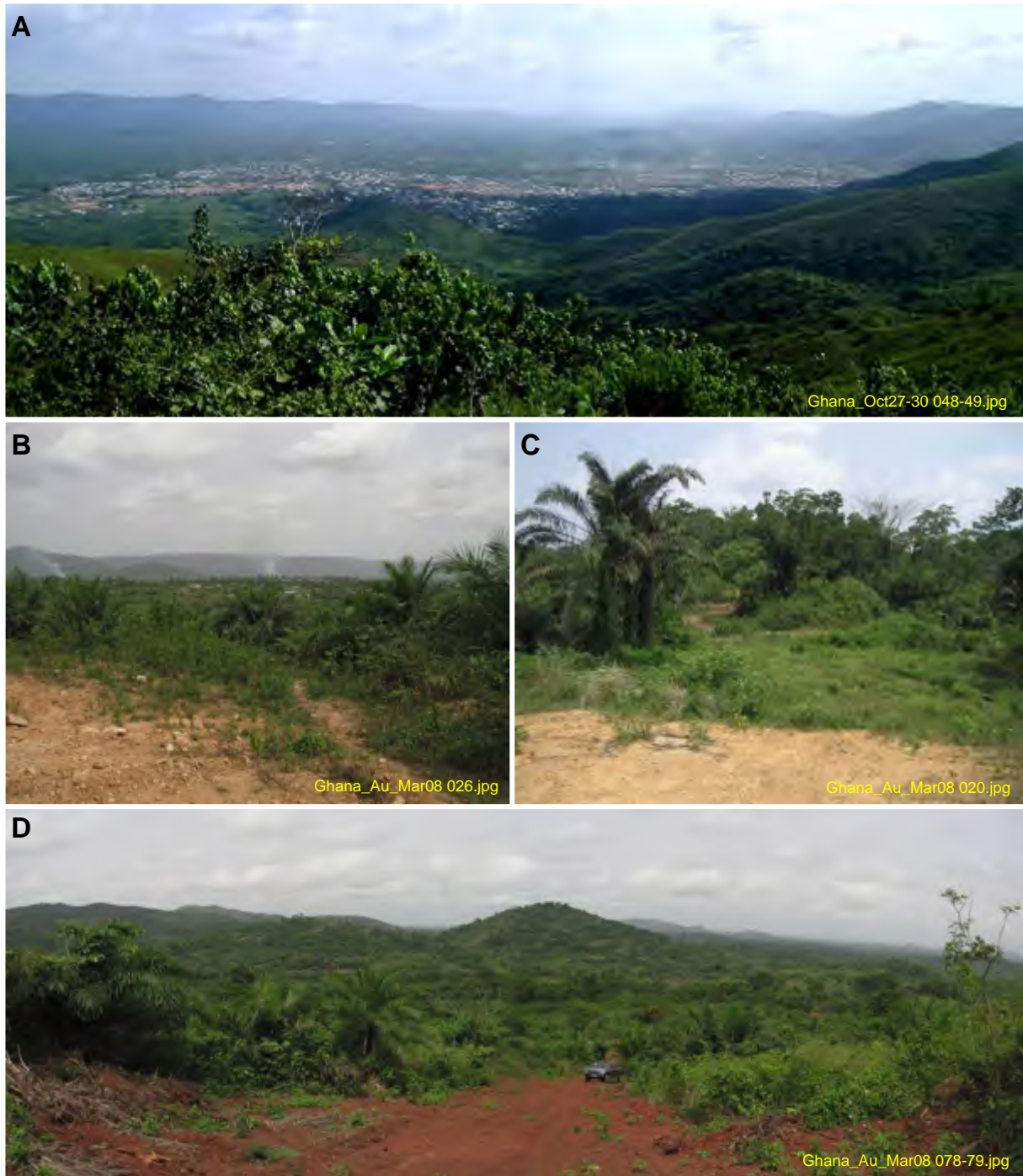
Accra has daily flight service to several European cities and weekly service to South Africa and the United States.

Access to the properties is via paved roads from Accra. Road conditions are variable with several stretches of paved road in poor condition rendering night travel perilous. Travel time from Accra to Obuasi is approximately four to five hours depending on traffic in Accra. The main paved roads traverse all four properties, while several secondary gravel roads and tracks provide access to most parts of the properties, except to areas covered by prominent hills where access is difficult and mobilization of heavy equipment such as drilling rigs will require road building.

The topography in the project area is variable (Figure 7). The Kyereboso concessions are covered by prominent hills rising 200 to 300 metres above the valleys and forming chains of hills aligned along geological features (Figure 7). Elevations range between approximately 200 and 500 metres above sea level. Two chains of hills extend across the properties along a north-northeast trend. There is no direct road access to these areas. Access is provided only by tracks through the jungle. The slopes of the hills are often quite steep.

Vegetation in this part of Ghana is characterized by semi-deciduous jungle forest (Figure 7). Most of the upper and middle layer trees have been removed leaving only secondary forests and shrubs. Parts of the valley floors and gentle slopes have been converted to subsistence farming.

The Obuasi Gold Project is situated in a variably populated region. The town of Obuasi is the main city center and offers a wide range of services. Both skilled and unskilled labour is readily available in Obuasi. The concessions cover many small towns and villages



**Figure 7. Typical landscape in the vicinity of Obuasi and the concessions area. A. View from Kyereboso No.2 concession looking south at the town of Obuasi; B. View of the Kwabenakwa village looking southeast; C. Landscape in the vicinity of the Kusa Target on the Meduma property; D. Landscape in the western portion of the Kyereboso No.2 concession looking north.**

The climate of Ghana is characterized by distinct wet and dry seasons. During the dry season which typically extends from December to February daytime temperatures range between twenty-seven and thirty-six degrees Celsius while night time temperatures vary between eighteen and twenty-six degrees Celsius. Another dry season occurs between July and August and is typically hotter. The rainy seasons extend from April to July and from September to November. Annual rainfall ranges from about 1,100 millimetres to about 2,100 millimetres. A dry northeast wind known as the harmattan blows almost continuously in January and February.

In general, exploration work can be carried out year-round but field work can be difficult intermittently during the rainy season, especially where access is difficult.

## 5 History

### 5.1 Introduction

The exploration history of the concessions is not well documented and apparently records are scarce at the Minerals Commission and the Ghana Geological Survey.

Concession vendors made available to Pelangio a series of reports and data documenting recent exploration work completed on the concessions under joint venture agreements and prior to the involvement of Pelangio in this area. SRK was given access to those reports and accompanying digital data for this review. Although SRK cannot verify the reliability of these data, SRK is of the opinion that these historical data are generally reliable for the purpose of assessing past exploration work conducted on the Pelangio concessions. The following historical summary is derived from these sources.

The Ghana Geological Survey kindly made available three archived reports (No. 26, 30 and 65) which document geological work conducted by the Geological Survey in the area (Sheet No.88 Obuasi NE; Sheet No.89 Fumso NW) and geological investigations of the Mampamhwe gold prospect (Archive Report No.65) which is located within the Kyereboso No.2 concession. The reports contain some relevant description of the geology of the concession area, but little useful information regarding additional relevant exploration work conducted prior to the involvement of Randgold Resources Ltd. (“Randgold”) on the Kyereboso No.2 and No.3 concessions.

### 5.2 Kyereboso No.2 and No.3 Concession

The most comprehensive exploration work carried out on the Kyereboso No.2 and No.3 licences is documented in the Terminal Report prepared by Randgold for the Adansi-Asaasi Joint Venture. The summary chronological account of past exploration work suggests that only minimal work was conducted over the two concessions prior to the involvement of Randgold.

Thirty-seven old exploration adits exist on the concessions. According to verbal communications by the concession vendors, the adits were excavated prior to 1930 by an unidentified German group; no records of this work are available.

During the late 1970s and early 1980s the Ghana Geological Survey conducted investigations and exploration work in the area of the Mampamhwe village which is situated in the west-central portion of the Kyereboso No.2 concession (Figure 3). The work included soil sampling on a regular sixty by thirty metre



grid, and an unknown amount of drilling. The archived report pertaining to this work does not contain results.

In 1992 Bonsu Gold Holding Company (a joint venture between La Source and Gencor) carried out stream sediment and soil sampling and re-sampling of existing trenches and adits. Apparently, this work led to the delineation of a gold-in-soil and arsenic-in-soil anomalous trend coinciding with historical workings; the trend was interpreted as the northeast extension of the Obuasi Main Trend.

Between 1994 and 1996, Cutters Ridge NL of Australia conducted limited work on the Mampamhwe prospect which is located near the village of Mampamhwe. Gold-in-soil anomalies were investigated by trenching and reverse circulation drilling and yielded weak narrow gold mineralization associated with quartz veining in Birimian sedimentary rocks.

No original documents describing this work could be reviewed by SRK.

The most comprehensive exploration work on the Kyereboso No.2 and No.3 concessions was carried out in 2004 by Randgold. This work included reconnaissance geological mapping and prospecting and systematic soil sampling on a regular 400 by 100 metre grid. In total, 6,561 soil samples were collected over the Kyereboso No.2 and No.3 concessions to investigate the interpreted strike extension of the Obuasi Main Trend.

### **5.3 Meduma Concession**

The description of previous exploration work conducted on the Meduma concession is based on a Terminal Report prepared for Adansi Gold Mines Limited by Edmund Efa.

In 1991 and 1992 Centracor Mining Limited carried out ground geophysical surveying and soil sampling on two grids established on the Meduma concession. On the Fomena grid, located south of the town of Fomena, a prominent VLF anomaly with coincident gold-in-soil anomaly was apparently investigated by three trenches (390 metres). Assay samples collected in the trench yielded weak gold mineralization including 0.67 grams of gold per tonne (“gpt gold”) over twenty-six metres and 1.0 gpt gold over eleven metres.

Subsequently, seven shallow reverse circulation boreholes were drilled on two sections fifty metres apart apparently in order to investigate the trenching results. The locations of the boreholes are unknown. Assay samples apparently returned weak gold mineralization associated with deformed phyllites and minor quartz veining. Best reported assay results include 1.7 gpt gold over six metres, 1.5 gpt gold over four metres and 0.7 gpt gold over nine metres.

No original records of this work could be examined by SRK. Therefore, the reported assay results are unverifiable.

Between August 1997 and December 1998, African Gold Resources Limited of Australia optioned the concession and conducted stream sediment and limited soil sampling on isolated lines. Assay results were apparently disappointing.

In 2000, Shea Gold Limited from Australia carried out limited exploration work under a joint venture agreement with Adansi Gold Mines Ltd. The work included road cut mapping and sampling, soil sampling over the old Centracor Mining Fomena grid (200 metres x 25 metres spacing). Minor gold mineralization was obtained from re-sampling old pits. The option was terminated in December 2000.

In 2004 Randgold Resources Limited reviewed the Meduma concessions as part of their evaluation of the Kyereboso No.2 and No.3 concessions. On the Adakwaye grid located east of the town of Meduma, Randgold re-sampled two adits and five trenches exposing deformed and altered phyllites and minor quartz veining. Nine samples collected in the adits were barren.

The five trenches were apparently aligned along an east-northeast trend on sections fifteen metres apart and located approximately fifty metres north of the adits. Four of the trenches were backfilled. The southernmost trench exposed barren altered phyllite cut by minor quartz veining.

On the Fomena grid, eleven old pits and two old trenches from the Centracor period were visited and re-sampled. Nine new pits were excavated over a 1.8 kilometres north-south line approximately every 200 metres. Of the forty-one samples collected only two yielded weak gold mineralization associated with minor quartz veining.

No further work seems to have been carried out on the Meduma concession.

SRK could not review any original documentation describing the historical work carried out on the Meduma concession.

## **5.4 New Edubiasi Concession**

There are no records of any historical exploration work conducted on the New Edubiasi concession.

## 6 Geological Setting

The concessions are located in Southwest Ghana, within the Ashanti Volcanic Belt and in proximity to AngloGold Ashanti's world-class Obuasi gold deposit (8.3 million ounces in proven and probable reserves at 5.5 gpt gold, source from AngloGold Ashanti 2007 annual report) and approximately forty kilometres southwest of Newmont's Akyem gold development project. This area represents one of the most significant Proterozoic gold belts in the world. The following geological review is largely based on published data on the geology of Southwest Ghana and the Ashanti region in particular. A more detailed review of the geology of the Obuasi area is presented by Allibone et al. (2002b).

### 6.1 Regional Geology

The geology of Southwest Ghana is dominated by the Birimian Supergroup, which consists of Proterozoic sedimentary\* and volcanic rocks, along with sedimentary rocks of the Tarkwaian Group, and various granitoid intrusions (Figure 1). Felsic intrusions are subdivided into two types: belt type (Dixcove) granitoids and basin type (Cape Coast) granitoids. Belt granitoids (ca. 2180 Ma, Allibone et al., 2002b) are metaluminous in character, are often tonalites, and are confined to Birimian volcanic belts (Hirdes and Leube, 1989). Basin granitoids (~2116- 2088 Ma., Allibone et al., 2002a) have a peraluminous character and are higher in potassium and rubidium relative to belt granitoids, are mainly granodiorites, and are associated with the central portions of Birimian sedimentary basins (Hirdes and Leube, 1989).

The Birimian Supergroup rocks of Ghana are characterized by northeast striking mafic volcanic belts separated from intervening sedimentary (dominantly turbiditic) basins by major faults that probably controlled early syn-Birimian sedimentary basin down-faulting (Hirdes and Leube, 1989).

Tarkwaian Group sedimentary rocks include conglomerate, various quartzose and arkosic sandstone, siltstone, and minor shale. Tarkwaian rocks are generally confined to Birimian volcanic belts where they occur as either fault-bounded slices or overlie sedimentary rocks unconformably. Rocks of the Tarkwaian Group are distinctively highly magnetic and can be recognized easily on aeromagnetic images. The Tarkwaian Group sedimentary rocks are thought to be erosional products of the Birimian Supergroup and Belt type granitoids that were deposited in long narrow intermontane grabens, which formed as the result of localized rifting in the Birimian metavolcanic belts (Leube et al., 1990).

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\* All Proterozoic rock units have been metamorphosed to greenschist assemblages. The prefix meta has been omitted for simplification.

The principal Birimian volcanic belts and intervening sedimentary basins in Ghana are: (from east to west) Kibi-Winneba Belt, Cape Coast Basin, Ashanti Belt, Kumasi Basin, Sefwi-Bibiani Belt, Sunyani Basin and Bui Belt.

The four Pelangio concessions are situated on the northwest margin of the Ashanti Volcanic Belt (Figure 1).

Junner (1932, 1935) originally proposed a sub-division of the Birimian Supergroup, applying the terms Lower Birimian to the sedimentary sequence and Upper Birimian to the volcanic rocks because the Birimian metavolcanic belts were interpreted to be younger than the Birimian sedimentary basins. Recent radiometric dating, however, indicates the opposite relationship (Figure 8). Radiometric dating of Belt-type granitoid rocks that cut the Birimian volcanic rocks constrains the age of volcanism to greater than approximately 2,186 Ma. Detrital zircons in the Birimian sedimentary rocks and the Tarkwaian Group yield U-Pb ages between 2,187 and 2,130 Ma, indicating that deposition of both units occurred after 2,130 Ma. Basin-type granitoid rocks intruding the Birimian and Tarkwaian sedimentary rocks have U-Pb zircon ages of approximately 2,116 to 2,088 Ma, suggesting that deposition of both sedimentary packages occurred prior to 2,116 Ma (Figure 8).

In this review the terms Upper and Lower Birimian are used in their new stratigraphic context, applying the terms Lower Birimian to the older metavolcanic rocks and Upper Birimian to the younger sedimentary rocks.

Two discrete orogenic cycles are recognised in southwest Ghana. An earlier “Eburnian I” orogeny, associated with the eruption of the Birimian metavolcanic rocks, intrusion of Belt type granitoids, and associated metamorphism between ca. 2,200 and 2,150 Ma (Figure 8).

Regional northwest-southeast extension and formation of the Tarkwaian sedimentary basins followed the Eburnian I orogeny, between ca. 2,150 and 2,116 Ma.

The later “Eburnian II” orogeny involved the deformation and metamorphism of Birimian and Tarkwaian rocks and the emplacement of Basin type felsic intrusions between 2,116 and 2,088 Ma (Figure 8). The presence of foliated clasts of Birimian sedimentary rocks within the Tarkwaian Group rocks suggests that deformation of the Birimian units commenced prior to the deposition of the Tarkwaian rocks (Allibone et al., 2002a).

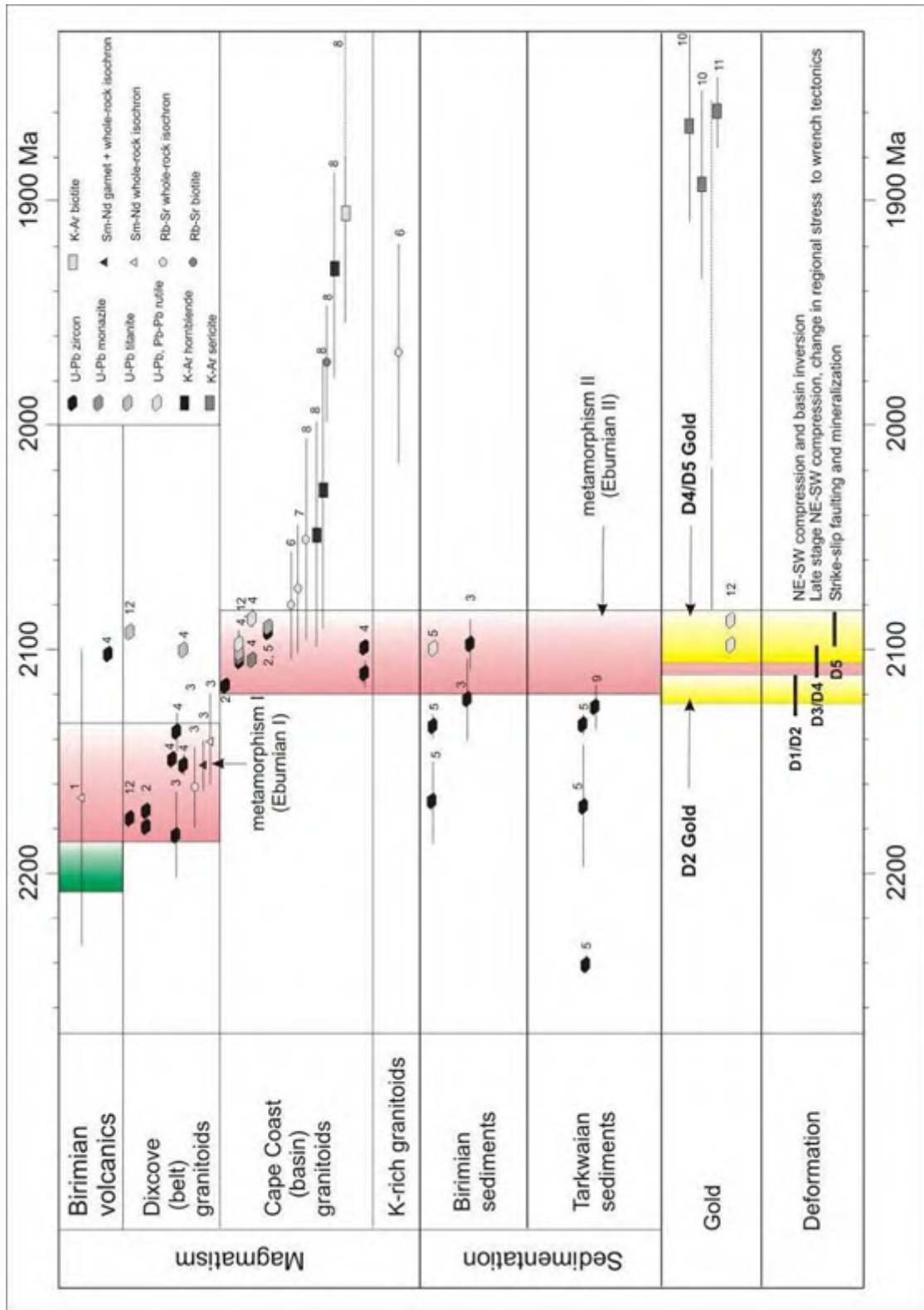


Figure 8. Geological timeline for southwest Ghana (modified from Allibone et al., 2002a).

Deformation related to the Eburnian II orogeny dominates the structural geology of Southwest Ghana. Five successive phases (D1 to D5) are recognized.

D1 resulted in the formation of a weakly developed bedding parallel cleavage (S1) in the Birimian sedimentary units, and minor folds related to early northwest-southeast compression, thrust faulting, and basin inversion.

D2 formed major thrust faults, gently plunging, tight to isoclinal doubly plunging folds and a second cleavage (S2). The S2 cleavage has a northeast strike and is sub-vertical to steeply northwest dipping. The D2 thrust faults involved significant displacements and part, or all, of the shortening in Southwest Ghana occurred during D2 along these faults.

In the vicinity of the Obuasi gold deposits, F2 folds are overprinted locally by a younger discordant crenulation cleavage (S3) that is parallel to the axial plane of F3 folds. S3 and F3 axial planes generally strike northeast and dip between five degrees to the southeast and forty degrees to the northwest. D3 is recognized as a relatively minor deformation event and did not modify substantially the structural architecture of the Birimian Supergroup.

Steeply plunging, upright folds (F4) with axial planes that strike close to east-west and an associated axial planar cleavage (S4) overprint D3 structures. The F4 folds plunge moderately to steeply northeast, and the associated axial planar cleavage (S4) strikes east-northeast and dips steeply to the north-northwest. In some F4 hinges, bedding (S0), S1 and S2 are transposed into S4, defining east-striking zones of weakly graphitic schists.

D5 is characterized by a reactivation of D2 faults and represents the last major deformation event in Southwest Ghana. The onset of D5 deformation may overlap with the waning stages of D4. Slickenlines on faults and surfaces of internal veins generally plunge gently towards the southwest. This geometry indicates that the D5 reactivation was largely strike slip with a small component of dip slip. Asymmetric dilatant breccias, quartz vein arrays, and boudinaged quartz veins localized along these faults, in the Obuasi deposits imply a component of sinistral movement during D5. None of the faults appear to have been folded during D4, despite evidence that most formed prior to D4. These apparent contradictions imply that the F4 folds and D5 sinistral strike slip offset on the adjacent faults may both be products of D4 rather than separate D4 and D5 events.

Fault bounded slices of mafic rock, such as those immediately east of the Obuasi deposits, occur elsewhere in the Kumasi basin. The geometry of these blocks and the lack of extensive mafic volcanic units within the Birimian sedimentary units suggest that these slices of mafic rock are derived from basement underlying the Birimian sedimentary basins (Allibone et al., 2002a).

The frequency and size of Birimian gold occurrences and deposits in Ghana is regionally not evenly distributed. A high percentage of gold occurrences and almost all major gold mines occur in the region of the Kumasi basin (Hirdes and Leube, 1989). Two periods of gold mineralization are recognised in

Southwest Ghana: an earlier D2-gold formed during regional northwest-southeast compression and reverse faulting, and later D5-gold formed during regional strike slip faulting. U-Pb geochronology on ore-related titanite in the Obuasi deposits suggests that gold mineralization occurred at approximately 2100-2090 Ma (Oberthür et al., 1998).

## 6.2 Property Geology

The Obuasi Gold Project is located within the Ashanti Volcanic Belt. The Kyereboso No.2, No.3 and Meduma concessions straddle the northwest contact between Tarkwaian sedimentary units with Birimian sedimentary and volcanic rocks. The New Edubiasi concession straddles the southeast contact of the Tarkwaian sedimentary units with Birimian sedimentary rocks (Figure 1).

The structural patterns of this portion of the Ashanti Volcanic Belt are well imaged by airborne magnetic data (Figure 9). In general, Tarkwaian rock units and dolerite intrusions are characterized by high magnetic susceptibility defining sharp magnetic signatures whereas Birimian sedimentary and volcanic rocks are characterized by comparatively low magnetic patterns. Granitic rocks generally exhibit varied magnetic signatures, but in this portion of the Ashanti Belt they exhibit more uniform patterns contrasting with that of Birimian and Tarkwaian rocks.

South of the Pelangio concessions, the Tarkwaian and Birimian rock units generally trend north-easterly (Figure 9). In the concessions area, the rock units exhibit a strong easterly bend along the southern contact of a Belt-type intrusion over several tens of kilometres before returning to their regional north-easterly trend farther to the north. The apex of this regional asymmetric structure is characterized by several north northwest trending highly magnetic dolerite dikes probably intruded along regional faults (Figure 9).

According to the Ghana Geological Survey maps and Randgold field data, the geology of the Kyereboso No.2, No.3 and Meduma concessions is characterized by alternating bands of Tarkwaian and Birimian sedimentary rocks separated by narrow belts of Birimian volcanic rocks or dolerite intrusions. Lithological contacts are either structural or unconformable. The Tarkwaian sedimentary units form prominent topographic ridges and are characterized by sharp magnetic highs (Figure 9).

A Belt-type felsic pluton intrudes the Birimian sedimentary and volcanic rocks in the northern portion of the concessions. This intrusion is characterized by relatively smooth magnetic patterns contrasting from the sharp signature of the volcano-sedimentary rocks (Figure 9). According to airborne magnetic data, this intrusion is part of a more widespread intrusion extending several kilometres to the north of the concessions.

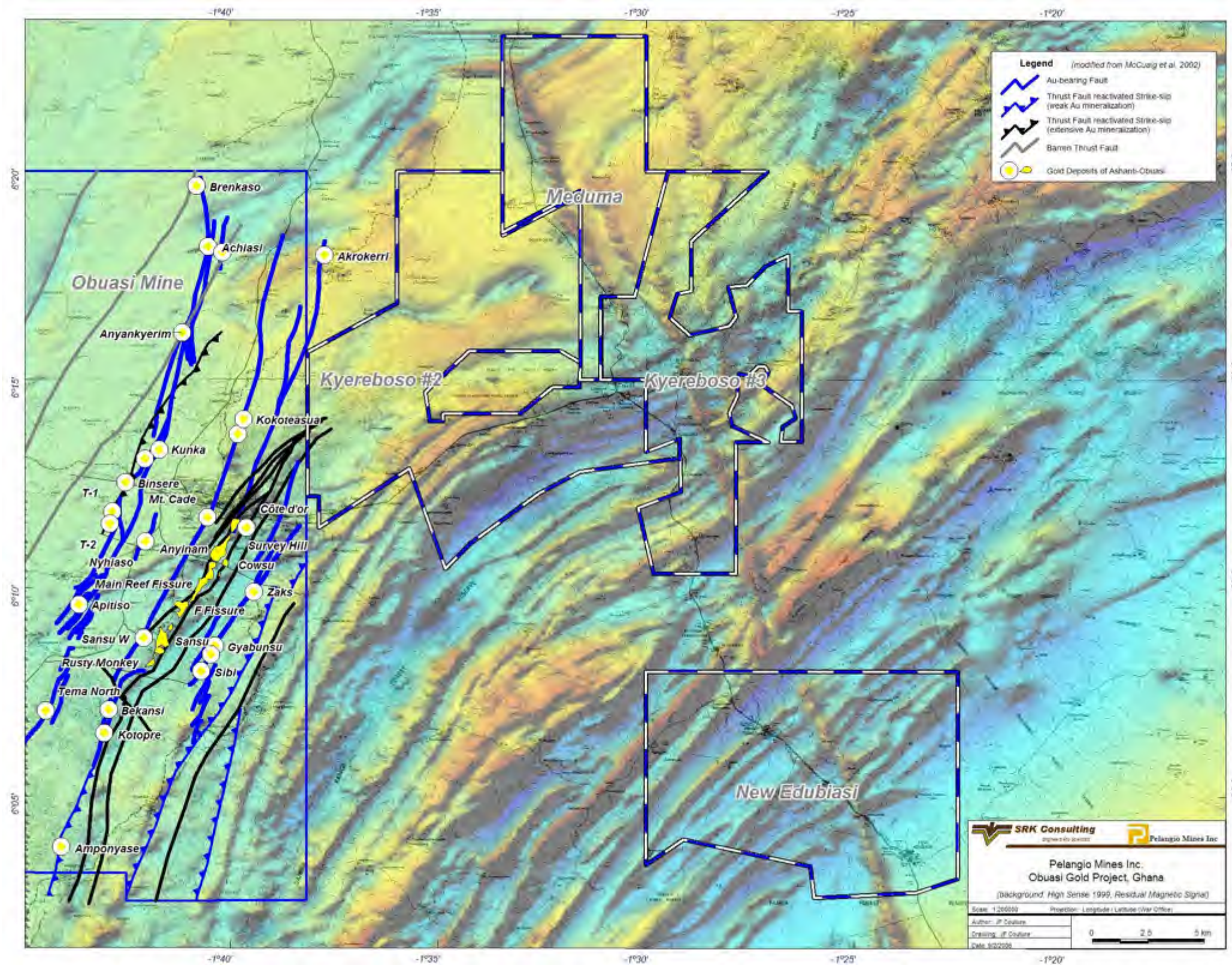


Figure 9. Magnetic patterns underlying the Obuasi gold project. Note a compilation of structural patterns and gold mineralization at the Obuasi Gold Mine (Sources: Ghana Minerals Commission Geophysical Data and Allibone et al., 2002b).



## 7 Deposit Types

Gold mineralization in the target area is thought to be typical of shear zone hosted gold deposits; this type of deposit is found on all continents and is common in the Archean, Proterozoic, and Phanerozoic era, although some minor differences may exist between the genesis of Archean and Proterozoic deposits.

Generally speaking, Proterozoic shear zone hosted gold deposits form in regional-scale brittle-ductile structures, which makes models of other mesothermal gold deposits applicable. While the details of this deposit type can be complicated, the general model is quite simple. Large amounts of hydrothermal fluid are focused in shear zones, where permeability is higher compared to surrounding country rock. Gold is transported in solution in these fluids and precipitates due to changes in temperature, pressure, Eh, or pH. The source of the gold is likely the country rock through which metamorphic fluids migrate before being channelled into the shear zones.

Some shear zone hosted gold deposits are spatially associated with felsic intrusive bodies. These granitoids commonly are highly fractionated and oxidized I-type granites; none of these intrusives has been shown to be the source of the gold mineralization, although magmatic fluid signatures along with metamorphic fluid signatures have been found in fluids ascribed to shear zone hosted mineralization.

According to Partington and Williams (2000), areas with regional-scale duplex thrust folds tend to be more strongly mineralized than areas where buckle folding prevails. These thrust folds seem to provide ideal fluid-focussing mechanisms to localize gold-bearing fluids. On a local scale, mineralization is clearly controlled by lithological competency contrasts.

Examples of mines exploiting this type of Proterozoic mineralization include Ashanti in Birimian rocks, Ghana; Contact Lake in the Trans Hudson orogen, Canada; Homestake, South Dakota; and Omain, Guyana. Mineralizing events typically seem to be related to a late brittle phase of deformation, which reactivated older structures.

The exploration model for a deposit at Obuasi is based on the geology of the Ashanti gold mine presently being exploited by AngloGold approximately ten kilometres to the southwest.

## 8 Mineralization

This review is based mainly on public domain information, but also draws from SRK's experience, concerning the geological and structural controls on mineralization at the Ashanti, Bogoso, Obotan, and Chirano deposits (see Figure 1 for location).

Two general styles of gold mineralization are present in Southwest Ghana: (a) paleo-placer disseminated gold deposits hosted in Tarkwaian conglomerate, and (b) structurally controlled lode gold deposits hosted in a wide range of lithologies. This review focuses on the characteristics of the latter as they are considered more relevant to the context of the Pelangio concessions.

Table 2 outlines the important characteristics of structurally-controlled gold deposits. Most of these deposits are hosted in Birimian sedimentary rock, often close to major lithological contacts with either Birimian volcanic or Tarkwaian sedimentary rocks.

The gold mineralization is associated with major northeast striking, five to forty metres wide graphite-chlorite-sericite fault zones. In particular, gold mineralization is developed where the northeast fault zones intersect major east-northeast striking fault zones, and especially where they are recognized to have influenced granite emplacement. Such faults commonly are associated with pervasive hydrothermal alteration and exhibit weak to strong gold-in-soil geochemical trends.

On a broad regional scale (tens of kilometres) left-stepping flexures along northeast striking fault zones (producing more northerly striking fault segments), are important for the localization of gold mineralization. Local complexities in stratigraphy (folded stratigraphy) and fault geometry (fault duplex) associated with major northeast striking faults are also important local controls on the location of better gold mineralization.

**Table 2. Geological Characteristics of SW Ghana Gold Deposits.**

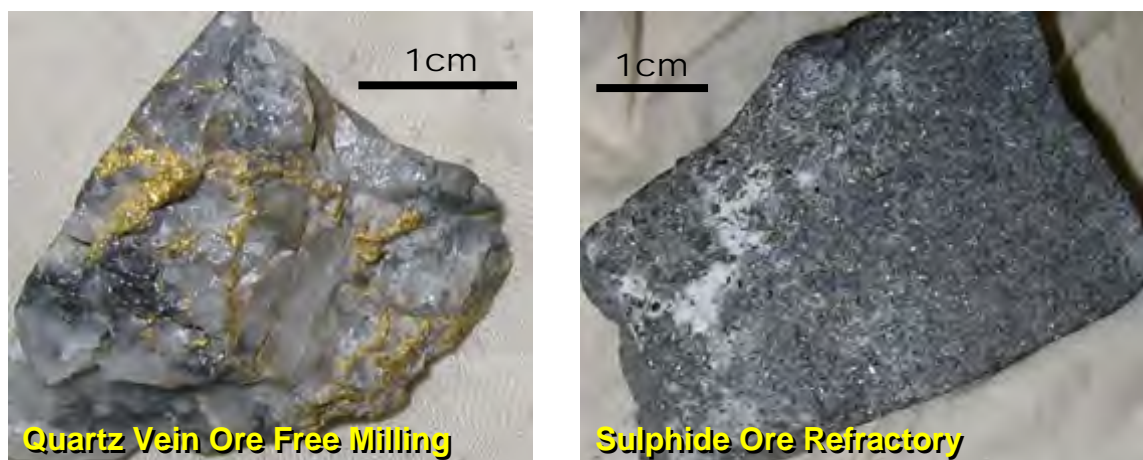
Scale	Type	Geological characteristics		
		Ashanti Belt	Sefwi-Bibiiani Belt	Asankrangwa Belt
Regional	Lithological	Birimian metasediments (in proximity to Birimian metavolcanics/Tarkwaian sediments)		
Regional	Structural	NE trending fault zones at/close to major lithological contrasts		
Regional	Structural	Flexures in NE trending fault zones (esp. N trending left stepping flexures)		
Regional	Structural	Intersections of NE trending fault zones with ENE transfer faults		
Regional	Lithological	Graphite bearing fault zones with associated As anomalies	Sericite-chlorite bearing fault zones	Graphite-sericite-chlorite bearing fault zones with associated As anomalies
Regional	Timing	D <sub>5</sub> sinistral strike slip related Au (ca. 2090 Ma)		D <sub>2</sub> thrust related Au (ca. 2110 Ma)
Regional	Au mineralisation styles	Sulphide-refractory lodes (high in Asp, lower grade Au) Quartz free-milling lodes (higher grade Au)		Quartz free-milling lodes
Local	Structural	North striking orientations may be more favourable		
Local	Lithological/Structural	NE trending fault zones cross-cutting Belt and Basin granitoids		
Local	Ore styles	Quartz-carbonate lodes with Sulphide lodes forming outer mineralisation halo		Quartz-carbonate lodes
Local	Ore mineralogy	Au-Py-Po-Asp (Ashanti, Bogoso)	Au-Py-He-Ru (Chirano)	Au-Py-Po-Asp (Obotan)

Note: Au - Gold, Py - Pyrite, Po - Pyrrhotite, Asp - Arsenopyrite, He - Hematite, Ru - Rutile

The Obuasi and Bogoso deposits (Figure 1) are hosted in shear zones close to, or at the contact of, Birimian sedimentary rocks and Birimian volcanic or Tarkwaian sedimentary rocks. At Bogoso the main structure occurs at the contact between Birimian and Tarkwaian sedimentary rocks (Allibone et al., 2002b) and has imbricated a series of moderately magnetic mafic igneous rocks (doleritic sills), sub-parallel to the shear zones. The Main Obuasi deposits are hosted in shear zones within the Birimian sedimentary rocks (Obuasi, Ashanti, and F fissures). Minor gold mineralization also occurs within shear zones located at the contact between Birimian sedimentary and volcanic rocks (Cote d'Or fissure; Allibone et al., 2002a).

At Obuasi and Bogoso the main gold mineralization is dominated by D5-gold associated with regional strike slip deformation which overprints earlier D2 reverse faults (Allibone et al., 2002a and 2002b). The gold mineralization is characterized by quartz vein free-milling gold lodes and sulphide-rich (arsenopyrite) disseminated refractory gold lodes (Figure 10). The sulphide lodes are interpreted to form alteration haloes around the quartz vein lodes. Alteration minerals typically include graphite, quartz, ankerite, sericite, tourmaline, chlorite, arsenopyrite, and pyrite.

The Chirano and Obotan gold deposits (Figure 1) are hosted both in shear zones crosscutting granitoid intrusions (Chirano – Belt-type granite, Obotan – Basin-type granite). The Chirano deposit is situated close to the contact of Birimian volcanic to Tarkwaian sedimentary rocks. The Obotan deposit is situated within the Birimian sedimentary rocks, but the granitoid and gold mineralization occur both at contacts between greywacke and carbonaceous phyllite units. At Chirano and Obotan the main gold mineralization consists of free-milling quartz vein gold lodes associated with D2 regional reverse faulting.



**Figure 10. Typical Gold Mineralization Styles at Obuasi.**

## 9 Exploration

### 9.1 Exploration Work Undertaken by Randgold

Adansi Asaasi Gold Mining Company Limited made available to Pelangio digital archives containing exploration data collected by Randgold during 2004 as part of a joint venture agreement for the exploration of the Kyereboso No.2 and No.3 concessions. Two accompanying reports describe the exploration work undertaken by Randgold and a third report summarizes the geological setting of the Meduma concession that was briefly examined by Randgold. As far as it could be determined no exploration work was undertaken on the New Edubiasi concession.

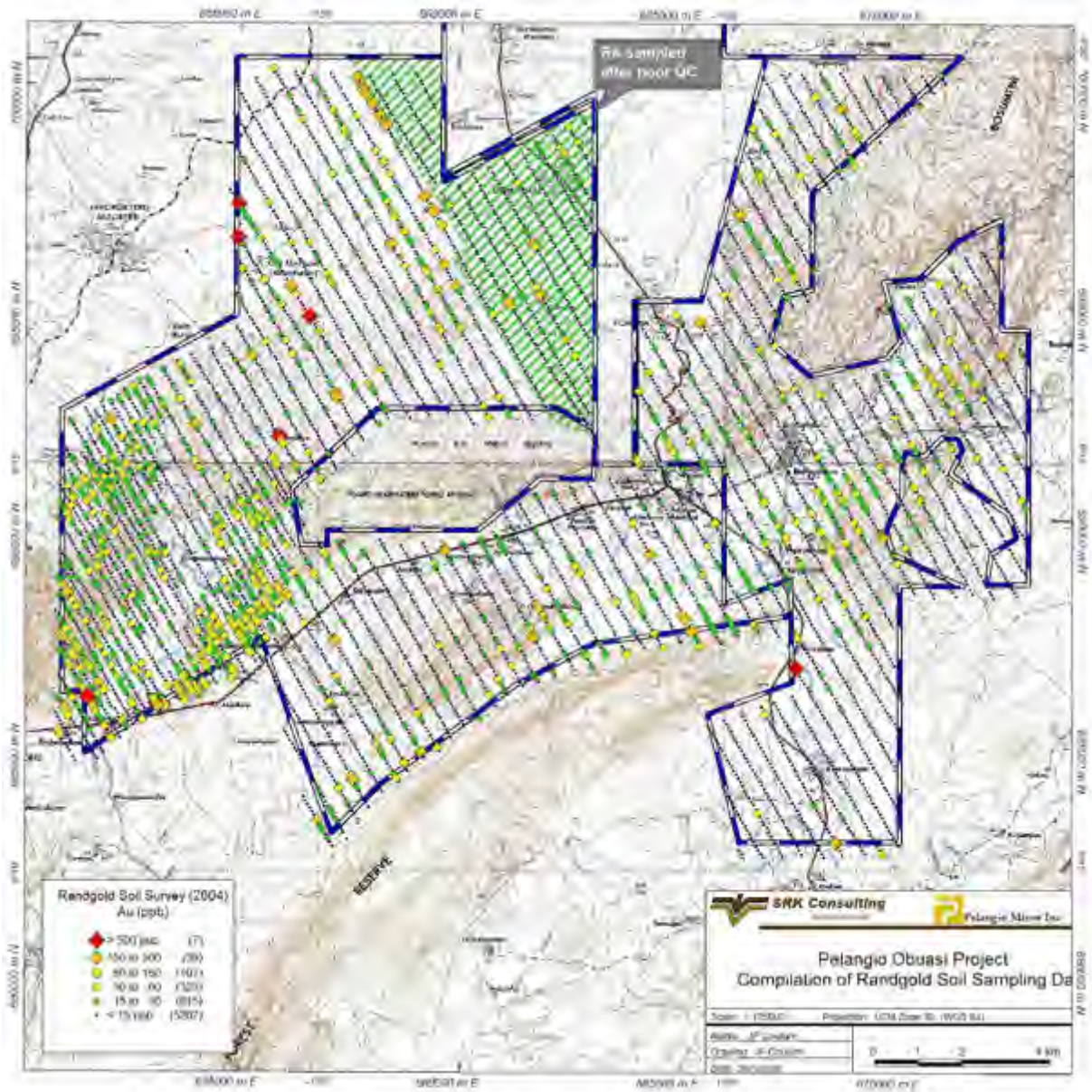
SRK is of the opinion that the original data obtained from Adansi Assaasi Gold Mining Company Limited are generally reliable and provide useful information for assessing the geological and structural setting of the Kyereboso No.2 and No.3 concessions. A detailed review of available data was presented in a previous technical report released for this project (Couture and Siddorn, 2006). The salient results are presented below.

The work consisted of regional compilation of airborne geophysical data and satellite imagery, geological mapping, prospecting, re-sampling of old adits and trenches and systematic soil sampling. Follow-up work included trenching to investigate several gold-in-soil anomalies. No drilling was undertaken as part of this work program.

Randgold re-sampled the walls of 38 existing adits in the Kyereboso No. 2 concession with a total of 390 wall chip samples at various intervals. Eight of these had results above 0.5 ppm gold with the highest assayed at 2.40 ppm gold.

Five thousand nine hundred and twenty four (5,924) soil geochemistry samples were taken on the Kyereboso No.2 and Kyereboso No.3 concessions at 100 metre intervals and 400 metre line spacing. The samples were assayed for gold and arsenic. Results of gold assays are shown in Figure 11. Two anomalous trends on the western portion of the Kyereboso No.2 concession are observed as well as another trend on the eastern side of Kyereboso No.3

As a follow up to soil geochemistry and prospecting results, a series of thirty seven trenches were excavated on the western side of Kyereboso No.2 on both gold-in-soil anomalous trends. Out of a total of 1,397 assay samples (each two metres in length) collected in the thirty seven trenches, only thirteen samples yielded assay results above 0.5 ppm gold.



**Figure 11. Distribution of gold in soil samples on the Kyereboso No. 2 and No. 3 Concessions. (Source: Randgold Resources Ltd Data).**

The best results were obtained in Trench TA1-015, located outside the main gold-in-soil anomalous zone, which yielded 1.23 gpt gold over a continuous twenty-three metre section or 2.69 gpt gold over twelve metres. Other interesting assay results were obtained in Trench TA1-020 where one isolated two-metre sample returned 9.2 gpt gold. Adjacent samples were only slightly anomalous in gold. The TA1-020 trench is located in the central portion of the interpreted extension of the Obuasi Main trend.

## **9.2 Exploration Work by Pelangio**

### **9.2.1 Soil Geochemistry**

In addition to the soil geochemical database that Pelangio inherited from the Randgold work, Pelangio conducted extensive soil geochemical sampling independently. During 2006, 6,281 soil samples were taken at fifty to one hundred metre intervals to complete the regional sampling on the Meduma (2,790 samples) and New Edubiasi (3,228 samples) concessions. One hundred and sixty three soil samples were collected on the Kyereboso No.2 ( Figure 12, Figure 13).

The emphasis of soil sampling shifted in 2007, when 3,380 samples were taken. The majority of samples were taken at Kyereboso No.2 (1,879 samples), followed by Kyereboso No.3 (1,217 samples) and Meduma (284 samples). No soil samples were collected on the New Edubiasi concession in 2007.

### **9.2.2 Ground and Airborne Geophysical Surveys**

Following the soil surveys, very low frequency ground electromagnetic (VLF-EM) surveys were conducted to follow up on promising results. For the VLF surveys, transmitter stations in Maine and the United Kingdom were used. During 2006 a total of 198.7 line kilometres were surveyed, primarily on the Meduma concession (195.3 line kilometres). The remaining 3.4 kilometres were run at Kyereboso No.2. For all surveys, readings were taken at 25 metre intervals on lines spaced at 100 metres.

The same approach was taken in 2007 to survey 139.6 line kilometres on the Kyereboso No.2 (67.7 line kilometres) and No.3 (59.1 line kilometres) and Meduma (12.8 line kilometres) concessions.

During the third quarter of 2007, Pelangio commissioned Geotech Ltd of Aurora, Canada to carry out an airborne VTEM survey over Kyerebosa No.2 concession. The survey consisted of 1,522 line kilometres. At the time this report was prepared the results from that survey are not available.

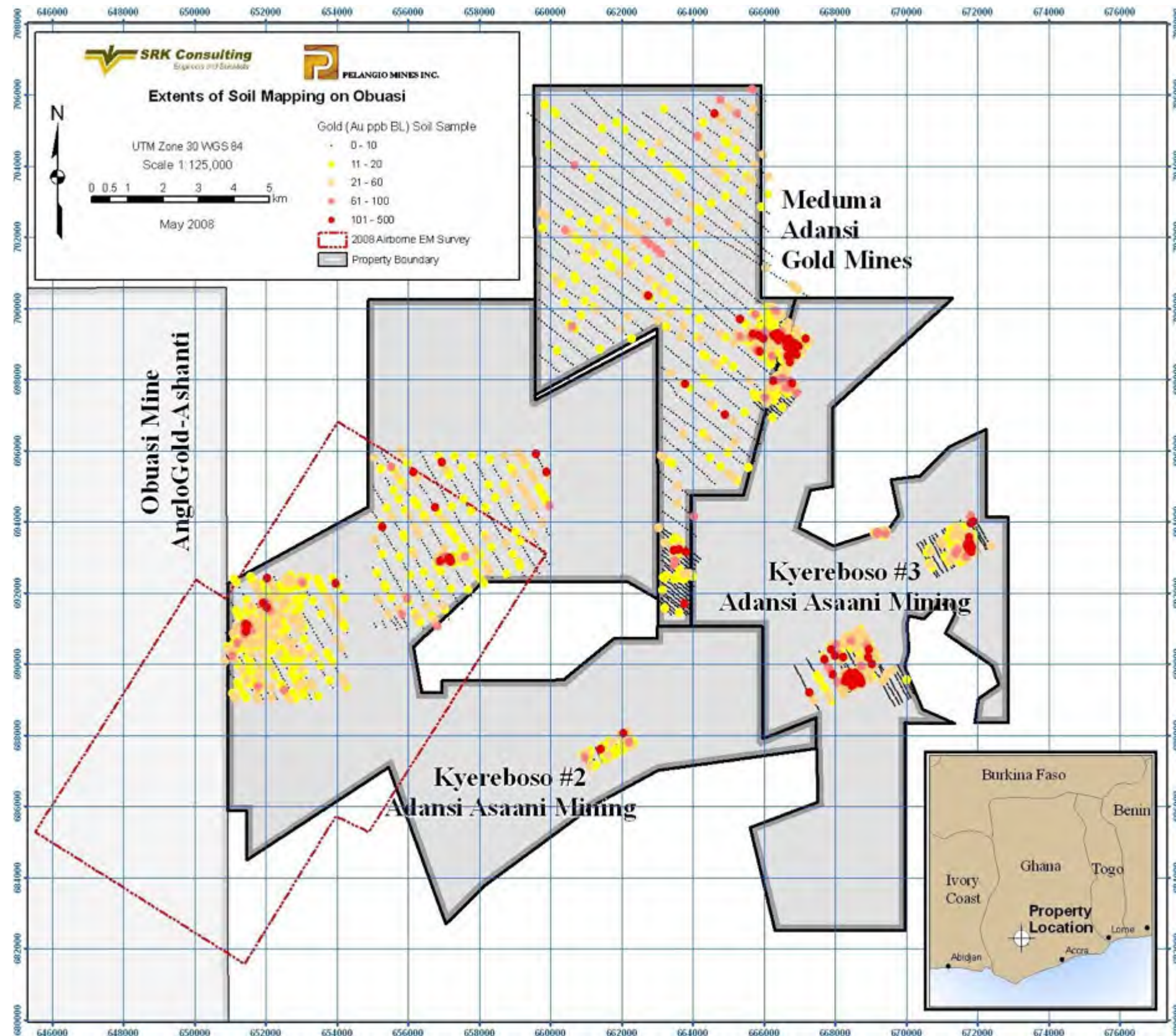


Figure 12. Extent and Results of geochemical soil survey, conducted by Pelangio on the northern portions of the property.



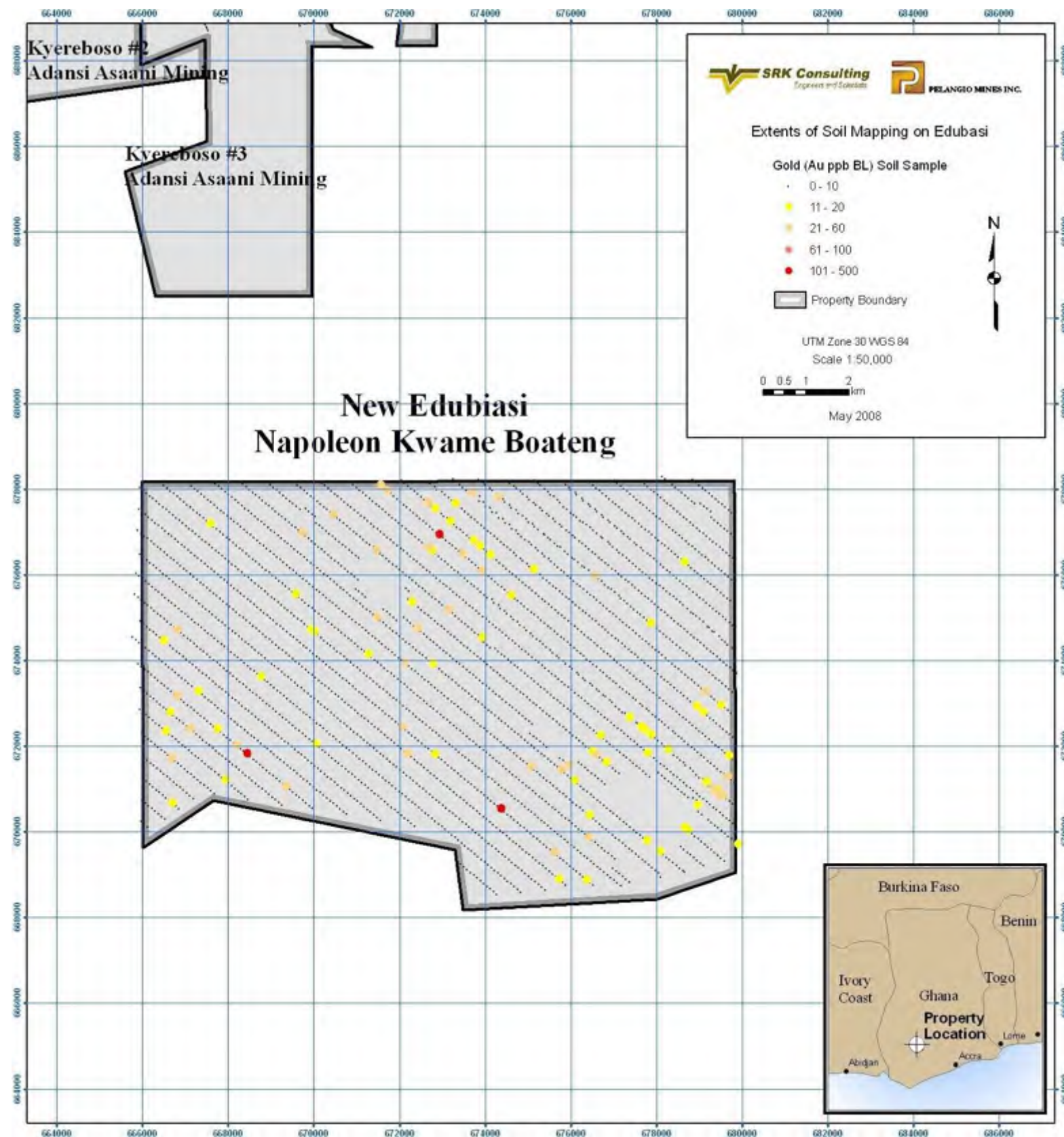


Figure 13. Extent and Results of geochemical soil survey, conducted by Pelangio on the New Edubiasi portion of the property.

### 9.2.3 Prospecting

Prospecting work was ongoing since work started on the project in 2006. Assay samples were taken at irregular intervals to assess the merit of various parts of the project area. During 2006 and 2007 a total of 358 and 717 samples were taken, respectively.

### 9.2.4 Trenching

During 2006 and 2007 Pelangio undertook ambitious trenching programs to follow up on gold-in-soil anomalies delineated by Randgold and Pelangio. Possible extensions of known gold trends in the district were taken into account for planning the trenching program. In 2006 a total of 3,823 metres of trenches were excavated, the majority (3,297 metres) of which targeted the Kyerebosa No.2 property. A total of 358 and 167 metres were allocated to Kyerebosa No.3 and Meduma concessions, respectively.

The trenching program was expanded in 2007 and included a total of 5,768 metres. The majority of this work was completed on the Kyerebosa No. 2 concession (3,208 metres), followed by Kyerebosa 3, Meduma, and New Edubiasi with 1,021, 1,037, and 502 metres, respectively. Trenches were mapped and sampled on one metre intervals, commonly along a horizontal line; however, some samples were taken vertically to sample the various soil horizons.

# 10 Drilling

## 10.1 Historical Drilling

Information about historical drilling is scarce, incomplete, and unverifiable. Seven reverse circulation drill holes totalling 233 metres were apparently drilled by Centracor Mining Ltd. in 1991 and 1992 in order to follow up on a VLF anomaly on the Meduma concession (the Kusa target). The exact location of the boreholes is unknown. Assay samples apparently returned weak gold mineralization associated with deformed phyllites and minor quartz veining. Best reported hole length assay results include 1.7 gpt gold over six metres, 1.5 gpt gold over four metres and 0.7 gpt gold over nine metres (this unverifiable information should not be relied upon).

## 10.2 Drilling by Randgold

As far as it could be determined no drilling was carried out by Randgold on the concessions.

## 10.3 Drilling by Pelangio

In 2007 Pelangio drilled nineteen HQ sized (reduced to NQ at bedrock interface) core boreholes (2,038 metres) on four targets on the Kyereboso No.2 and Meduma concessions.

The drilling contractor in the 2007 drill program was Eagle drilling from Kelowna, British Columbia. Collars were located in the field using a Garmin handheld GPS, casings were left in the hole and a cement monument placed around each collar for later survey pickup. Downhole surveys included acid tests to determine variations in inclination

The drill holes were designed to follow up on Randgold and soil sampling results:

- Seven core boreholes (753 metres) were drilled on the Abomposo Trench 15 showing to follow up on the best trenching results obtained by Rangold;
- Four drill holes (331.5 metres) were completed on the New Trench 1 showing on the Kiereboso No.2 concession;
- Two boreholes (302 metres) tested the New Trench 3 showing; and
- Six drill holes (651.5 metres) were completed on the Kusa Centracor showing on the Meduma concession.

The location of the target areas are presented in Figure 14 while the salient assay results are summarized in Table 3.

**Table 3. Summary of Assay Results from the 2007 Drilling Program on the Obuasi Gold Project**

Hole Number	Depth (m)	Dip	From (m)	To (m)	Width* (m)	Gold Grade (g/t)
<b><u>Abomposo</u></b>						
PG07AB-1	100.26	-45	92.42	92.43	0.01	Visible Gold
PG07AB-2	100.58	-50	No significant results			
PG07AB-3	100.58	-50	13.00	18.00	5.00	2.14
		incl.	16.00	17.00	1.00	9.84
PG07AB-4	100.58	-55	14.00	20.00	6.00	1.09
		incl.	14.00	15.00	1.00	4.23
PG07AB-5	99.67	-45	No significant results			
PG07AB-6	100.58	-55	36.00	37.00	1.00	1.08
			71.67	71.69	0.02	Visible Gold
PG07AB-7	150.88	-45	No significant results			
<b><u>Kusa Centracor</u></b>						
PG07KU-1	150.88	-45	15.00	56.00	41.00	0.54
		incl.	41.00	53.00	12.00	1.08
PG07KU-2	150.88	-45	32.00	34.00	2.00	1.15
			50.00	61.00	11.00	0.55
PG07KU-3	100.89	-50	51.00	66.00	15.00	0.49
PG07KU-4	99.36	-50	45.00	57.00	12.00	1.29
PG07KU-5	100.58	-55	85.00	95.00	10.00	0.44
PG07KU-6	150.27	-45	96.00	101.00	5.00	0.66
<b><u>New trench 1</u></b>						
PG07NT1-1	30.98	-45	16.00	28.00	12.00	0.29
PG07NT1-2	100.28	-45	13.00	23.00	10.00	0.23
PG07NT1-3	99.67	-45	3.05	17.00	13.95	1.10
PG07NT1-4	100.58	-45	8.00	9.00	1.00	1.01
			41.00	47.00	6.00	0.48
			53.00	63.00	10.00	0.38
			80.00	84.00	4.00	0.47
<b><u>New trench 3</u></b>						
PG07NT3-1	100.58	-45	No significant results			
PG07NT3-2	100.58	-45	119.00	120.00	1.00	5.85
total	2038.66					

\* Core length intervals. True widths are estimated at 65 to 75 percent of the drilling lengths.

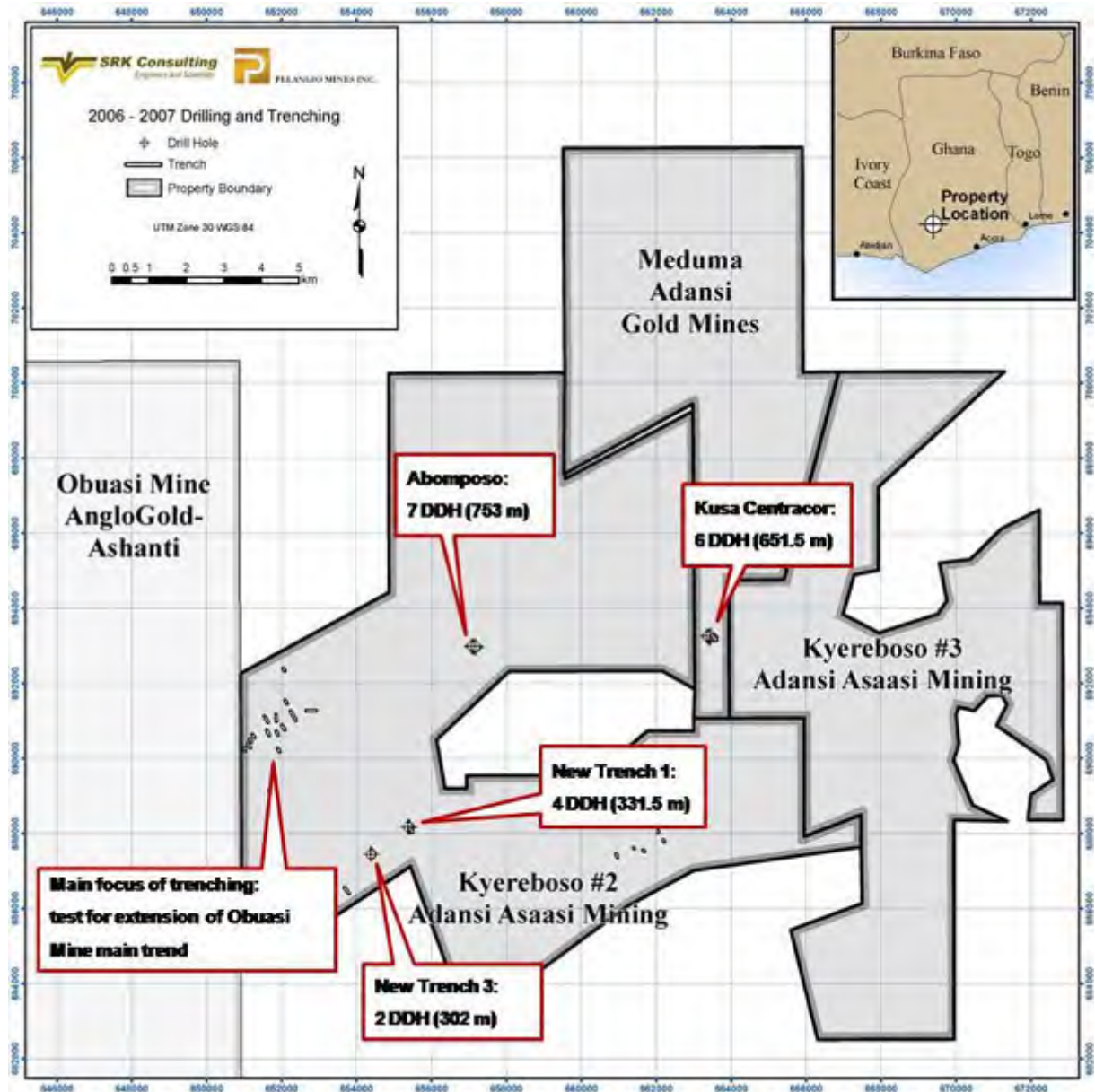


Figure 14. Location of Targets Investigated by Drilling During 2007.

### 10.3.1 Abomposo Target

Pelangio drilled seven holes totalling 753 metres to test the extension of Rangold Trench 15 (Figure 14) that yielded 1.93 gpt gold over seventeen metres horizontally. Additional trenching along a strike length of 475 metres defined an anomalous zone of 100 metres with values ranging from 1.05 to 2.43 gpt gold over horizontal widths of two to eleven metres.

The best results (Table 3) were encountered in holes PG07-AB-3 that returned a core length interval 1.0 metre grading 9.84 gpt gold (eleven metres below the surface), and PG07-AB-4 with 4.23 gpt gold over 1 metre (ten metres below the surface). These holes are located twenty-five metres and fifty metres west of Trench 15, respectively (Figure 15). Visible gold was noted in two other holes PG07-AB-1 and PG07-AB-6 but did not return any significant assay values (Figure 16).

The Abomposo gold mineralization is hosted by quartz carbonate veins in sheared argillite. The zone strikes at an azimuth of 290 degrees and dips steeply to the north-northeast.

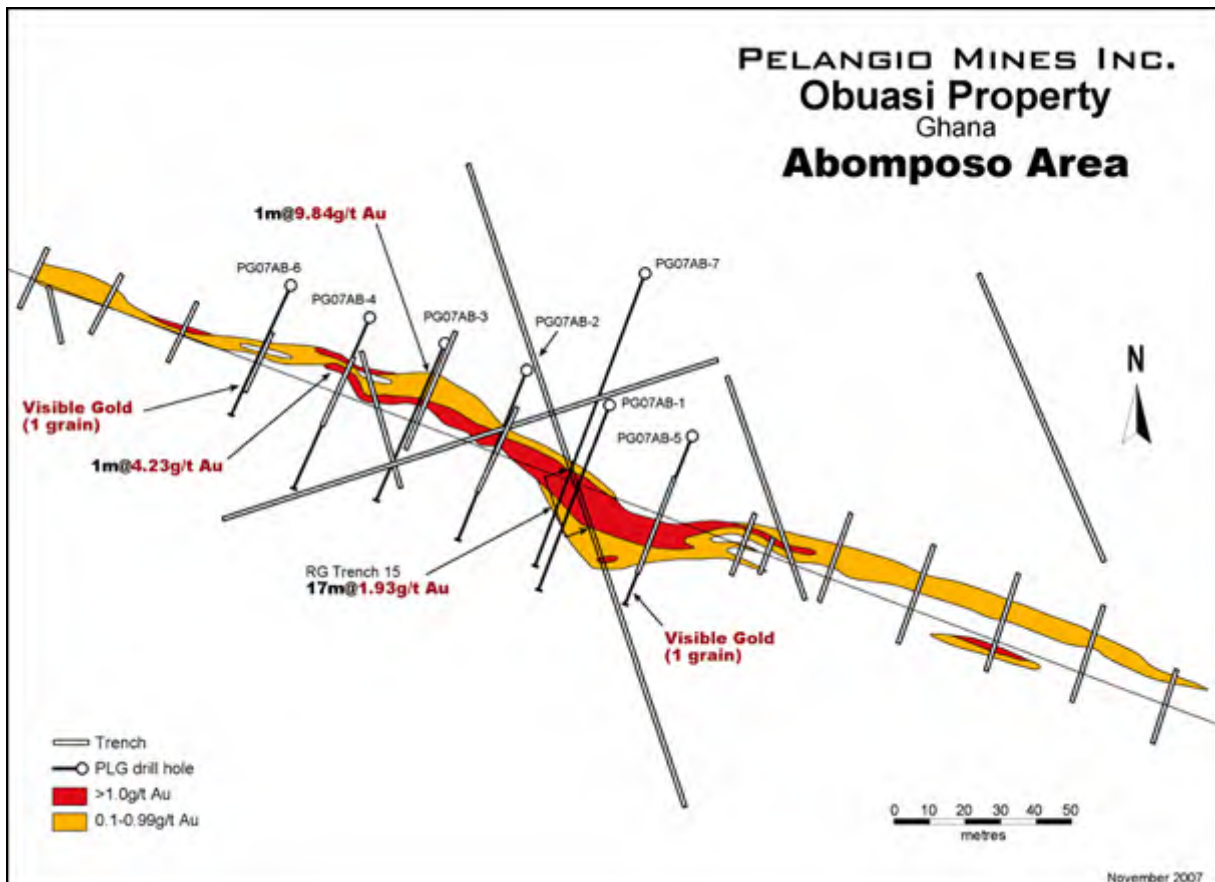
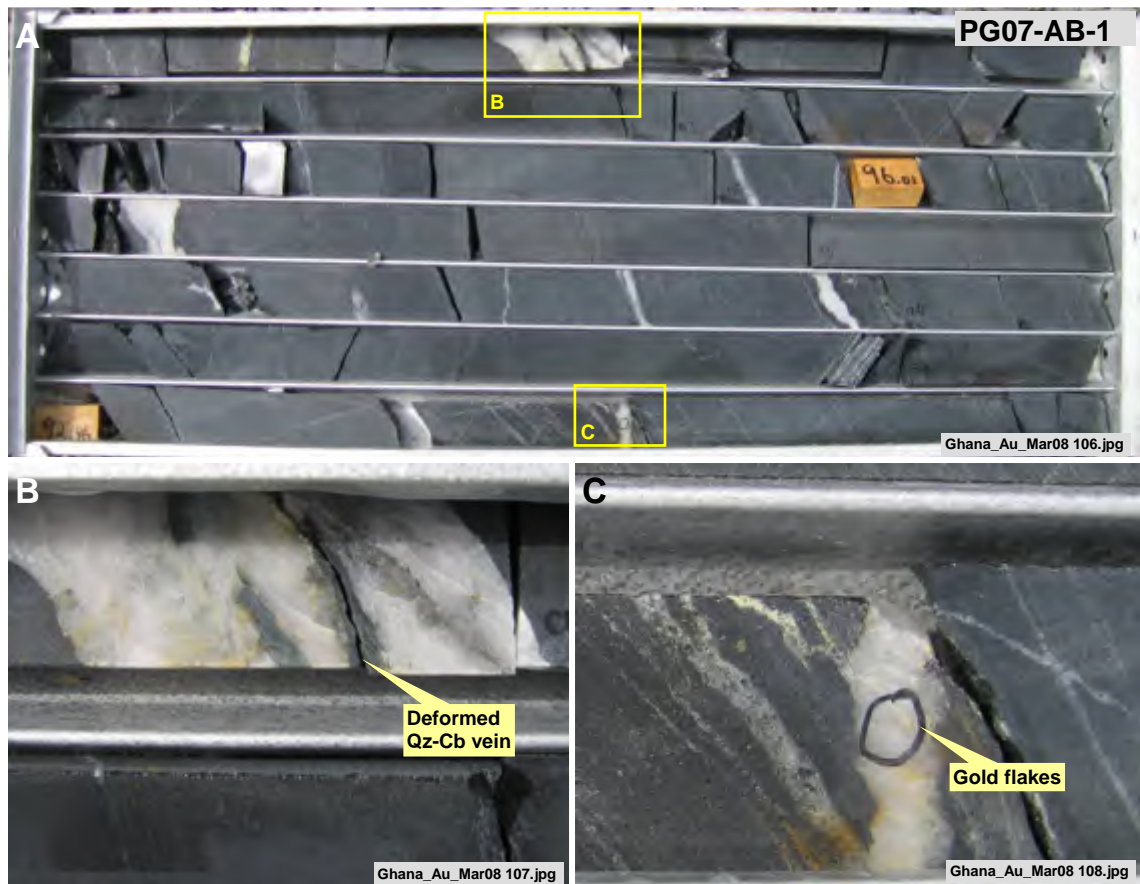


Figure 15. Compilation of Trenching and Drilling Data at the Abomposo Target.



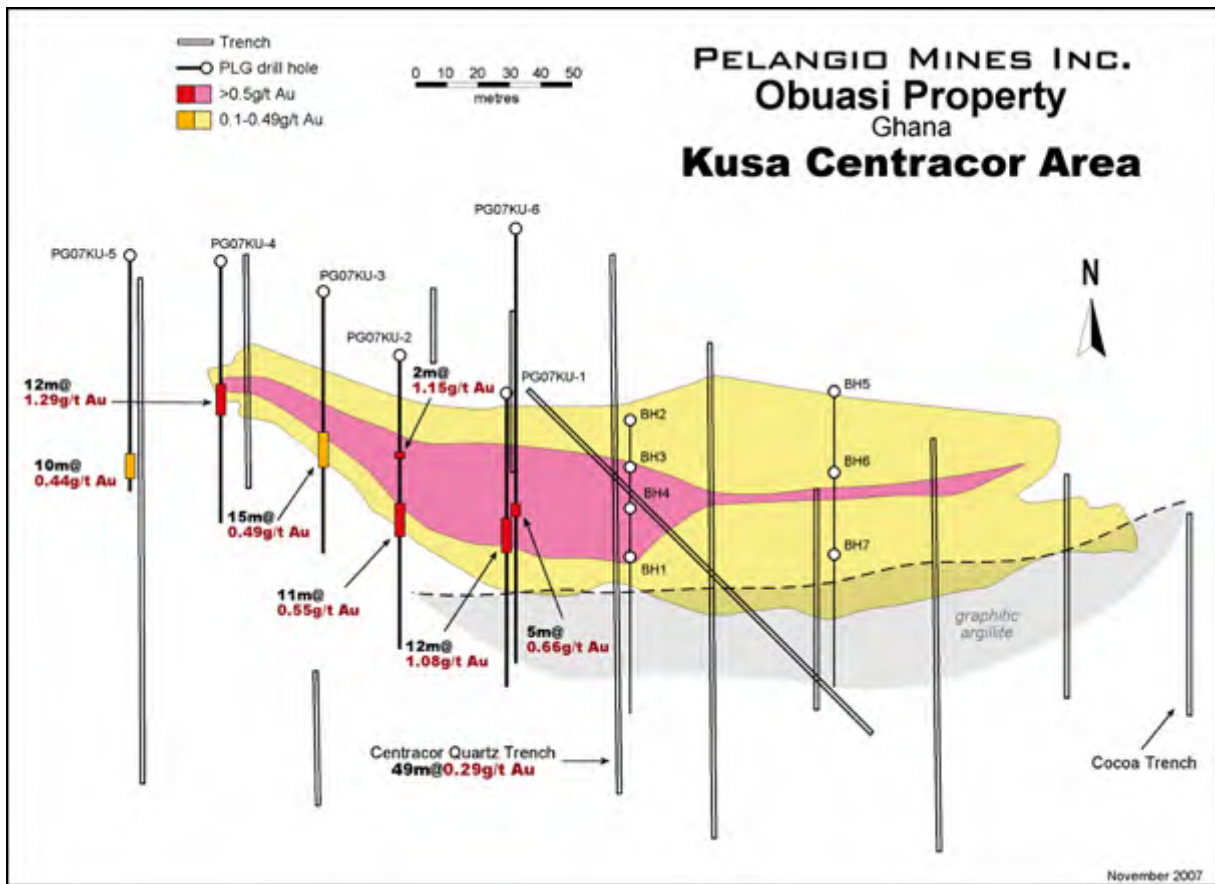
**Figure 16. Abomposo Target. A. Section through Borehole PG07-AB-1 between 92 and 98 metres (see Figure 15). This Borehole Intersected Minor Quartz Veining, Weakly Strained in Weakly Deformed Clastic Sedimentary Rock. Visible Gold was Observed in Two Veins. B. Close Up Detail of a Deformed Quartz-Carbonate Vein. C. Visible Gold Flakes inside Narrow Quartz Vein. The Gold Did Not Show at Assay.**

### 10.3.2 Kusa Centracor Target

The Kusa Centracor gold target area is located 6.3 kilometres east of the Abomposo Trench 15 area (Figure 14). The anomalous gold zone was defined over a strike length of 250 metres by trenching and past drilling by Centracor Mining Ltd in 1992. Six core boreholes investigated this target over a strike length of 125 metres, within 120 metres west of the past drilling area (Figure 17).

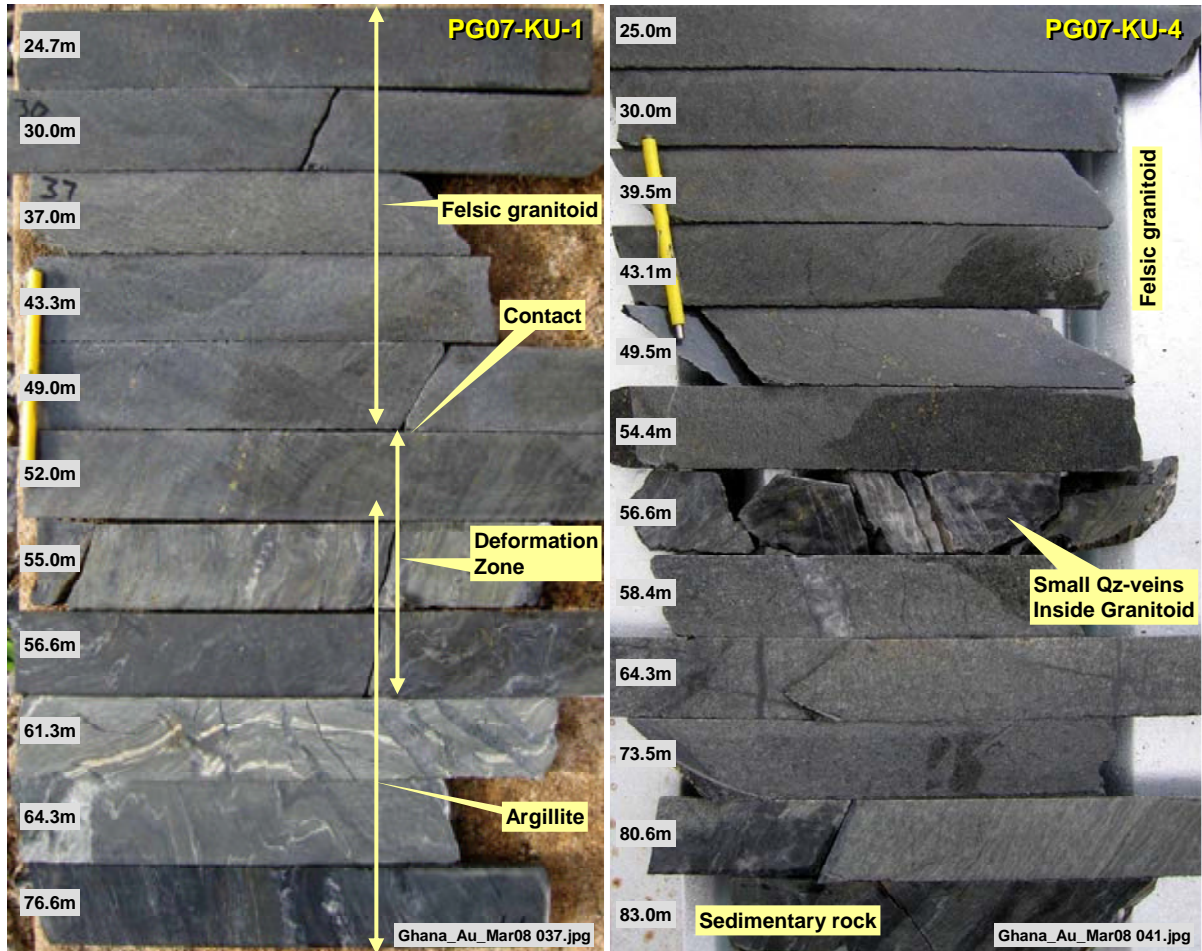
A broad alteration zone was delineated along the sheared contact between a felsic intrusive rock and deformed graphitic phyllites. The alteration zone exhibits moderate silica and pyrite mineralization and contains minor quartz veining. The best gold mineralization was obtained within the altered felsic rocks associated with minor quartz veining (Figure 18). The best results were 1.08 gpt gold over 12.0 metres in hole PG07-KU-1 and 1.29 gpt gold over 12.0 metres in hole PG07-KU-4 (Table 3).

Holes PG07KU-4 and PGKU07-5 were abandoned short of reaching the contact with the graphitic phyllites.



**Figure 17. Compilation of Trenching and Drilling Results at the Kusa Centracor Target.**





**Figure 18. Composite Sections Through Boreholes PG07-KU-1 (Left) and PG07-KU4 (Right) Drilled on the Kusa Target. These Boreholes Intersected Minor Quartz Veining Developed in the Granitic Intrusion, Near the Contact with Sedimentary Rock. Of Note Minor Quartz-Veins, Weakly Auriferous in hole PG07-KU-4.**

### 10.3.3 Gyabunsu Mampawhe Area

In the Gyabunsu Mampawhe area, Pelangio began investigating two targets with short core boreholes.

#### New Trench 1 Target

New Trench 1 is located on the Gyabunsu trend, approximately 9.5 kilometres southwest of the Kusa Centracor area (Figure 14). Pelangio drilled three short core holes on twenty-five metre sections to investigate anomalous trenching results (New Trench1 and Randgold Trench 10). Hole PG07NT1-3 intersected 1.10 gpt gold over 14.0 metres associated with quartz veining inside Tarkwaian sandstones above the Birimian argillite. The orientation of mineralization remains uncertain.

#### New Trench 3 Target

New Trench 3 target is approximately 1.3 kilometres southwest of the New Trench 1 (Figure 14). Two drill holes targeted anomalous gold values encountered in four trenches. The best results came from a 1.0 metre core length samples grading 5.85 gpt gold in hole PG07NT3-2 (Table 3).

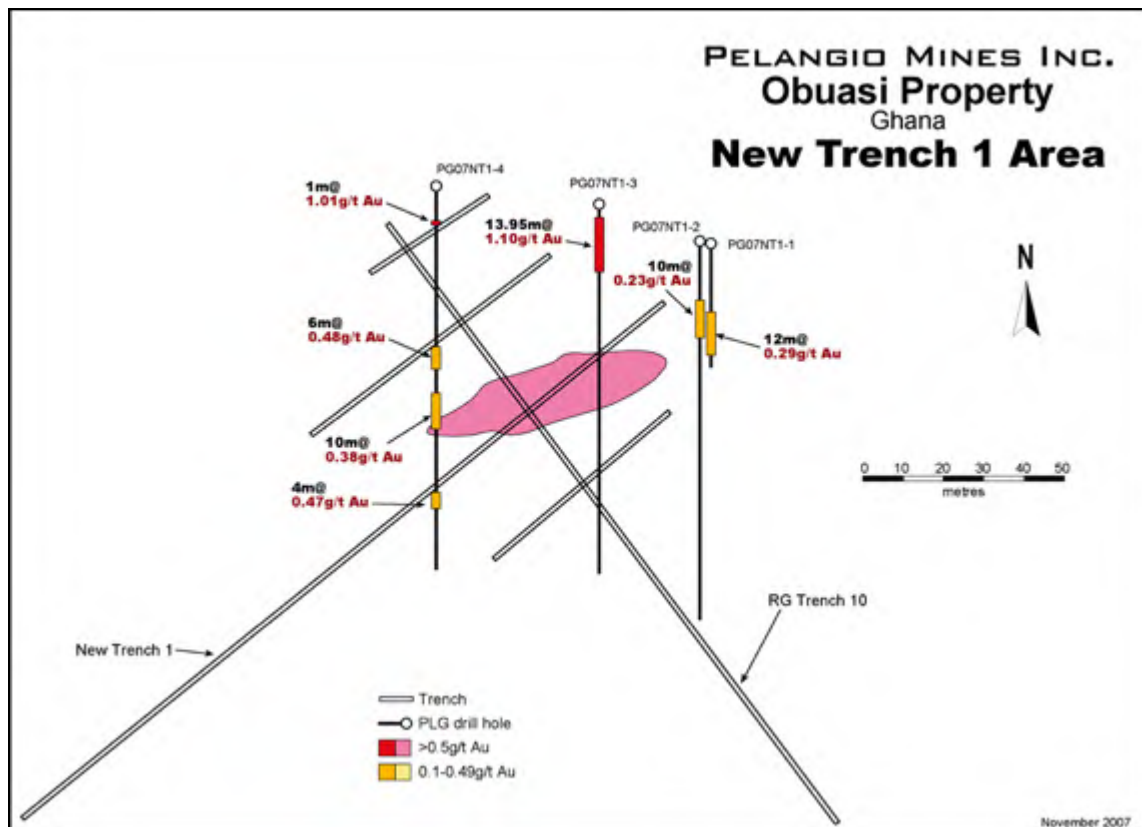


Figure 19. Compilation of Trenching and Drilling Results at New Trench 1 target.

# 11 Sampling Method and Approach

## 11.1 Sampling by Randgold

Adit, soil and trench sampling procedures used by Randgold are documented in the previous technical report (Couture and Siddorn, 2006). The sampling procedures were reviewed by SRK and found to be suitable. The sampling was carried out by an independent consultant, RSG Global.

Soil sampling was conducted over a cut and chained grid, laid out using a handheld GPS unit. The grid system was designed to sample the entire surface area of the Kyereboso No.2 and No.3 concessions on a regular 400 metre by 100 metre grid pattern. The sampling lines were oriented to cut interpreted stratigraphy as close as possible to a normal angle. Descriptive attributes were carefully recorded for each site, including sampling depth, vegetation, drainage, sample colour and composition. A duplicate sample was collected every twentieth sample and assigned a consecutive sample identification number.

Assay samples in trenches were taken at the bottom of the trench exposing bedrock or saprolite material. After excavation, the trench bottom was carefully cleaned, surveyed, and mapped by a geologist who also marked the sampling line and intervals. Assay samples were collected by excavating a groove in bedrock or saprolite with a hammer. Material removed from the groove was split directly on site to yield an assay sample varying between 0.5 and 1.5 kilograms in weight.

## 11.2 Sampling by Pelangio

### 11.2.1 Soil Sampling

The soil sampling programs carried out by Pelangio had two objectives: to complete the regional sampling over the Meduma and New Edubiase concessions and to follow-up Randgold results on the Kyereboso No.2 and No.3 concessions.

The baselines and sample lines were pegged at regular intervals and sampling sites were individually verified using a handheld GPS in UTM coordinates, datum WGS 84 Zone 30 North. Concrete pillars were placed every 400 metres on the baselines of reconnaissance sampling grids and on the corners of detailed follow-up grids. The sampling lines were oriented to cut interpreted stratigraphy as close as possible to a normal angle.

Samples were collected by teams consisting of labourers and technicians under the supervision of a geologist. A shovel was used to collect approximately 2.5 kilograms of residual material at a depth ranging from 0.3 to 1.5 metres. All sampling sites were marked with a picket and an aluminum tag containing the sample identification and location information. Swampy ground and areas with obvious soil transport were not sampled.

A duplicate sample was collected every twentieth sample and assigned a consecutive sample number. A sample blank (barren Akrokeri Granite) was inserted every fiftieth sample. This granite was obtained from an outcrop near the Akrokerri Teacher's College on Akrokerri road.

The Mobile Metal Ion survey ("MMI") conducted in the Anyinabrim area of Kyereboso No.2 concession. Samples were collected at regular fifty metre intervals on lines approximately 100 metres apart. Samples were collected at a constant depth of twenty-five centimetres. One duplicate and one field blank were inserted with each sequence of twenty samples.

### 11.2.2 Trench Samples

After excavation, the trench bottom was carefully cleaned, surveyed, photographed, and mapped by a geologist who also marked the saprolite contact, sampling line and intervals. For north-trending trenches, the west wall was mapped and sampled with the sampling starting point located on the southern extremity of the trench. East-trending trenches were mapped and sampled along the north wall with the start point on the western end.

Assay samples were collected by excavating a groove in the bedrock or saprolite with a hammer. Sampling intervals were fixed at one metre irrespective of geological boundaries. Material removed from the groove was split directly on site to yield an assay sample varying between 0.5 and 1.5 kilograms in weight.

Similar to the soil sampling, the local Akrokeri Granite was used as a sample blank at a rate of three percent.

### 11.2.3 Drilling Samples

The 2007 drill program delivered HQ sized (63.5 millimetres diameter) core in the saprolite and weathered rock and NQ sized (47.6 millimetres diameter) core in competent unweathered bedrock. Samples were collected from half core, or sometimes quarter core, sawed lengthwise with a diamond saw. Samples were measured at one metre intervals independent of lithology across the entire length of the drill holes.

The local Akrokeri Granite was used as a sample blank at a rate of three percent.

## 12 Sample Preparation, Analyses and Security

### 12.1 Randgold Samples

All assay samples from adits, trenches and soil were organized into batches of samples and prepared for submission to the assay laboratory. SRK is not aware of clear documentation of the security measures taken to ensure the chain of custody of all samples submitted for assaying.

Soil samples were submitted in batches varying between 100 and 400 samples as indicated in sample submission logs. Quality control samples were inserted with each batch of soil samples dispatched to the assay laboratory.

Quality control samples included one gold standard reference material sample at a rate of one in thirty samples and one field duplicate at a rate of one every twenty samples. Throughout the program, RSG Global used four different certified oxide-base gold reference material samples (OxA26, 79.8ppb; OxA30, 200 ppb; OxE21, 651 ppb; OxE29, 1,298 ppm) obtained from RockLabs Limited in New Zealand.

Formal documentation of assaying protocols used for adit and trench samples collected by Randgold was not available. Assay data files suggest that one of six unspecified certified reference material samples was inserted with trench samples at a rate of one every forty-five samples. Apparently no quality control samples were inserted with adit samples submitted for assaying.

Soil assay samples collected by RSG Global were submitted to the SGS Laboratory Services (Ghana) Limited (“SGS Laboratory”), located in Tarkwa, Ghana. No records exist on how the samples were dispatched to the assay laboratory.

Soil samples were sieved to -80 mesh and dried at 105 degrees Celsius, digested in aqua regia, Di-isobutyl ketone (“DIBK”) extraction and analyzed for gold (Method Code P607) and arsenic (Method Code A649) by atomic absorption spectrometry of fifty gram samples. Internal laboratory quality control procedures involved inserting one sample blank and one reference material sample at a rate of one of each every ten samples within each batch of samples. In addition assaying protocols involved repeat assays on a second pulp split at a rate of approximately one every twenty samples. The quality control procedures are typical for this type of soil sampling.

Adit and trench samples were submitted to the TransWorld Laboratories in Tarkwa, Ghana for assaying. Samples were assayed for gold using a standard fire assaying procedure and atomic absorption finish (Method Code FAPPB). Internal laboratory quality control procedures involved inserting with each

batch of samples one sample blank and one reference material at a rate of approximately one of each every twenty-five samples and conducting repeat assays on the same pulp on average every twenty samples. The quality control procedures are typical for this type of work.

A summary of the assaying procedures used for assaying soil, adit and trench samples is presented in Table 4.

**Table 4. Assay Protocols used by Rangold for Sampling Work on the Kyereboso No.2 and No.3 Concessions.**

Sample type	External QC	Element	Laboratory	Location	Internal QC	Assaying method	Method Code	Detect. limit	Max.
Soil	Blank/CRM /field duplicate	Au	SGS	Tarkwa, Ghana	Blank/CRM /repeat	Aqua Regia/A.A.	P607	2	
Soil	Blank /field duplicate	As	SGS	Tarkwa, Ghana	Blank/CRM /repeat	Aqua Regia/A.A.	A649	20	10000
Adit	CRM	Au	Transworld	Tarkwa, Ghana	Blank/CRM /repeat	Fire Assay/A.A.	FAPPB	1	
Trench	CRM	Au	Transworld	Tarkwa, Ghana	Blank/CRM /repeat	Fire Assay/A.A.	FAPPB	1	

Analytical quality control efforts were limited to monitoring assay results of certified reference material samples against accepted values. Assay batches were typically rejected if the assay of reference material samples was outside a range set by the supplier. There is no clear documentation of analysis of quality control data.

Only one such instance is reported in the Randgold data examined by SRK. It concerns several batches of soil samples from one portion of the Kyereboso No.2 concession which apparently showed poor quality control data. After review, 452 suspicious sites were re-sampled and re-submitted to the SGS laboratory using the same assaying protocols.

No umpire laboratory was used to verify assaying results obtained from the soil and rock sampling programs.

In the opinion of SRK the sampling, sample preparation, and the analytical procedures used by Randgold and RSG Global during their exploration work on the Kyereboso No.2 and No.3 concessions are adequate for this early stage exploration project and generally compatible with industry standards for early stage exploration projects.

## 12.2 Pelangio Samples

Assay samples from drill core, trenches and soil were organized into batches of samples and prepared for submission to the assay laboratories. A field procedure document indicates the required supervision and sign off of samples by the field geologists until delivery to the laboratory. Except for the small number of MMI samples collected, all assay samples were submitted to independent TransWorld Laboratories in Tarkwa, Ghana.

Quality control samples were inserted with each batch of soil samples dispatched to the assay laboratory. A duplicate sample was collected every twentieth sample and assigned a consecutive sample number. The barren Akrokeri Granite was used as sample blank at every fiftieth sample. Certified gold reference material samples were not used.

Procedures for the trench and drill samples differed from those for soil samples in that field duplicate samples were not collected. However, the Akrokeri Granite was inserted at every fiftieth trench sample and every thirtieth drill core sample. Certified gold reference material samples were not used.

Soil samples were sent to the laboratory where they were dried, pulverised and homogenised before being assayed for Bulk Leach Extractable Gold (“BLEG”). This method involves a bottle roll cyanide leach of a two kilogram sized sample with a di-isobutyl ketone (“DIBK”) extraction followed by an atomic absorption (“AA”) finish. The detection limit of this method is 1 part per billion (“ppb”) gold. Internal laboratory quality control procedures involved inserting within each batch of samples one sample blank and one reference material sample at a rate of one of each every ten to fifteen samples. In addition, assaying protocols involved repeat assays on a second pulp split at a rate of approximately one every twenty samples. Re-analysis by AAS (respray) of liquor was performed on every tenth to fifteenth sample. The quality control procedures are typical for this type of soil sampling.

Core, trench and rock samples were submitted also to the TransWorld Laboratories in Tarkwa for assaying. Samples were assayed for gold using a standard fire assaying procedure and atomic absorption finish. Internal laboratory quality control procedures involved inserting with each batch of samples one sample blank and one reference material at a rate similar to the soil samples.

A summary of the assaying procedures used for assaying soil, drill and trench samples is presented in Table 5.

No umpire laboratory was used to verify assaying results obtained from the sample programs.

In the opinion of SRK the sampling, sample preparation and the analytical procedures used by Pelangio are adequate for this early stage exploration project and generally meet industry standards for early stage exploration projects.

However, SRK strongly recommends that Pelangio considers improving the external laboratory quality control measures for future programs. Field duplicate samples and certified reference material samples should be inserted at an appropriate frequency (five percent) within each batch of samples submitted for assaying. Assay results for quality control samples (internal and external) should be monitored promptly upon delivery to detect any abnormal results and take appropriate remedy action, if required.

**Table 5. Assay Protocols used by Pelangio for sampling work on the Obuasi project in 2006 and 2007.**

Sample type	External QC	Element	Laboratory	Location	Internal QC	Assaying method	Method Code	Detect. Limit (ppb)
Soil	Blank / field duplicate	Au	Transworld	Tarkwa, Ghana	Blank/CRM/repeat	2 kg BLEG/A.A.	2KG BLEG PPB	1
Trench	Blank	Au	Transworld	Tarkwa, Ghana	Blank/CRM/repeat	Fire Assay/A.A.	FAPPB	1
Drill	Blank	Au	Transworld	Tarkwa, Ghana	Blank/CRM/repeat	Fire Assay/A.A.	FAPPB	1
<b>Kyereboso No. 2, Anyinabrim area only</b>								
Soil	Blank / field duplicate	Cu	Transworld	Tarkwa, Ghana	Blank/CRM/repeat	Aqua Regia/A.A.	Cu ppm	1000
Soil MMI	Blank / field duplicate	Au + various	SGS	Tarkwa, Ghana	Blank/CRM/repeat	MMI/ICP-MS	MMI-M5	0.1 AU, various
Trench	Blank	Cu	Transworld	Tarkwa, Ghana	Blank/CRM/repeat	Aqua Regia/A.A.	Cu ppm	1000
<b>New Edubiase concession only</b>								
Soil	Blank / field duplicate	As	Transworld	Tarkwa, Ghana	Blank/CRM/repeat	Aqua Regia/A.A.	B METALS	1000
Soil	Blank / field duplicate	Zn	Transworld	Tarkwa, Ghana	Blank/CRM/repeat	Aqua Regia/A.A.	B METALS	5000

## 12.3 Quality Assurance and Quality Control Programs

Quality control measures are typically set in place to ensure the reliability and trustworthiness of exploration data. These measures include written field procedures and independent verification of aspects such as drilling, surveying, sampling and assaying, data management and database integrity. Appropriate documentation of quality control measures and regular analysis of quality control data are important as a safeguard for project data and form the basis of the quality assurance program implemented during exploration.

Analytical control measures typically involve internal and external laboratory control measures implemented to monitor the precision and accuracy of the sampling, preparation and assaying. They are also important to prevent sample mix-up and monitor the voluntary or inadvertent contamination of samples. Assaying protocols typically involve regular duplicate and replicate assays and insertion of quality control samples to monitor the reliability of assaying results throughout the sampling and assaying process. Check assaying is typically performed as an additional reliability test of assaying results. This measure typically involves re-assaying a set number of sample rejects and pulps at a secondary umpire laboratory.

### 12.3.1 Rangold Analytical Quality Control Program

Assaying protocols used by Randgold involved the insertion of quality control samples into the sample stream of assay samples submitted to the lab. During the soil sampling program conducted by RSG Global, quality control samples included certified reference material samples and field duplicates. During the trench and adit sampling programs apparently no field duplicates were collected.



During the Randgold soil sampling program, quality control data included thirty-five determinations of RockLabs OXe29 standard, fifty-one determinations of RockLabs OxE21 standard, four determinations of RockLabs OxC30 standard and seventy-seven determinations of RockLab OxA26 standard; and duplicate assay data for 325 gold assay pairs. SRK analysed the quality control data produced by Rangold (Couture and Siddorn, 2006). This analysis is not reproduced here.

The exploration data collected by Randgold represent initial exploration work designed to investigate the Kyereboso No.2 and No.3 concessions for the existence of shear zone-hosted gold mineralization in bedrock. Although quality control data cast some doubt on the reliability of the assaying data collected by Randgold, the risks presented by these data are considered not material for the purpose of exploration target generation and the overall assessment of the merit of the Kyereboso No.2 and No.3 concessions. In general the main risks reside in the fact that the existing soil data may report more conservative results and therefore could potentially mask genuine gold-in-soil anomalies worthy of follow-up. These potential biases should be taken into consideration when interpreting the soil geochemical data.

### 12.3.2 Pelangio Analytical Quality Control Program

Assaying protocols used by Pelangio involved the insertion of quality control samples into the sample stream of assay samples submitted to the laboratory. However, the rate and consistency of these measures varied between the soil sampling, trenching, and drilling programs. SRK compiled the quality control data produced by Pelangio in 2006 and 2007. The quality control data are summarized in time series charts and bias and relative precision plots presented in Appendix C.

During the soil sampling program no blank, duplicate, or standard samples were introduced into the sample stream. Pulp duplicate assays were produced in the lab for every twentieth sample. Quality assessment of assay data is further complicated by three different analysis methods (Bulk leach extractable gold “BLEG” on one kilogram samples, BLEG on samples smaller than one kilogram, and Mobile Metal Ion selective leach). Bias charts display a fair amount of scatter outside a ten percent envelope, indicating that a large portion of duplicate samples differ more than ten percent from original assays. Plotting data on Mean versus half relative deviation (HRD) plots can detect skewness of duplicate data. Despite a small dataset of sixty-four sample pairs, a slight positive deviation is detectable. The ranked half absolute relative deviation (HARD) plot shows that only approximately fifty-five percent of samples fall within a ten percent envelope of reproducibility, and that only approximately seventy-five percent fall within a twenty percent envelope. Plotting the HARD number versus individual means show that the one kilogram BLEG samples have the best reproducibility, while the MMI samples have the worst. Nevertheless, the quantile-quantile plot shows reasonable reproducibility, especially at higher assay values.

During the trenching program, only nine blank samples were inserted into the sampling stream of 9631 samples. Due to the unreliable nature of the blank material, no conclusions can be drawn from this very limited quality assurance program.

No standard samples were inserted into the sample stream during drilling operations. Pulp duplicates were assayed at a rate of one to approximately seventeen. The bias chart shows fair to good reproducibility, while mean versus HRD plot shows a symmetrical distribution around the mean. The ranked HARD plot shows that approximately seventy-five percent of all duplicate assays are within ten percent of the original. Mean versus HARD and quantile-quantile plots also show good reproducibility of duplicate samples. Two different standards were used during drilling operations; one of them was inserted into the sample stream approximately every twenty samples. All standard assays are within two standard deviations.

While it seems that a quality control program is in place, execution lacked consistency. SRK strongly recommends that a consistent quality control program be out in place and that field personnel follow it strictly. SRK recommends further that certified standards and blank material be used and that field duplicate samples be taken for all types of sampling programs. A set number of samples should be sent to an independent umpire lab for further quality control.

## 13 Data Verification

### 13.1 Verification by SRK

#### 13.1.1 Site Visits

SRK visited the Obuasi project on two occasions. A first visit was completed in October 2005 as part of a due diligence prior to the acquisition of the four concessions by Pelangio. This visit served as the prescribed site visit for the preparation of an initial technical report for the project filed on SEDAR on March 2, 2006.

Eleven verification samples were collected in October 2005 on the Kyereboso No.2, No.3 and New Edubiasi Concessions. Two samples collected in the old Adits #20 on the western portion of the Kyereboso No.2 concession yielded weak gold mineralization. All other samples were barren. Such a small sample collection cannot be considered representative for assessing the exploration potential of the concessions.

In accordance with National Instrument 43-101 guidelines, SRK visited the Obuasi gold project from March 16 to 19, 2008 to inspect the property and audit the exploration work completed by Pelangio during 2006 and 2007. SRK was given full access to project data.

During the visit, SRK personally inspected trenching areas and witnessed the collars of several boreholes. All drilling sites visited remain clearly visible with the borehole collar indicated by a concrete benchmark surrounding a plastic casing and engraved with the borehole number. Trenches excavated in 2006 had been filled back as required by the environmental regulation in Ghana.

During the visit, the surveying contractor Comprobe was conducting downhole surveys in recently drilled boreholes. While on site, SRK interviewed project personnel regarding the exploration strategy and field procedures used by Pelangio. Core from four core holes was examined.



**Figure 20. A-B. Benchmark for Boreholes PG07-KU-04 and KU-02 Drilled by Pelangio on the Kusa Target, Meduma Concession. C. Backfilled Trench at Kusa. D. North-trending Trench on Copper West Target. Silica Rock Grading 1-5 gpt Gold, Kyereboso No.2 Concession. E. New Trench Recently Excavated at the New House Trench Area to Follow-up on Trench Results.**

### 13.1.2 Verification of Randgold Data

Property vendors made available to SRK reports and electronic data pertaining to exploration work conducted by Randgold on the Kyereboso No.2 and No.3 concessions and a paper report supporting the application for the Meduma exploration concession.

The electronic documents include illustrations, drawings, a series of MS Excel tables documenting soil, trench and adit sampling and digital assay certificates for all assaying.

SRK conducted a series of routine verifications to ensure the reliability of the electronic data provided by the property vendors. Sampling assay tables were visually inspected against assay certificates.

SRK plotted maps illustrating distribution of assaying data and checked the maps against paper illustrations produced by Randgold.

Quality control data produced by the Randgold sampling programs were compiled and examined to verify the reliability of assaying data. A series of plots were produced by SRK in order to analyse the quality control data.

Ranked percentage half absolute relative difference plots (“Ranked %HARD”) ranks all assay pairs in terms of precision levels measured as half of the absolute relative difference from the mean of the assay pairs. This plot is typically used to visualise relative precision levels, and to determine the percentage of the assay pairs population occurring at a certain precision level.

Correlation plots examine the original assay against the repeat value. This chart allows an overall visualisation of precision and bias over selected grade ranges and comparison of the correlation coefficients of the two assay populations.

SRK produced correlation and Rank %HARD plots for each group of quality control sample pairs. The plots are presented in the previous NI43-101 report written by SRK.

### 13.1.3 Verification of Pelangio Data

Pelangio made available to SRK reports and electronic data pertaining to exploration work conducted on the Kyereboso No.2, Kyereboso No.3, Meduma and New Edubiasi concessions.

Terminal reports of all four concessions dated between April 2007 and September 2007 include specific information about the exploration activities and sampling procedures. The electronic data included various Microsoft Excel tables documenting soil, trench and drill sampling and digital assay certificates for the assaying.

SRK conducted a series of routine verifications to ensure the reliability of the electronic data provided by the property vendors. Sampling assay tables were visually inspected against assay certificates when possible.

Quality control data were compiled and examined to verify the reliability of assaying data. A series of plots were produced by SRK in order to analyse the quality control data. These data included laboratory pulp replicates and blanks. Unfortunately, very few external quality control points were collected in the field, and field duplicates were taken for soil samples only. Furthermore, SRK considers the Akrokeri Granite, which was used as blank material, to be unreliable and not suitable. Hence, SRK recommends that certified field standards and blanks be used in the future.

Ranked percentage half absolute relative difference plots (“Ranked %HARD”) rank all assay pairs in terms of precision levels measured as half of the absolute relative difference from the mean of the assay pairs. This plot is typically used to visualise relative precision levels, and to determine the percentage of the assay pairs population occurring at a certain precision level.

Correlation plots examine the original assays against corresponding repeat values. These charts allow an overall visualisation of precision and bias over selected grade ranges and a comparison of the correlation coefficients of the two assay populations.

SRK produced correlation and Rank %HARD plots for each group of quality control sample pairs. These plots can be found in Appendix C.

## 14 Adjacent Properties

The Obuasi Gold Project is located in the vicinity of two other important gold projects (Figure 1). It is adjacent to the large AngloGold Ashanti Obuasi mine and the New Edubiasi concession is considered to be underlain by geology similar to that of the Newmont's Akyem Project which is under construction and expected to enter commercial production during 2008.

In this context, the Obuasi and Akyem projects are considered relevant adjacent properties. A synoptic description of the Obuasi and Akyem projects is presented below compiled from public domain sources, largely from AngloGold Ashanti and Newmont published sources.

### 14.1 AngloGold Ashanti Obuasi Mine

Historically, Obuasi has been an underground mine, although there was large-scale surface mining between 1996 and 2000. The mine normally has two active treatment plants: the sulphide treatment plant to process underground ore and the tailings treatment plant to handle tailings reclamation operations. A third plant, the oxide plant used to batch-treat remnant opencast ore and stockpiles, is expected to close down in 2008.

The mine entered into production in 1897. Between 1897 and 2006 approximately 29.5 Moz of gold were produced. At the end of 2006 Measured and Indicated Mineral Resources were estimated at 21.0 million ounces of gold grading 5.43 gpt gold including Mineral Reserves estimated at 8.7 million ounces at a grade of 3.34 gpt gold. An additional 8.5 million ounces of gold at a grade of 8.75 gpt gold are in the Inferred Resource category (source: AngloGold Ashanti 2006 Annual Report).

The gold deposits at Obuasi occur within part of a prominent gold belt of Proterozoic (Birimian) volcano-sedimentary and igneous formations that extend for a distance of approximately 300 kilometres in a northeast southwest trend in southwestern Ghana. The gold mineralization is shear zone related and occurs in three main structural trends: the Obuasi trend, the Gyabunsu trend and the Binsere trend.

The gold is found in two main ore types:

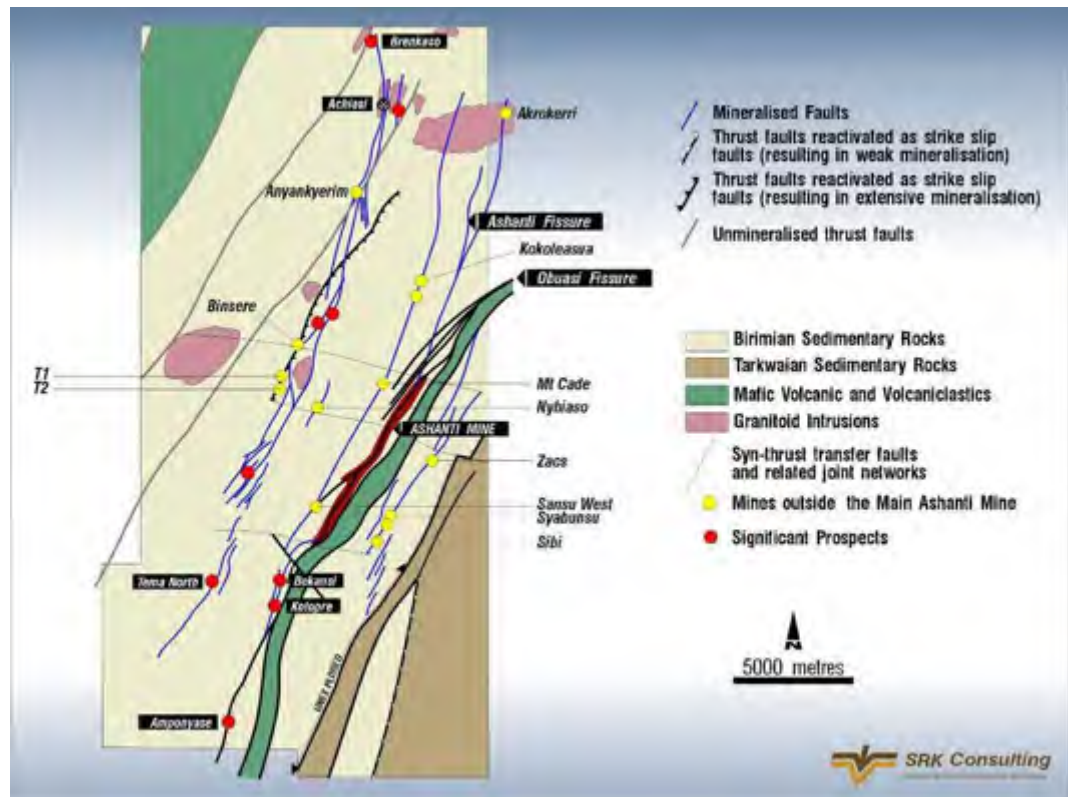
- Quartz veins which consist mainly of quartz with free gold in association with lesser amounts of generally minor amounts of iron, zinc, lead and copper sulphides. The gold particles are generally fine grained and occasionally are visible to the naked eye. This ore type is generally non-refractory;

- Sulphide ore which is characterized by very fine gold occurring as inclusion in the crystal structure of a sulphide, generally arsenopyrite. Higher gold grades tend to be associated with finer grained arsenopyrite. Other prominent minerals include quartz, chlorite and sericite. Sulphide ore is generally refractory.

The Obuasi deposits are hosted in shear zones, close to major lithological contacts (Figure 21). The main gold mineralization is associated with major northeast striking brittle-ductile faults five to forty metres in thickness and characterized by wide graphite-chlorite-sericite alteration zones. The main auriferous shear zones occur either within the Birimian sedimentary rocks (Obuasi, Ashanti, and F fissures) or at the contact between Birimian sedimentary and Birimian volcanics rocks (Cote d’Or fissure; Allibone et al., 2002).

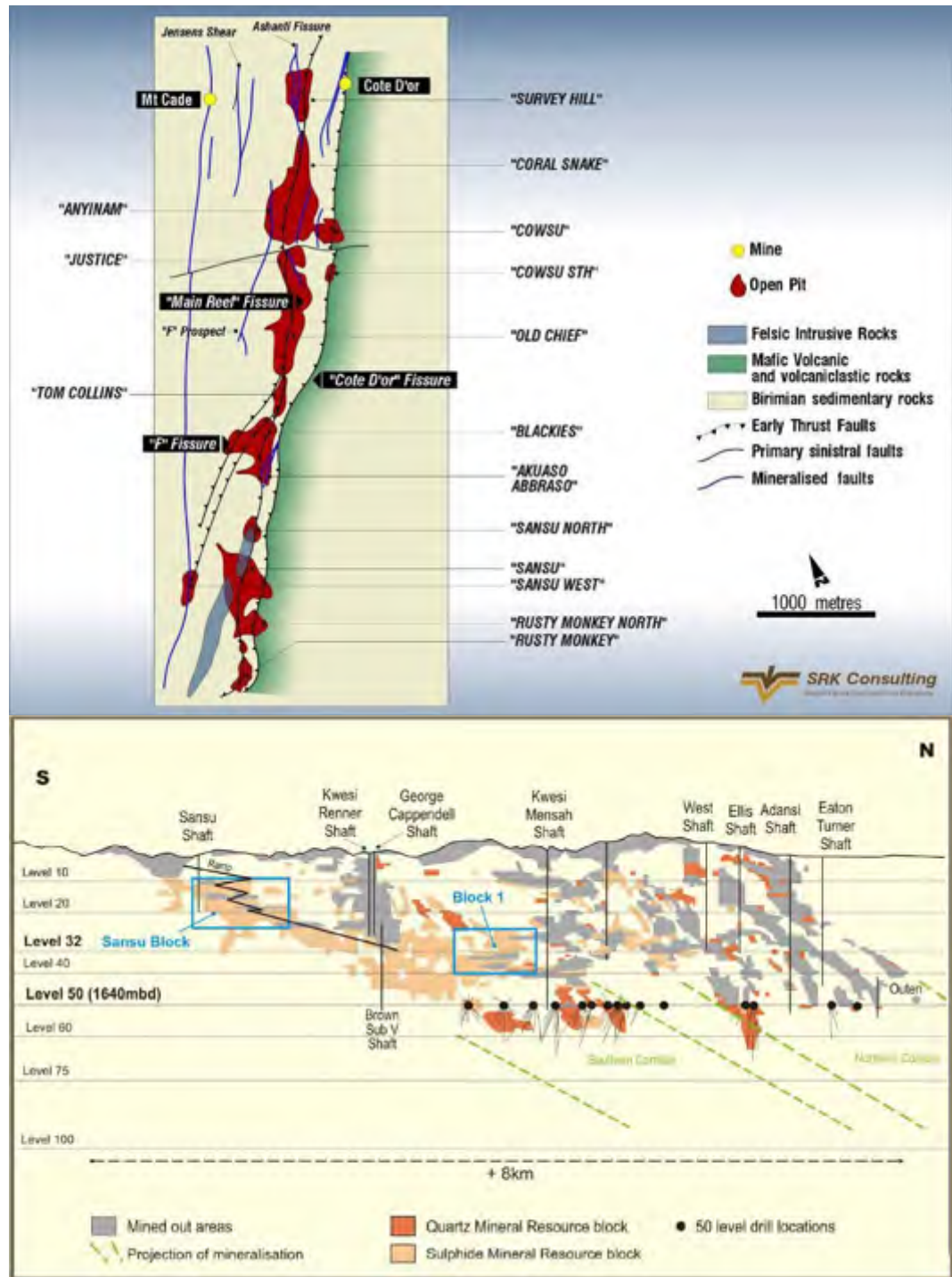
In particular, the main ore hosting shear zones are preferentially mineralized where the northeast fault zones intersect major east-northeast striking fault zones, and especially where they are recognised to have influenced granite emplacement, alteration and Au geochemical trends.

Interestingly, on longitudinal section auriferous zones along the Obuasi Main Trend consistently rake moderately towards the north (Figure 22).



**Figure 21. Geology of the Obuasi Mine Area and Location of the Various Gold Deposits and Prospects and the Three Main Auriferous Trends: Binsere, Obuasi and Gyabunsu (source: Allibone et al., 2002)**





**Figure 22. Top. Distribution of Gold Deposits along the Obuasi Main Trend. Most of the Gold Deposits Occur in a Subsidiary Structure in Birimian Sedimentary Rock not at the Lithological Contact with Birimian Volcanic Rock (source: Allibone et al. 2002); Bottom. Projected Vertical Longitudinal Section Looking West across the Obuasi Fissure and Adjacent Structures. The Moderate North Plunge of the Main Gold Zones Results from a Combination of Features Including, Flexure in Main Fissure, Folding, Intersection with Major Splays and Lithological Contacts (source: AngloGold Ashanti Website)**

Left stepping flexures in the main northeast striking fault zones producing more northerly striking fault sections (ten to thirty kilometre scale), are important for the localisation of gold mineralization. Local complexities in stratigraphy (folded stratigraphy) and fault geometry (fault duplex) associated with major northeast striking faults are also important local controls on the location of better gold mineralization.

In the Obuasi area, the main gold mineralization was emplaced during a left-lateral reactivation (D5) of regional reverse faults (D2, Allibone et al., 2002). They both contain quartz vein free-milling gold lodes and sulphide (arsenopyrite rich) disseminated refractory gold lodes. The sulphide lodes are interpreted to form alteration haloes around the quartz vein lodes. Alteration is typically graphite, quartz, ankerite, sericite, tourmaline, chlorite, arsenopyrite, and pyrite.

## 14.2 Newmont Ghana Gold Inc. Akyem Project

The Akyem Project is located along the southeast margin of the Ashanti Volcanic Belt and approximately forty kilometres northeast of the Obuasi Gold Project (Figure 1).

This gold deposit wholly owned by Newmont (subject to the statutory ten percent carried interest of the Republic of Ghana) was discovered initially during the 1990s by a joint venture between Normandy, BRGM and Gencor. In 2005 Newmont's board of directors approved the development of this project yet have since deferred further development pending completion of permitting, resolution of power shortages and further engineering optimisation. A development decision is expected in 2008. The project has estimated Probable Reserves of 147 million tonnes grading at 0.052 ounces of gold per tonne containing approximately 7.66 million ounces of gold (Source: Newmont 2007 Annual report).

The gold mineralization comprises a thick sedimentary rock package up to 200 metres in true thickness (Figure 23) and extending over approximately 800 metres of strike length. The gold mineralization is developed in the hanging wall of the Akyem shear zone, a graphitic thrust fault juxtaposing Birimian sedimentary rocks over older Birimian volcanic units.

Apparently the gold mineralization is free-milling and associated with weak pyrite dissemination and hydrothermal alteration consisting of quartz veining with attendant carbonate, white mica and albite alteration.

This gold deposit outcrops discontinuously on top of the ridge. It was discovered as a result of a systematic exploration program targeting known gold districts. Follow-up on stream sediment gold anomalies defined a large gold-in-soil geochemical anomaly on the eastern side of the Ajenjua Bepo Forest Reserve. The gold-in soil anomalies were traced to bedrock by trenching in 1995 and 1996 outside the forest reserve. In 1998 when the access

moratorium to forest reserves was lifted, trenching and subsequently core and reverse circulation drilling confirmed the significance of the discovery.

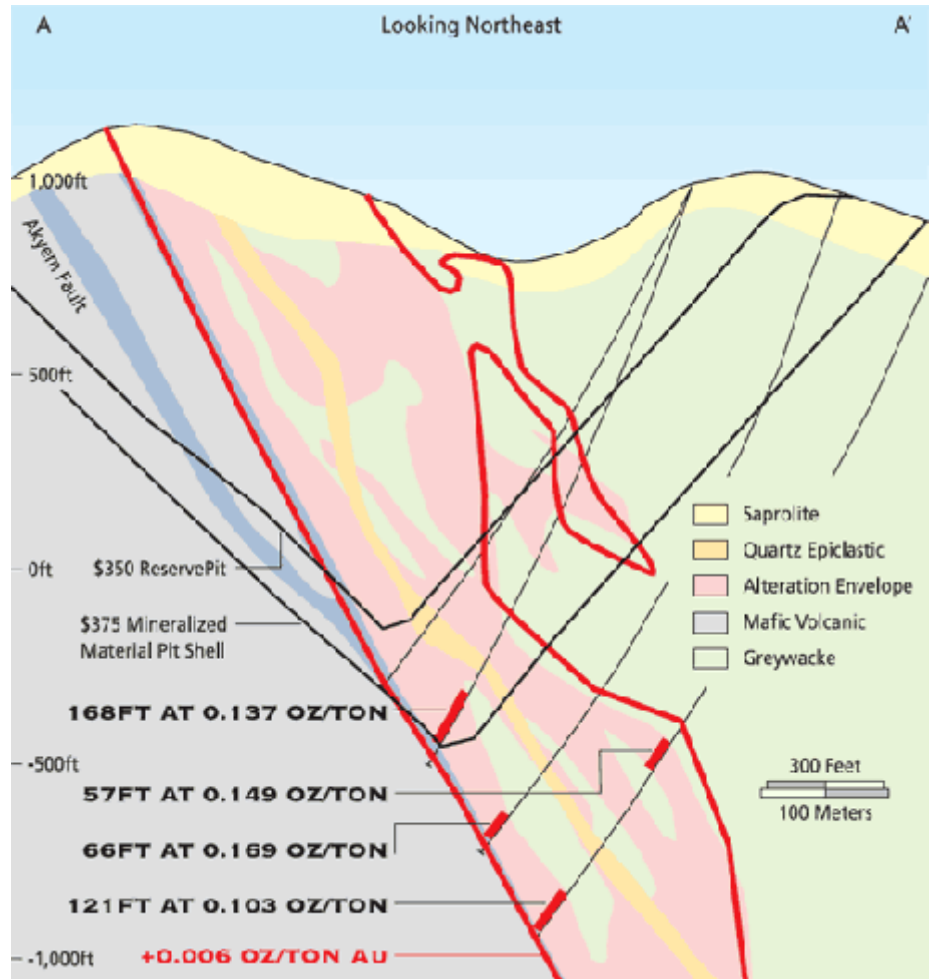


Figure 23. Schematic Vertical Cross Section through the Akyem Gold Deposit (Source: Newmont Website).

## **15 Mineral Processing and Metallurgical Testing**

Pelangio did not conduct metallurgical tests.

## **16 Mineral Resource Estimation**

The subject exploration concessions contain no known gold mineralization of sufficient size or quality that could justify estimating mineral resources.

## **17 Other Relevant Data**

There are no other data relevant to this project.

## 18 Interpretation and Conclusion

The Obuasi Gold Project is located in a portion of the Ghanaian Shield where gold mineralization typically exhibits strong lithological and structural controls. At Obuasi and Akyem, the main auriferous zones are associated with extensive silica-carbonate alteration and quartz vein networks developed in highly sheared rocks near major lithological contacts. The gold mineralization occurs in Birimian sedimentary rocks, near the contact with Tarkwa sedimentary or Birimian volcanic rocks. The hosting shear zones are characterized by strong graphite mineralization.

The exploration concept for the Obuasi Gold Project is based on the recognition that the bulk of the gold mineralization in this district is associated with prominent shear zones characterized by graphite and sulphide mineralization, quartz-veining and associated hydrothermal alteration. The mineralization is typically located at or near major lithological contacts between Birimian and Tarkwaian rocks. Fault geometry plays an important role in the localization of prospective gold mineralization.

Therefore, the exploration strategy is to identify and understand the fault architecture on the Obuasi Gold Project using a combination of direct and indirect exploration tools. Faults and shear zones can be recognized using geophysical data and direct field observations. Fertile structures can be differentiated from barren ones by prospecting for outcropping gold mineralization/alteration and various geochemical sampling techniques followed by sub-surface exploration including trenching, pitting and drilling. Integration of various datasets allows definition and ranking of exploration targets and helps to define an exploration road map with clear decision points.

Exploration of the Obuasi Gold Project is at an early stage. Basic reconnaissance type data have been acquired for the three concessions and have led to the recognition of potentially fertile structures interpreted as the northeast extension of the Obuasi mine Main Trends.

In 2006 SRK (Couture and Siddorn, 2006) identified five obvious areas as primary exploration targets on the Obuasi Gold Project. Three targets essentially represent the interpreted strike extension of the Obuasi Mine auriferous structures or the strike extension of auriferous quartz veins hosted in one Banket conglomerate unit. The fourth target is located on the boundary between the Meduma and Kyereboso No.3 concession. The fifth target was located on the abandoned New Edubiasi concession.

The exploration work initiated by Pelangio in 2006 and 2007 focussed on completing the reconnaissance of the concessions with limited follow-up work on four targets identified in 2006. Selected gold-in-soil and prospection anomalies were investigated by trenching in 2006 and 2007. Nineteen short core boreholes were drilled on four targets in 2007 on the Kyereboso No.2 and Meduma concessions.

The 2006 and 2007 exploration programs were successful in covering the entire properties with reconnaissance data and confirmed the exploration concept that gold mineralization is associated with quartz veining developed in alteration and shear zones developed at lithological contacts.

The program was not able to test all gold-in-soil or prospecting anomalies. Several gold in soil anomalies located in the Meduma and Kyereboso No.3 concessions remain to be investigated by trenching and/or drilling.

In late 2007, Pelangio began investigating the Main Obuasi trend on the western parts of the Kyereboso No.2 concession. An airborne geophysical survey was commissioned and flown over this target area, but the processed data has not yet been delivered. SRK is of the opinion that airborne geophysical data is a key ingredient to successful targeting on this project. The forthcoming data undoubtedly will be extremely useful in the assessment of this target. In preparation for assessing this target, soil sampling, trenching and prospecting were completed at the end of 2007.

In conclusion, the exploration work deployed to data by Pelangio on the Obuasi Gold Project followed the recommendations expressed in 2006 by SRK (Couture and Siddorn, 2006). The work to date confirms the exploration concept and has identified several targets worthy of further investigation.

SRK notes however, that the airborne survey covered a small portion of the tenements. High resolution geophysical data are key ingredients of the exploration concept to help identify and map structural features related to gold mineralization in this area. Magnetic and electromagnetic potential field data are particularly appropriate to map structural features such as altered shear zones and graphitic shear zones that are known to be the preferred host for gold mineralization in this district.

## 19 Recommendations

Based on our review of available information, SRK is of the opinion that the geological and structural setting of the Obuasi Gold Project is of sufficient merit to justify additional exploration investments. The recommended work program is designed to follow-up on reconnaissance data and identify and prioritize targets for structurally controlled orogenic gold mineralization similar to that encountered at Obuasi or Akyem.

The proposed work program is subdivided into two consecutive phases comprising soil sampling, trenching, and diamond drilling. It is also recommended to complete the coverage of the property with airborne geophysical data to aid target identification and prioritization. In addition, recommendations are formulated to improve the handling and management of exploration data.

Airborne geophysical data for the survey completed in 2007 should be interpreted and integrated with other field data to improve target identification. The interpretation is expected to cost CN\$25,000.

In order to facilitate data management, SRK recommends that Pelangio invest in appropriate, dedicated software tools, including tools for storing, plotting, displaying, and analysing exploration data in two and three dimensions. Several commercial solutions exist. Total cost is estimated at CN\$16,250. In order to benefit fully from the new software, training should be provided to field and office personnel. The total cost for software training is estimated at CN\$10,000.

In the past Pelangio produced a large amount of data, which, in the opinion of SRK, is currently not well organized. It is therefore recommended that available data be entered into a well organized database. It is important that geographic data be in one consistent grid system and that all data types have the same datum. It is estimated that it will take two database geologists one month to complete the compilation. The total cost of this data compilation is estimated at CN\$15,000.

Based on last year's results, SRK recommends focusing exploration efforts on seven distinct areas (Figure 24). Exploration activities range from line cutting, soil sampling, trenching to drilling. The costs for proposed two phase exploration program are estimated at approximately CN\$2.9 million. The breakdown of the costs is presented in Appendix C.



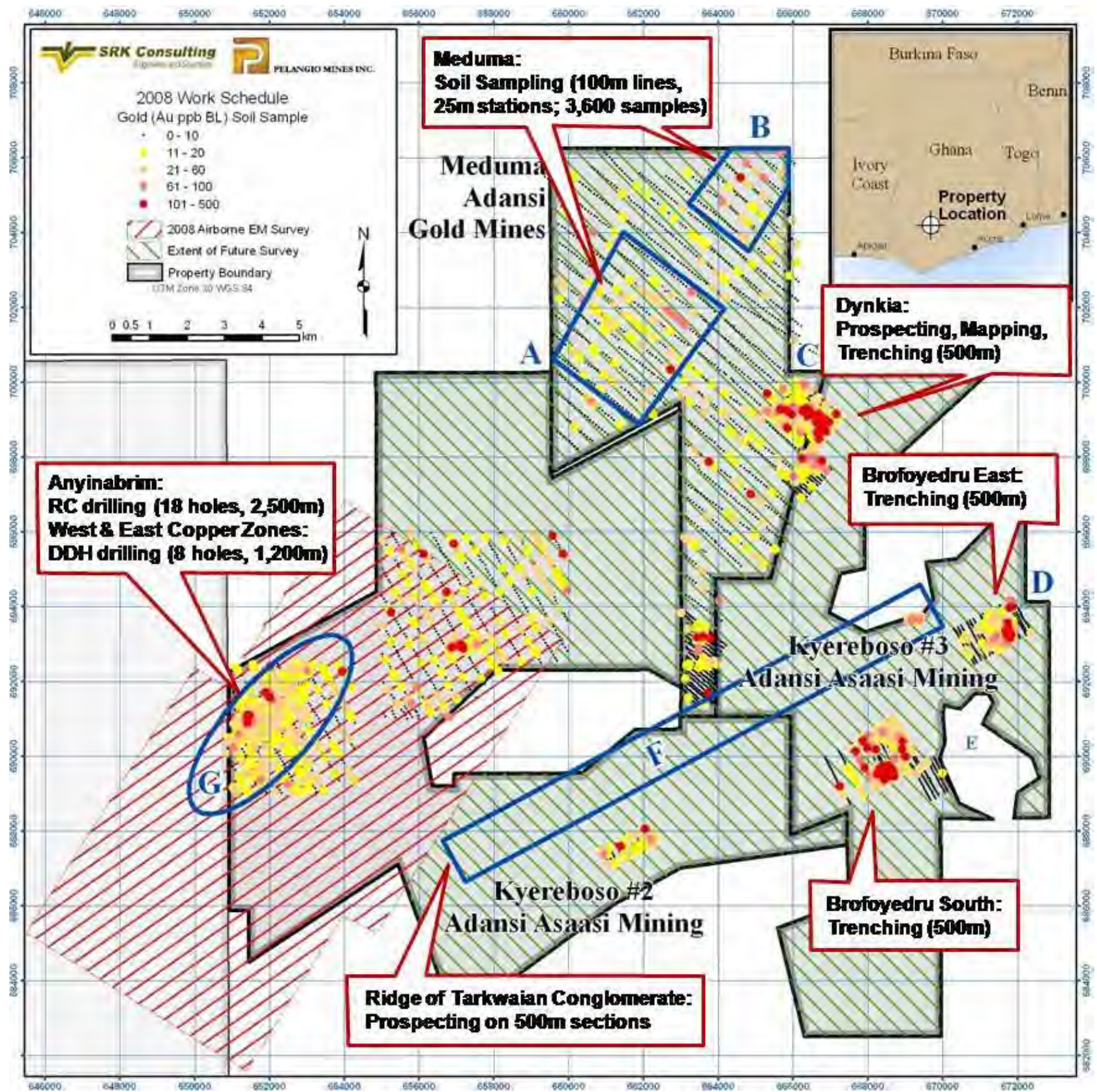


Figure 24. Location of Areas of Focus for the Recommended Work Program for 2008 - 2009

## **19.1 Proposed Work for Phase 1**

### **19.1.1 Meduma Concession – Areas A and B**

SRK recommends additional soil sampling on two areas of the Meduma project (Areas A and B). Soil samples should be collected every twenty-five metres along cut lines 100 metres apart (approximately 3,600 samples). The cost for sample collection and analysis is estimated at approximately CN\$35 per sample.

To complement the geochemical survey, SRK recommends completing the prospecting and mapping of areas A and B (CN\$3,000).

### **19.1.2 Meduma and Kyereboso Concessions – Area C**

This area is known locally as the Dinkyia area, and was referred to as the East Gyabunsu trend area in the 2006 SRK report (Couture and Siddorn, 2006). A detailed soil geochemical survey (100 by 25 metres) was performed over this area in 2007 and returned a number of encouraging results. However, only a limited amount of prospecting has been carried out. Hence, SRK recommends allocating approximately twenty-five days for prospecting and mapping (CN\$8,625) followed by approximately 500 metres of trenching (CN\$42,500).

### **19.1.3 Kyereboso 3 Concession – Area D (Brofoyedru East)**

In order to follow up on encouraging soil anomalies encountered during the 2007 soil survey, SRK recommends excavating ten trenches (500 metres). Trenching costs are estimated at CN\$42,500.

### **19.1.4 Kyereboso 3 Concession – Area E (Brofoyedru South)**

Follow up of prospecting results in this area has produced grab sample specimens up to 12.85 grams per tonne gold in Tarkwaian conglomerate, suggesting a Banket type environment in this area. SRK recommends a trenching program totalling approximately 500 metres to investigate the geology of these anomalous grab samples. The estimated cost of this program is CN\$42,500.

### **19.1.5 Kyereboso 2 and 3 Concessions – Area F**

A steep ridge face along area F exposes northeast trending Tarkwaian conglomerate that dip shallowly to the northwest. Weak soil anomalies were detected in talus at the base of this ridge; furthermore, gold anomalies have been detected in stream sediments from the ridge. In order to explore this long and difficult-to-access target, SRK recommends a prospecting program that

would access this ridge on 500 metre sections. It is estimated that this program will take approximately forty days to complete at a total cost of CN\$13,800.

### **19.1.6 Main Obuasi Trend – Area G (Anyinabrim Area)**

The Anyinabrim area is considered the most prospective region on the property as it is closest to the Main Mine trend. Previous work includes an airborne survey and detailed BLEG and MMI soil surveys. Due to poor outcrop exposure, much of the area cannot be investigated adequately by trenching. BLEG anomalies that have been trenched on ridge tops show anomalous gold responses beneath. The MMI survey showed a close correlation with trenched anomalies but also yielded encouraging responses in low lying areas covered by transported saprolite or lateritic pavement.

Preliminary VTEM plots show three strong, fifty to one hundred metre wide, northeast striking conductive anomalies. The northernmost VTEM anomaly has no obvious geochemical signature but grab samples and trenching has identified gold in quartz veins at the north end of the 800 metre long anomaly.

The total strike length of these conductive areas is approximately 3,400 metres. SRK recommends investigating this area with reverse circulation drilling along fences separated by 200 metres along strike (eighteen boreholes totalling about 2,500 metres). The costs of the drilling program are estimated CN\$ 189,000 considering all inclusive drilling cost of CN\$75 per metre. The final position of the boreholes is contingent on interpretation of the final airborne data in June 2008.

SRK also recommends investigating the West Copper and East Copper Zones at Anyinabrim with diamond drilling. Anomalous gold values were found in twenty-two grab samples, primarily from a fifty by one hundred metre area. Five short core boreholes (750 metres) are recommended to test for a continuation of mineralization to the northeast of the trench, while three more 150 metre long holes would test for a southwest and depth extension. The total cost for this program is estimated at CN\$247,500 (CN\$165 per metre).

## **19.2 Proposed Work for Phase 2**

Except for a recommended airborne geophysical survey, all Phase 2 programs are dependent on the results of programs outlined in Phase 1.

### **19.2.1 Airborne Survey**

SRK recommends completing the coverage of the three concessions with an airborne VTEM and magnetic survey. It is estimated that a total of 2,760 line kilometres spaced by 100 metres will be required to cover the project area. The costs for the survey are estimated at CN\$331,200.

### **19.2.2 Meduma Concession – Areas A and B**

A provision for 1,000 metres of trenching are included in Phase 2 to follow up on results obtained during Phase 1 (May to October 2008). It is estimated that the trenching would be performed in each area in early 2009. The estimated cost for this program is CN\$170,000.

### **19.2.3 Meduma and Kyerboso Concessions – Area C**

Similarly, a provision for 2,000 metres of aircore reverse circulation drilling is included in Phase 2 to follow up on prospecting, mapping and trenching results expected from Phase 1 (May and October 2008). This program would be designed as a broader first pass drilling investigation, consisting of twenty 100 metre holes. The estimated cost for this program is CN\$150,000.

### **19.2.4 Diamond Drilling – Areas C, D, E, and G**

Finally, a provision for 3,000 metres of diamond drilling is recommended to follow up on Phase 1 results from prospecting, mapping, and trenching in Areas C, D, and E (May and October 2008).

An additional 3,000 metres of diamond drilling should be budgeted to follow up on results obtained from the initial reverse circulation drilling already recommended for Phase 1 (May and October 2008). The estimated cost for this program is CN\$990,000.

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# **APPENDIX A**

## **Tenement Information**

The tables below present the geographic coordinate data for the vertices defining each exploration concession as transcribed from the land tenure maps prepared by the Ghana Minerals Commission.

Review of the geographic coordinates provided by the Minerals Commissions outlined seven vertices with inconsistent geographic coordinates relative to the published tenement map outline. The geographic coordinates of those vertices (outlined in yellow below) were re-evaluated with adjacent vertices as to reproduce the Ghana Minerals Commission tenement map. The position of those vertices should be validated against official records.

**Table 6. Geographic Coordinates of the Vertices Defining the Kyereboso No.2 Exploration Concession, Ghana.**

Station	Concession	Longitude	Latitude	Long_decimal	Lat_decimal	Comment
P2-1	Kyereboso No.2	1° 36' 00"	6° 20' 00"	-1.60000	6.33333	
P2-2	Kyereboso No.2	1° 36' 00"	6° 16' 50"	-1.60000	6.28056	
P2-3	Kyereboso No.2	1° 38' 09"	6° 15' 40"	-1.63583	6.26111	
P2-4	Kyereboso No.2	1° 38' 09"	6° 12' 12"	-1.63583	6.20333	
P2-5	Kyereboso No.2	1° 37' 52"	6° 12' 12"	-1.63111	6.20333	Longitude from P2-6
P2-6	Kyereboso No.2	1° 37' 52"	6° 11' 27"	-1.63111	6.19083	
P2-7	Kyereboso No.2	1° 35' 42"	6° 12' 52"	-1.59500	6.21444	
P2-8	Kyereboso No.2	1° 34' 50"	6° 10' 28"	-1.58056	6.17444	
P2-9	Kyereboso No.2	1° 34' 14"	6° 11' 04"	-1.57056	6.18444	
P2-10	Kyereboso No.2	1° 32' 34"	6° 12' 17"	-1.54278	6.20472	
P2-11	Kyereboso No.2	1° 31' 36"	6° 12' 48"	-1.52667	6.21333	
P2-12	Kyereboso No.2	1° 29' 11"	6° 13' 08"	-1.48639	6.21889	
P2-13	Kyereboso No.2	1° 29' 11"	6° 13' 36"	-1.48639	6.22667	
P2-14	Kyereboso No.2	1° 30' 00"	6° 13' 17"	-1.50000	6.22139	
P2-15	Kyereboso No.2	1° 30' 00"	6° 15' 00"	-1.50000	6.25000	
P2-16	Kyereboso No.2	1° 31' 36"	6° 15' 00"	-1.52667	6.25000	
P2-17	Kyereboso No.2	1° 31' 36"	6° 14' 49"	-1.52667	6.24694	
P2-18	Kyereboso No.2	1° 32' 16"	6° 14' 49"	-1.53778	6.24694	
P2-19	Kyereboso No.2	1° 33' 02"	6° 14' 11"	-1.55056	6.23639	
P2-20	Kyereboso No.2	1° 34' 53"	6° 14' 11"	-1.58139	6.23639	
P2-21	Kyereboso No.2	1° 34' 53"	6° 14' 00"	-1.58139	6.23333	
P2-22	Kyereboso No.2	1° 35' 12"	6° 14' 00"	-1.58667	6.23333	
P2-23	Kyereboso No.2	1° 35' 19"	6° 14' 42"	-1.58861	6.24500	
P2-24	Kyereboso No.2	1° 34' 16"	6° 15' 41"	-1.57111	6.26139	
P2-25	Kyereboso No.2	1° 32' 03"	6° 15' 41"	-1.53417	6.26139	
P2-26	Kyereboso No.2	1° 31' 35"	6° 15' 25"	-1.52639	6.25694	
P2-27	Kyereboso No.2	1° 31' 35"	6° 19' 27"	-1.52639	6.32417	
P2-28	Kyereboso No.2	1° 33' 27"	6° 18' 28"	-1.55750	6.30778	
P2-29	Kyereboso No.2	1° 33' 27"	6° 20' 00"	-1.55750	6.33333	

**Table 7. Geographic Coordinates of the Vertices Defining the Kyereboso No.3 Exploration Concession, Ghana.**

Station	Concession	Longitude	Latitude	Long_decimal	Lat_decimal	Comment
P1-1	Kyereboso No.3	1° 30' 17"	6° 17' 00"	-1.50472	6.28333	
P1-2	Kyereboso No.3	1° 31' 06"	6° 17' 00"	-1.51833	6.28333	
P1-3	Kyereboso No.3	1° 31' 06"	6° 15' 00"	-1.51833	6.25000	
P1-4	Kyereboso No.3	1° 30' 00"	6° 15' 00"	-1.50000	6.25000	
P1-5	Kyereboso No.3	1° 30' 00"	6° 13' 17"	-1.50000	6.22139	
P1-6	Kyereboso No.3	1° 29' 11"	6° 13' 36"	-1.48639	6.22667	
P1-7	Kyereboso No.3	1° 29' 11"	6° 13' 08"	-1.48639	6.21889	
P1-8	Kyereboso No.3	1° 29' 10"	6° 12' 19"	-1.48611	6.20528	
P1-9	Kyereboso No.3	1° 30' 12"	6° 11' 56"	-1.50333	6.19889	
P1-10	Kyereboso No.3	1° 29' 49"	6° 10' 21"	-1.49694	6.17250	
P1-11	Kyereboso No.3	1° 27' 50"	6° 10' 21"	-1.46389	6.17250	
P1-12	Kyereboso No.3	1° 27' 50"	6° 13' 31"	-1.46389	6.22528	
P1-13	Kyereboso No.3	1° 27' 04"	6° 13' 31"	-1.45111	6.22528	Longitude from P1-12
P1-14	Kyereboso No.3	1° 27' 56"	6° 13' 54"	-1.46556	6.23167	
P1-15	Kyereboso No.3	1° 28' 00"	6° 14' 12"	-1.46667	6.23667	
P1-16	Kyereboso No.3	1° 27' 48"	6° 14' 39"	-1.46333	6.24417	
P1-17	Kyereboso No.3	1° 27' 48"	6° 15' 02"	-1.46333	6.25056	Longitude From P1-16
P1-18	Kyereboso No.3	1° 27' 46"	6° 15' 09"	-1.46278	6.25250	Longitude approximate
P1-19	Kyereboso No.3	1° 27' 32"	6° 15' 06"	-1.45889	6.25167	
P1-20	Kyereboso No.3	1° 27' 20"	6° 15' 19"	-1.45556	6.25528	
P1-21	Kyereboso No.3	1° 27' 08"	6° 15' 19"	-1.45222	6.25528	
P1-22	Kyereboso No.3	1° 27' 04"	6° 15' 11"	-1.45111	6.25306	
P1-23	Kyereboso No.3	1° 27' 13"	6° 14' 53"	-1.45361	6.24806	
P1-24	Kyereboso No.3	1° 26' 30"	6° 14' 23"	-1.44167	6.23972	
P1-25	Kyereboso No.3	1° 26' 24"	6° 14' 06"	-1.44000	6.23500	
P1-26	Kyereboso No.3	1° 26' 43"	6° 13' 53"	-1.44528	6.23139	
P1-27	Kyereboso No.3	1° 26' 46"	6° 13' 31"	-1.44611	6.22528	Latitude from P1-12
P1-28	Kyereboso No.3	1° 26' 15"	6° 13' 31"	-1.43750	6.22528	Latitude from P1-12
P1-29	Kyereboso No.3	1° 26' 15"	6° 16' 39"	-1.43750	6.27750	
P1-30	Kyereboso No.3	1° 26' 35"	6° 16' 39"	-1.44306	6.27750	
P1-31	Kyereboso No.3	1° 26' 35"	6° 18' 00"	-1.44306	6.30000	
P1-32	Kyereboso No.3	1° 27' 08"	6° 17' 44"	-1.45222	6.29556	
P1-33	Kyereboso No.3	1° 27' 35"	6° 17' 17"	-1.45972	6.28806	
P1-34	Kyereboso No.3	1° 28' 02"	6° 17' 14"	-1.46722	6.28722	
P1-35	Kyereboso No.3	1° 27' 50"	6° 16' 31"	-1.46389	6.27528	
P1-36	Kyereboso No.3	1° 28' 00"	6° 16' 18"	-1.46667	6.27167	
P1-37	Kyereboso No.3	1° 28' 57"	6° 16' 05"	-1.48250	6.26806	
P1-38	Kyereboso No.3	1° 29' 26"	6° 16' 30"	-1.49056	6.27500	
P1-39	Kyereboso No.3	1° 29' 16"	6° 17' 04"	-1.48778	6.28444	
P1-40	Kyereboso No.3	1° 28' 55"	6° 17' 08"	-1.48194	6.28556	Lat approx, Long from P1-41
P1-41	Kyereboso No.3	1° 28' 55"	6° 18' 20"	-1.48194	6.30556	
P1-42	Kyereboso No.3	1° 27' 05"	6° 20' 00"	-1.45139	6.33333	
P1-43	Kyereboso No.3	1° 29' 29"	6° 20' 00"	-1.49139	6.33333	



**Table 8. Geographic Coordinates of the Vertices Defining the Meduma Exploration Concession, Ghana.**

Station	Concession	Longitude	Latitude	Long_decimal	Lat_decimal	Comment
P3-1	Meduma	1° 30' 00"	6° 23' 15"	-1.50000	6.38750	
P3-2	Meduma	1° 30' 00"	6° 20' 00"	-1.50000	6.33333	
P3-3	Meduma	1° 29' 29"	6° 20' 00"	-1.49139	6.33333	
P3-4	Meduma	1° 30' 17"	6° 17' 00"	-1.50472	6.28333	
P3-5	Meduma	1° 31' 05"	6° 17' 00"	-1.51806	6.28333	
P3-6	Meduma	1° 31' 05"	6° 15' 00"	-1.51806	6.25000	
P3-7	Meduma	1° 31' 36"	6° 15' 00"	-1.52667	6.25000	
P3-8	Meduma	1° 31' 36"	6° 19' 33"	-1.52667	6.32583	
P3-9	Meduma	1° 33' 28"	6° 18' 32"	-1.55778	6.30889	
P3-10	Meduma	1° 33' 28"	6° 23' 15"	-1.55778	6.38750	

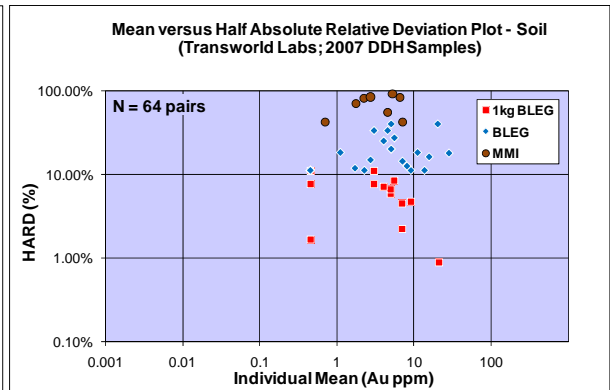
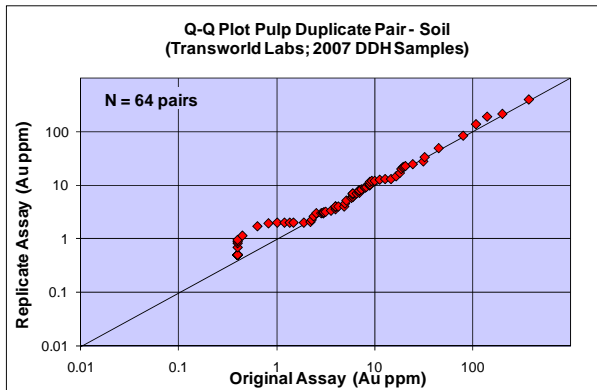
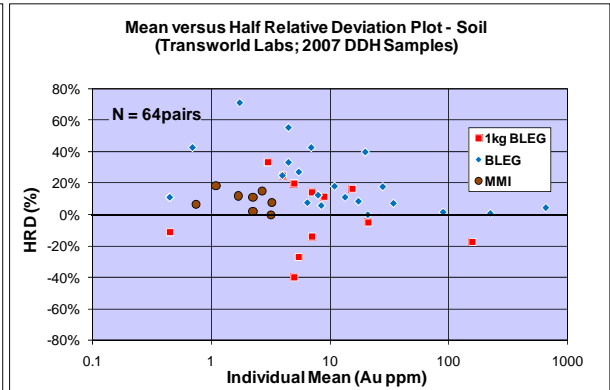
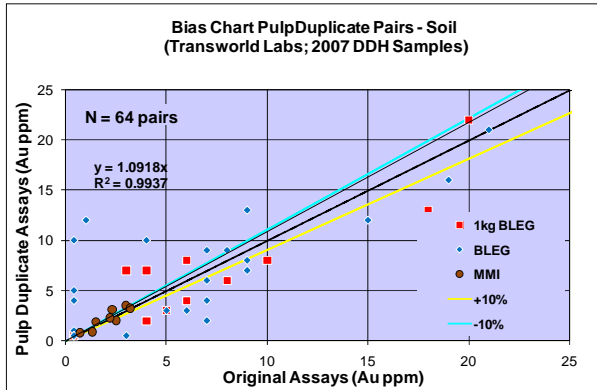
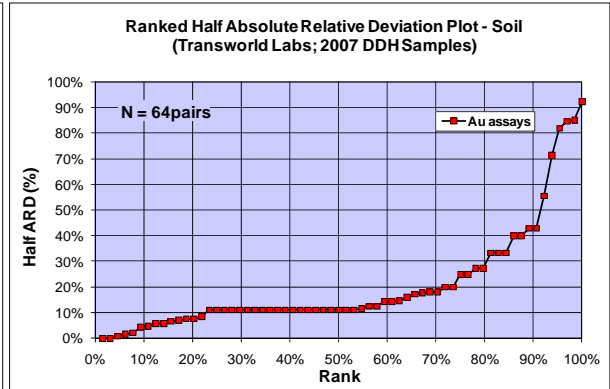
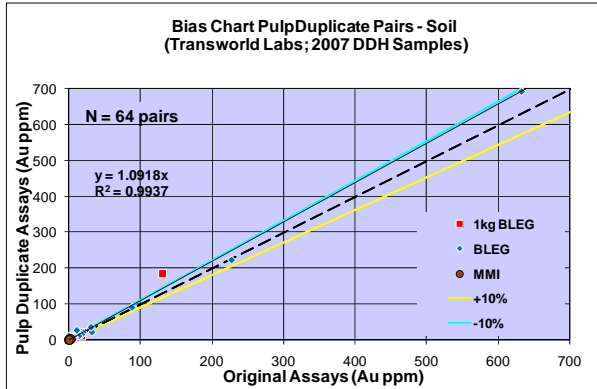
**Table 9. Geographic Coordinates of the Vertices Defining the New Edubiasi Exploration Concession, Ghana. Pelangio dropped the rights to this concession in 2007.**

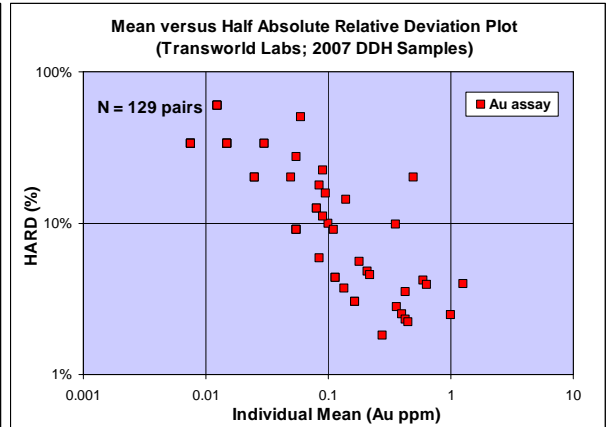
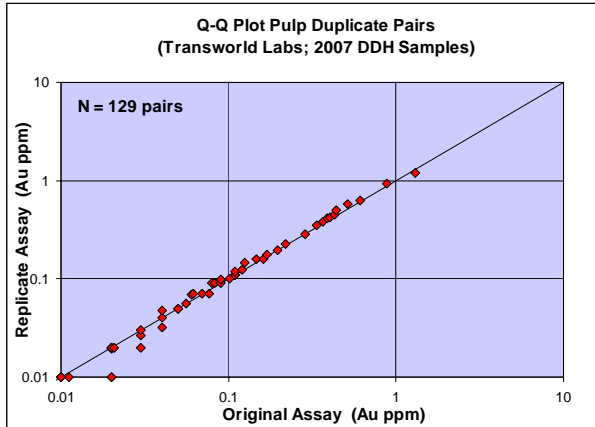
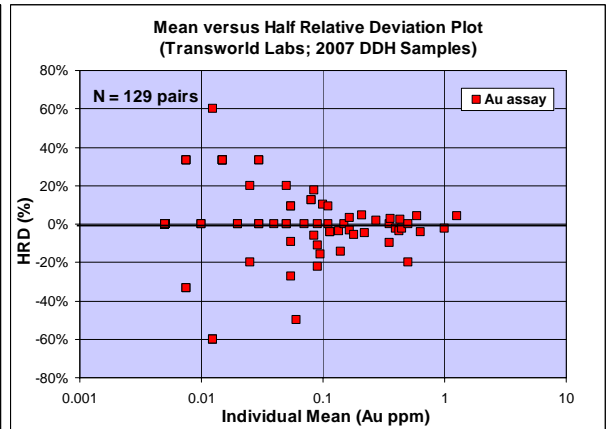
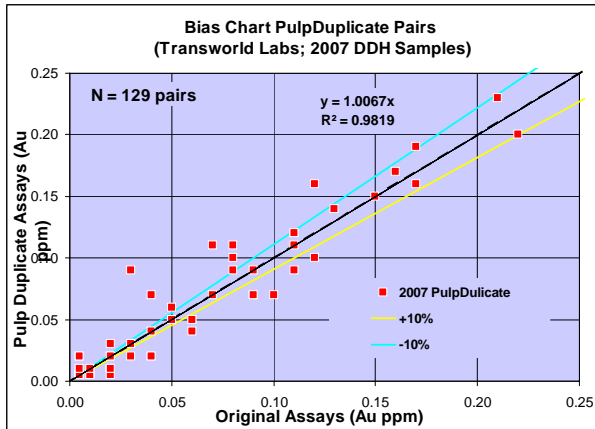
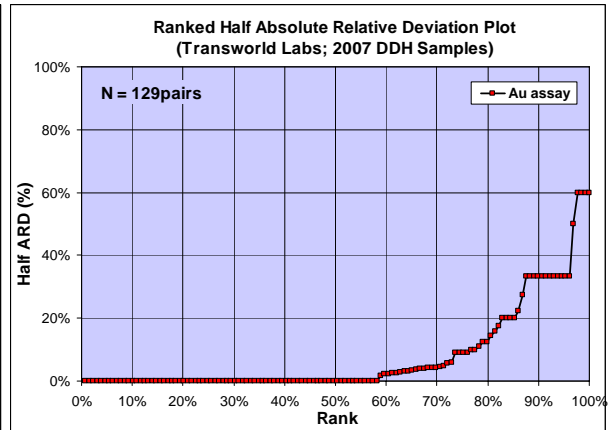
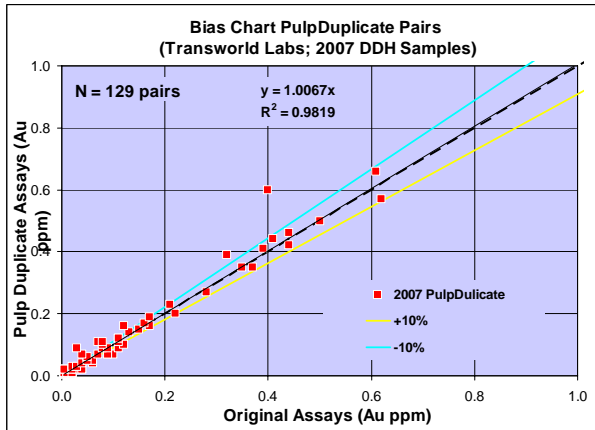
Station	Concession	Longitude	Latitude	Long_decimal	Lat_decimal	Comment
P4-1	New Edubiasi	1° 22' 30"	6° 3' 02"	-1.37500	6.05056	
P4-2	New Edubiasi	1° 23' 30"	6° 2' 42"	-1.39167	6.04500	
P4-3	New Edubiasi	1° 25' 57"	6° 2' 34"	-1.43250	6.04278	
P4-4	New Edubiasi	1° 26' 03"	6° 3' 20"	-1.43417	6.05556	
P4-5	New Edubiasi	1° 29' 06"	6° 3' 58"	-1.48500	6.06611	
P4-6	New Edubiasi	1° 30' 00"	6° 3' 22"	-1.50000	6.05611	
P4-7	New Edubiasi	1° 30' 00"	6° 8' 00"	-1.50000	6.13333	
P4-8	New Edubiasi	1° 22' 30"	6° 8' 00"	-1.37500	6.13333	

# **APPENDIX B**

## **Analytical Quality Control Data Slected Bias and Relative Precision Charts**







## **APPENDIX C**

### **Summary of Recommended Exploration Expenditures for 2008**

**Pelangio Ghana Exploration Budget-May2008-May 2009**

<b>Phase 1</b>	<b>Total Units</b>	<b>Total Cost</b>
Line cutting and brushing \$200/km Area A&B	90	\$18,000.00
Prospecting and Mapping(days) \$345/day-(\$125 geologist and technician \$220 for assays) Area A,B,C and F	145	\$50,025.00
Trenching \$85/m Area C,D and E	1500	\$127,500.00
Soil Samples (\$35/sample)100m by 25m grid (Area A&B)	3600	\$126,000.00
RC Scout drilling 18 - 140m holes, (\$75/m) Area G	2520	\$189,000.00
Diamond Drilling 8 - 150m holes at \$165/m Area G	1500	\$247,500.00
Airborne Geophysics Final Interpretation( Contract) Area G,H	25000	\$25,000.00
Computer Software (FracSys, Mapinfo, Downhole Explorer), Training	16250	\$26,250.00
Compilation 30 days at \$1,000/day	30	\$30,000.00
<b>Phase 1 Subtotal</b>		<b>\$839,275.00</b>
<b>Contingency 5 %</b>		<b>\$41,963.75</b>
<b>Total Phase1</b>		<b>\$881,238.75</b>
<b>Phase 2</b>		
Trenching Areas A and B	2000	\$170,000.00
RC Scout drilling (\$75/m)	2000	\$150,000.00
Diamond Drilling (\$165/m) Areas C,D,E and G	6000	\$990,000.00
Airborne Geophysical Survey (remaining K2 ,K3 and Meduma areas) 276 km <sup>2</sup> , 100m spacing = 2760 line km (\$120/line km) (includes mob, GST and processing)	2760	\$331,200.00
<b>Subtotal Phase 2</b>		<b>\$1,641,200.00</b>
<b>Contingency 5%</b>		<b>\$82,060.00</b>
<b>Total Phase 2</b>		<b>\$1,723,260.00</b>
<b>Administrative Expenses</b>		
Expatriate geologist supervision (250 days at \$500/day)		\$125,000.00
Transportation to/from Canada 12 round trips at \$2000/trip		\$24,000.00
Field Supplies		\$20,000.00
Food		\$50,000.00
Compensation - Farm Crops		\$32,000.00
Traditional Rites		\$3,500.00
Vehicle - Maintenance and Fuel		\$35,000.00
Field Workers First Aid		\$2,000.00
Permits & Licenses		\$500.00
Electricity Expenses		\$1,200.00
Generator running costs		\$4,300.00
Security Expenses		\$10,000.00
Contingency 5%		\$14,175.00
<b>Total Administrative Expenses</b>		<b>\$321,675.00</b>
<b>Total Budget May 2007 - May 2008</b>		<b>\$2,926,173.75</b>

## CERTIFICATE AND CONSENT

### To accompany the report entitled: Independent Technical Report Obuasi Gold Project, Obuasi, Ghana, dated April 30, 2008.

I, Jean-Francois Couture, residing at 59 Tiverton Avenue, Toronto, Ontario do hereby certify that:

- 1) I am a Principal Geologist with the firm of SRK Consulting (Canada) Inc. with an office at Suite 1000, 25 Adelaide Street East Toronto, Ontario, Canada;
- 2) I am a graduate of the Université Laval in Quebec City with a BSc. in Geology in 1982. I obtained an MSc.A. in Earth Sciences and a Ph.D. in Mineral Resources from Université du Québec à Chicoutimi in 1986 and 1994, respectively. I have practiced my profession continuously since 1982;
- 3) I am a Professional Geoscientist registered with the Association of Professional Geoscientists of the province of Ontario (APGO#0197) and a fellow with the Geological Association of Canada;
- 4) I have personally inspected the subject property and surrounding areas from March 16 to 19, 2008;
- 5) I have read the definition of “qualified person” set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 6) I, as a qualified person, am independent of the issuer as defined in Section 1.4 of National Instrument 43-101;
- 7) I am responsible for the preparation of all sections of this technical;
- 8) SRK Consulting (Canada) Inc. was retained by Pelangio Mines Inc. to prepare a technical report for the Obuasi exploration project in accordance with NI 43-101 and Form 43-101F1 guidelines. The preceding report is based on a site visit, our review of project files and discussions with Pelangio Mines Inc. personnel;
- 9) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
- 10) I hereby consent to use of this report for submission to any Provincial regulatory authority;
- 11) I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the technical report.

Toronto, Canada  
May 9, 2008



Jean-François Couture, Ph.D, P.Geo.  
Principal Geologist



## CERTIFICATE AND CONSENT

### To accompany the report entitled: Independent Technical Report Obuasi Gold Project, Obuasi, Ghana, dated April 30, 2008.

I, Lars Weiershäuser, residing at 44 Juliana Court, Toronto, Ontario do hereby certify that:

- 1) I am a Senior Consultant with the firm of SRK Consulting (Canada) Inc. with an office at Suite 1000, 25 Adelaide Street East Toronto, Ontario, Canada;
- 2) I have graduated from the South Dakota School of Mines and Technology in Rapid City, South Dakota, USA with a M.Sc. in Geology in 2000. I obtained a Ph.D. in Geology from the University of Toronto in Toronto in 2005. I have practiced my profession continuously since 2000.;
- 3) I am a Professional Geoscientist registered with the Association of Professional Geoscientists of the province of Ontario (APGO#1504);
- 4) I have read the definition of “qualified person” set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
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Toronto, Canada  
May 9, 2008



Lars Weiershäuser, Ph.D, P.Geo.  
Senior Consultant

## CERTIFICATE AND CONSENT

### To accompany the report entitled: **Independent Technical Report Obuasi Gold Project, Obuasi, Ghana, dated April 30, 2008.**

I, Dominic Chartier, residing at 155 Claremont St., Toronto, Ontario do hereby certify that:

- 1) I am a Consulting Geologist with the firm of SRK Consulting (Canada) Inc. (“SRK”) with an office at Suite 1000, 25, Adelaide Street East, Toronto, Ontario, Canada;
- 2) I am a graduate of McGill University in Montreal, Quebec, with a BSc. in Earth and Planetary Sciences in 2002. I have practiced my profession continuously since 2002;
- 3) I am a Professional Geoscientist registered with the Ordre des Géologues du Québec (OGQ #874);
- 4) I have not visited the property.
- 5) I have read the definition of “qualified person” set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 6) I, as a qualified person, am independent of the issuer as defined in Section 1.4 of National Instrument 43-101;
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- 11) I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the technical report.



Toronto, Canada  
May 9, 2008

Dominic Chartier, P.Geo  
Consulting Geologist

Project number: 3CP011.002

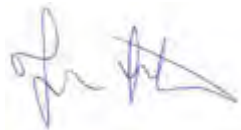
Toronto, May 9, 2008

## CONSENT of AUTHOR

I, Jean-Francois Couture, do hereby consent to the filing of the written disclosure of the technical report Titled “Independent Technical Report Obuasi Gold Project, Obuasi, Ghana” (the “Technical Report”) and dated April 30, 2008 and any extracts from or a summary of the Technical Report under the National Instrument 43-101 of Pelangio Mines Inc. and to the filing of the Technical Report with any securities regulatory authorities.

I also certify that I have read the written disclosure being filed and I do not have any reason to believe that there are any misrepresentations in the information derived from the Technical Report or that the written disclosure under the National Instrument 43-101 of Pelangio Mines Inc. contains any misrepresentation of the information contained in the Technical Report.

Dated this 9th day of May 2008.



Jean-Francois Couture, Ph.D., P.Geo  
Principal Geologist



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Tucson 520.544.3668  
Vancouver 604-681-4196

Project number: 3CP011.002

Toronto, May 9, 2008

## CONSENT of AUTHOR

I, Lars Weiershäuser, do hereby consent to the filing of the written disclosure of the technical report Titled “Independent Technical Report Obuasi Gold Project, Obuasi, Ghana” (the “Technical Report”) and dated April 30, 2008 and any extracts from or a summary of the Technical Report under the National Instrument 43-101 of Pelangio Mines Inc. and to the filing of the Technical Report with any securities regulatory authorities.

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Dated this 9th day of May 2008.



Lars Weiershäuser, Ph.D., P.Geo  
Senior Consultant

Project number: 3CP011.002



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Dated this 9th day of May 2008.



Dominic Chartier, P.Ge  
Consulting Geologist



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